Basics of the Immunization Schedule

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IMMUNIZATION UNIT

Overview

- Life cycle of vaccine development
- Who is ACIP?
- History of the U.S. immunization schedule
- Components of the immunization schedule
  - How to use the schedule
  - Tables
  - Footnotes
  - Addendum
- Alternate schedules
- International schedules
- Resources

Life Cycle of Vaccine Development

Life cycle of vaccine development: initial research

- Research and discovery
  - Researchers explore their idea for a potential vaccine
  - Often involves 10-15 years of laboratory research
- Proof of concept
  - Study ability to cause an immune response in animal models

Life cycle of vaccine development: clinical trials

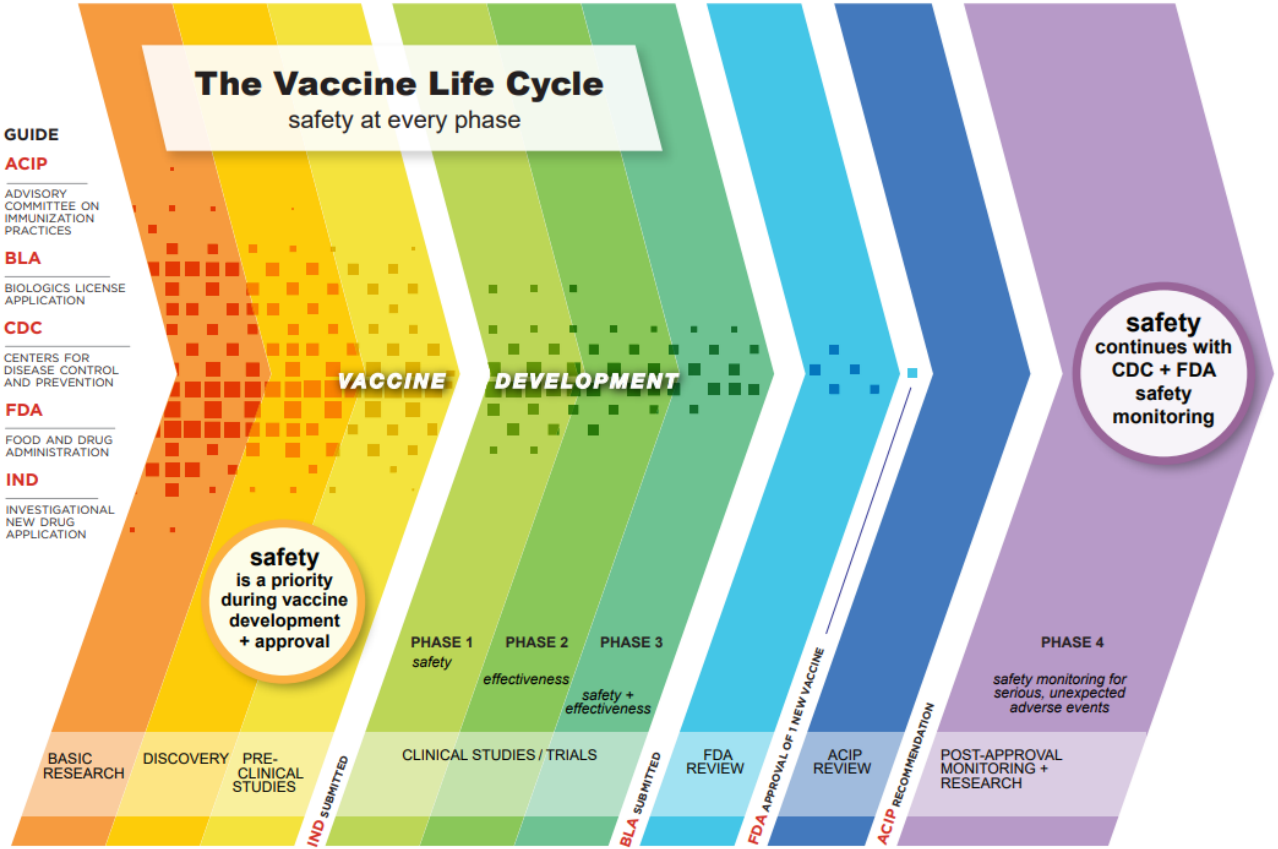
- Clinical trials
  - Researcher submit an Investigational New Drug (IND) application to the Food & Drug Administration (FDA)
  - 3 phases
    - Phase 1
      - Small groups of people (20-100) receive the trial vaccine
      - Gather information on how safe the vaccine is in people
        - Side effects
        - How well the vaccine works to cause an immune response
    - Phase 2
      - 100-300 participants who have characteristics (such as age and physical health) similar to the intended recipients for the vaccine
      - Provides additional safety information on side effects and risks

Life cycle of vaccine development: clinical trials

- Clinical trials
  - 3 phases
    - Phase 3
      - Expands to thousands of participants
      - Confirm how well the vaccine works
      - Monitor common and less common side effects
      - Collect information to support safe use in people
      - Manufacturing process inspected
    - Phase 4
      - Occurs after FDA licensure
      - Formal, ongoing study to evaluate safety and effectiveness over a longer period of time

FDA licensure

- Before a vaccine can be approved for use in the U.S., the manufacturer must submit a Biological License Application (BLA) to the FDA
- BLA includes
  - Pre-clinical and clinical data
    - Clinical trial results
    - Prescribing information
  - Details about the manufacturing process
  - Information about the manufacturing facility



LEARN MORE

FDA VACCINE DEVELOPMENT + APPROVAL PROCESS http://go.usa.gov/xvvNd

CDC VACCINE SAFETY MONITORING + RESEARCH http://go.usa.gov/xvvNe

Who is ACIP??

Advisory Committee on Immunization Practices

- ACIP is a committee that develops recommendations on the use of vaccines in the civilian population of the U.S.
- Created under the U.S. Public Health Service in 1964
- Up to 20 voting members
- 8 *ex officio* members
- 31 non-voting representatives from professional organizations (liaisons)

ACIP

- Certain people are not considered for ACIP membership
  - People who are directly employed or have an immediate family member directly employed by a vaccine manufacturer
  - People who hold a patent on a vaccine or related product
  - People who serve on the board of directors of a vaccine manufacturer

How are vaccine recommendations made?

- ACIP typically holds 3 meetings each year at the CDC to make vaccine recommendations
  - Open to the public and available online via webcast
- During meetings, members review and discuss:
  - Vaccine research and scientific data related to vaccine effectiveness and safety
  - Clinical trial results
  - Manufacturer's labeling or package insert information
  - Outbreaks of vaccine-preventable disease
  - Changes in vaccine supply
- Prior to each voting session, there is a designated time for oral public comment
  - Written public comment may also be submitted in advance

ACIP work groups

- ACIP uses work groups to review relevant unpublished data and develop recommendation options for presentation to the ACIP
- Goal of work groups is to increase the effectiveness of ACIP

- Chikungunya
- Combined child/adolescent and adult immunization schedules
- COVID-19
- Cytomegalovirus
- HPV
- Influenza
- Meningococcal
- Mpox
- Pneumococcal
- RSV pediatric/maternal
- RSV - adult

How are vaccine recommendations made?

- The information ACIP reviews for each vaccine always includes
  - The safety and effectiveness of the vaccine when given at specific ages
  - The severity of the disease
  - The number of people who get the disease if there is no vaccine
  - How well a vaccine works for people of different ages
  - How practical the recommendations are to put into practice

How are vaccine recommendations made?

- Recommendation includes
  - Who should receive the vaccine
  - The number of doses needed
  - Amount of time between doses (interval)
  - Precautions and contraindications to receiving the vaccine

Role of ACIP in CDC's vaccine recommendations

- The CDC sets the U.S. childhood and adult recommended immunization schedules based on the recommendations from ACIP
- CDC Director will adopt the ACIP recommendations, making them official for immediate use
- Recommendations are then published in the CDC's *Morbidity and Mortality Weekly Report* (MMWR)
- Updated recommendations and CDC Direction adoption can be found here: https://www.cdc.gov/acip/vaccine-recommendations

ACIP vs. FDA license (package insert)

- In most instances, ACIP recommendations for vaccine use are consistent with the relevant FDA license information
- Sometimes differences occur:
  - Age indications
  - Dosing administration schedule
  - Use in immunocompromised or pregnant persons
- ACIP recommendations represent the standard of care for vaccination in the U.S., and ACIP recommendations supersede FDA package insert information

ACIP vs. FDA license (package insert)

- Common example:
  - Tdap is FDA licensed for 10-64 year olds
  - Tdap is ACIP-recommended starting at 7 years old with no upper age limit
    - Tdap is appropriate to administer when indicated, starting at 7 years old

Next ACIP meeting

- June 25-26, 2025
- Anticipated discussions and votes per the Federal Register:
  - Discussions:
    - Anthrax, chikungunya, CMV, Lyme disease vaccines
    - COVID-19, influenza, HPV, meningococcal, pneumococcal, and RSV vaccines
  - Votes:
    - 2025-2026 influenza season recommendations
    - 2025-2026 COVID-19 recommendations
    - MenQuadfi age recommendations
    - RSV
    - HPV

History Lesson!

Recommended vaccines through the years

Late 1940s

Smallpox

DTP

Late 1950s

Smallpox

DTP

Polio (IPV)

Late 1960s

Smallpox

DTP

Polio (OPV)

Measles

Mumps

Rubella

Recommended vaccines through the years

Late 1970s	1985 - 1994	1994 - 1995
DTP	DTP	DTP
Polio (OPV)	Polio (OPV)	Polio (OPV)
MMR	MMR	MMR
	Hib	Hib
		Hep B

First official U.S. immunization schedule

- More details on who should receive the vaccine, the number of doses, ages, and use of combination vaccines became necessary
- The first official childhood immunization schedule was issued by ACIP, the American Academy of Pediatrics, and the American Academy of Family Physicians in 1995
  - DTP, MMR, OPV, Hib, and Hep B were included on the schedule
- Annual update began

First official U.S. immunization schedule

Table_1

Note: To print large tables and graphs users may have to change their printer settings to landscape and use a small font size.

TABLE 1. Recommended childhood immunization schedule * --United States, January 1995

Vaccine	Birth	2 Months	4 Months	6 Months	12 + Months	15 Months	18 Months	4 - 6 Years	11-12 Years	14-16 Years
Hepatitis B &	º- HB-1 --------º	º- HB-2 ---------º		º- HB-3 ----------º						
Diphtheria, Tetanus, Pertussis @		DTP	DTP	DTP	º---------- DTP ----------º º- or DTaP at >= 15 months --º			DTP or DTaP	º- Td ---------º	
H. influenzae type b **		Hib	Hib	Hib	º------ Hib ------º					
Poliovirus		OPV	OPV	º- OPV ----------º				OPV		
Measles, Mumps, Rubella ++					º------ MMR ------º			MMR or MMR		

Vaccines are not just for kids!

- First official adult immunization schedule was published in 2002

FIGURE 1. Recommended adult immunization schedule — United States, 2002–2003

Vaccine	Age group (yrs) 19–49	50–64	≥65
Tetanus, diphtheria (Td)*	1 dose booster every 10 years†		
Influenza	1 dose annually for persons with medical or occupational indications or household contacts of persons with indications§	1 annual dose	
Pneumococcal (polysaccharide)	1 dose for persons with medical or other indications (1 dose revacinnation for immunosuppressive conditions)¶**		1 dose for unvaccinated persons¶ 1 dose revaccination**
Hepatitis B*	3 doses (0, 1–2, 4–6 months) for persons with medical, behavioral, occupational, or other indications††		
Hepatitis A	2 doses (0, 6–12 months) for persons with medical, behavioral, occupational, or other indications§§		
Measles, mumps, rubella (MMR)*	1 dose if MMR vaccination history is unreliable; 2 doses for persons with occupational, geographic, or other indications¶¶		
Varicella*	2 doses (0, 4–8 weeks) for persons who are susceptible***		
Meningococcal (polysaccharide)	1 dose for persons with medical or other indications†††		

For all persons in this age group | For persons with medical/exposure indications | Catch-up on childhood vaccinations

Current day

- ACIP meeting to vote on the upcoming schedule usually occurs in late October
- New schedules are published in late fall for the upcoming year
- New recommendations are added throughout the year on the ACIP website and on the addendum to the schedules

Questions?


WHITE BLOOD CELL VS. THE COMMON COLD
NOBODY IN OR OUT. GOT THAT? IT'S CHILLY OUT AND THIS KID DOESN'T HAVE A JACKET.
WOAH. COLD VIRUS HAS HOT CHOCOLATE!
EXIT
eh?
LET HIM IN.
THEAWKWARDYETI.COM

Let’s dive into it!

Schedules available

- Recommended Child and Adolescent Immunization Schedule
  - Ages 0 through 18 years
- Recommended Adult Immunization Schedule
  - Ages 19 years and older

Recommended Child & Adolescent Schedule

0-18 years

How to use the child and adolescent immunization schedule

1

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

2

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

3

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

4

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

5

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

6

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

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

UNITED STATES 2025

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

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

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

Revised 05/28/2025

How to use the child and adolescent immunization schedule

1. Determine recommended vaccine by age **(Table 1)**
2. Determine recommended interval for catch-up vaccination **(Table 2)**
3. Assess need for additional recommended vaccines by medical condition or other indication **(Table 3)**
4. Review vaccine types, frequencies, intervals, and considerations for special situations **(Notes)**
5. Review contraindications and precautions for vaccine types **(Appendix)**

Report

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

Questions or comments

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

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

Helpful information

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

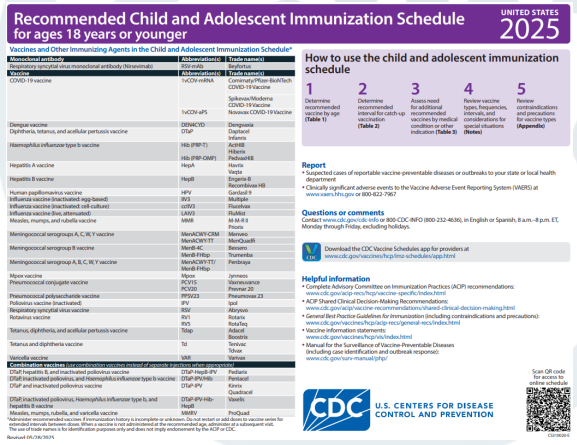
U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

Scan QR code for access to online schedule

CS310020-E

Front page

- Vaccine and immunizing agents trade names and abbreviations
- Combination vaccine descriptions
- Approvals by CDC and other professional organizations
- Helpful advice
  - Administer recommended vaccines if immunization history is incomplete or unknown
  - Do not restart or add doses to the vaccine series for extended intervals between doses
  - When the vaccine is not administered at the recommended age, administer it at a subsequent visit
- Link to VAERS and other resources



Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger — UNITED STATES 2025

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

Abbreviation(s)	Trade name(s)
Monoclonal antibody	
RSV-mAb	Beyfortus
Vaccine	**Abbreviation(s)**	**Trade name(s)**
COVID-19 vaccine	1vCOV-mRNA	Comirnaty/Pfizer-BioNTech COVID-19 Vaccine
	1vCOV-aPS	Spikevax/Moderna COVID-19 Vaccine Novavax COVID-19 Vaccine
Dengue vaccine	DENCYD	Dengvaxia
Diphtheria, tetanus, and acellular pertussis vaccine	DTaP	Daptacel Infanrix
Haemophilus influenzae type b vaccine	Hib (PRP-T)	ActHIB Hiberix
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Hepatitis B vaccine	HepB	Engerix-B Recombivax HB
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Meningococcal serogroup A, B, C, W, Y vaccine	MenACWY-TT/ MenB-FHbp	Penbraya
Mpox vaccine	Mpox	Jynneos
Pneumococcal conjugate vaccine	PCV15	Vaxneuvance
	PCV20	Prevnar 20
Pneumococcal polysaccharide vaccine	PPSV23	Pneumovax 23
Poliovirus vaccine (inactivated)	IPV	Ipol
Respiratory syncytial virus vaccine	RSV	Abrysvo
Rotavirus vaccine	RV1	Rotarix
	RV5	RotaTeq
Tetanus, diphtheria, and acellular pertussis vaccine	Tdap	Adacel Boostrix
Tetanus and diphtheria vaccine	Td	Tenivac Tdvax
Varicella vaccine	VAR	Varivax
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DTaP and inactivated poliovirus vaccine	DTaP-IPV	Kinrix Quadracel
DTaP, inactivated poliovirus, Haemophilus influenzae type b, and hepatitis B vaccine	DTaP-IPV-Hib-HepB	Vaxelis
Measles, mumps, rubella, and varicella vaccine	MMRV	ProQuad

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

Revised 09/30/2024

How to use the child and adolescent immunization schedule

1 Determine recommended vaccine by age (Table 1)
2 Determine recommended interval for catch-up vaccination (Table 2)
3 Assess need for additional recommended vaccines by medical condition or other indication (Table 3)
4 Review vaccine types, frequencies, intervals, and considerations for special situations (Notes)
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- Vaccine information statements: www.cdc.gov/vaccines/hcp/vis/index.html
- Manual for the Surveillance of Vaccine-Preventable Diseases (including case identification and outbreak response): www.cdc.gov/surv-manual/php/

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CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

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

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

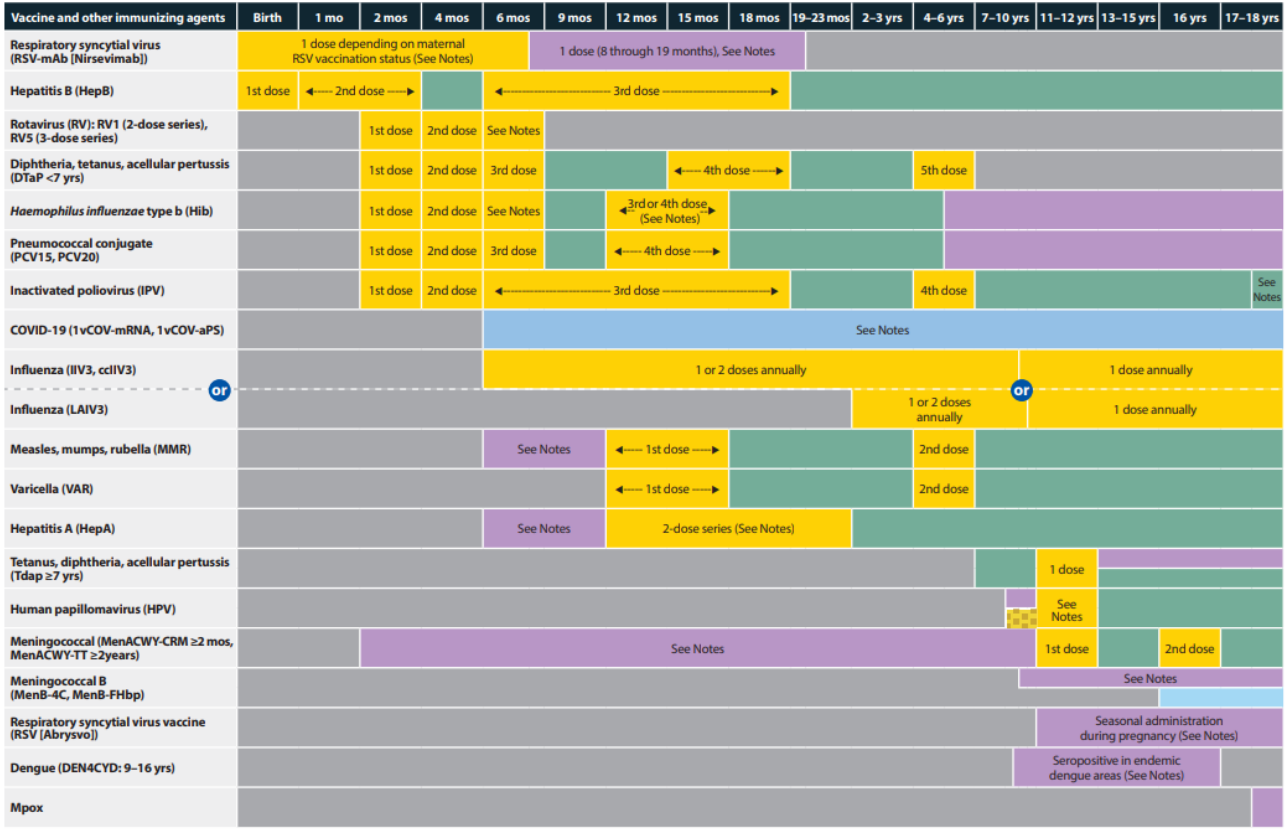


Table 1

- Yellow: recommended vaccines for all children
- Green: range of recommended ages for catch-up vaccination
- Purple: range of recommended ages for certain high-risk groups
- Dotted yellow: recommended vaccination can begin in this age group
- Light blue: recommended vaccination based on shared clinical decision making
- Grey: no recommendation or not applicable

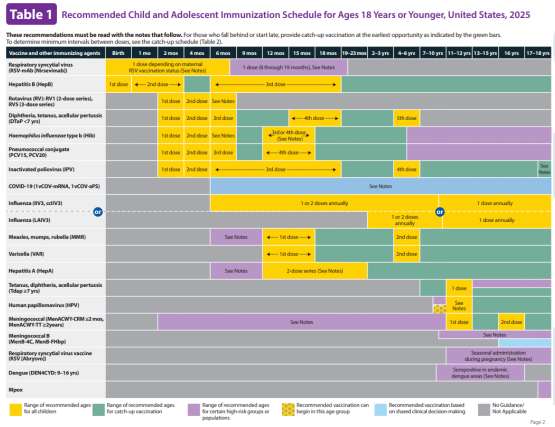


Table 1

- Infant vaccine doses follow a predictable schedule
  - 2, 4, 6 months primary series
    - DTaP, Hib, PCV, IPV
    - Rotavirus is 2, 4 months (Rotarix) or 2, 4, 6 months (RotaTeq)
    - Hep B is birth, 2, 6 months (2, 4, 6 months if birth dose is not received)
  - 12-18 months
    - MMR, varicella, Hib, PCV, Hep A
  - 15-18 months
    - DTaP

Table 1

- “Kindergarten” vaccines at 4-6 years
  - DTaP, IPV, MMR, varicella
- Adolescent vaccines
  - 11-12 years
    - Tdap, MenACWY, HPV
  - 16 years
    - Men ACWY
  - 16-18 years
    - MenB

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

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

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

Table 2

- The resource for catch-up, minimum valid ages, and intervals
- Highlights
  - Rotavirus
    - Maximum age to begin series is 14 weeks, 6 days
    - Maximum age for final dose is 8 months, 0 days
  - Polio
    - Minimum age for final dose of series is 4 years
  - Hep B
    - Minimum age for final dose is 24 weeks
  - Varicella
    - Minimum interval between doses is 3 months if younger than 13 years, 4 weeks if 13 years or older

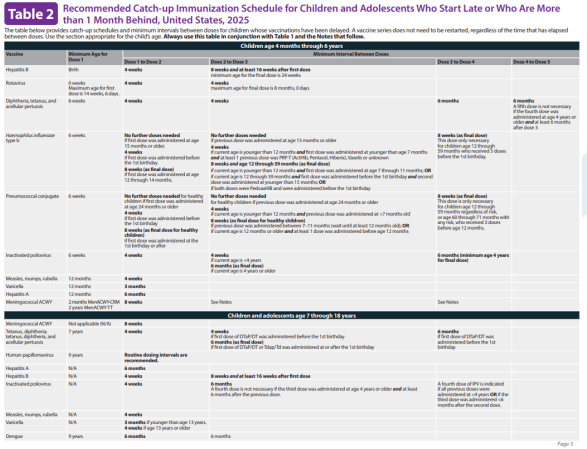


Table 2 Recommended Catch-up Immunization Schedule for Children and Adolescents Who Start Late or Who Are More than 1 Month Behind, United States, 2025

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

Children age 4 months through 6 years

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

Children and adolescents age 7 through 18 years

Meningococcal ACWY	Not applicable (N/A)	**8 weeks**			
Tetanus, diphtheria, and acellular pertussis and acellular pertussis	7 years	**4 weeks** if first dose of DTaP/DT was administered before the 1st birthday **6 months (as final dose)** if first dose of DTaP/DT or Tdap/Td was administered at or after the 1st birthday		**6 months** if final dose of DTaP/DT was administered before the 1st birthday	
Human papillomavirus	9 years	**Routine dosing intervals are recommended.**			
Hepatitis A	N/A	**6 months**			
Hepatitis B	N/A	**4 weeks**	**8 weeks** *and* **at least 16 weeks after first dose**		
Inactivated poliovirus	N/A	**4 weeks**	**6 months** A fourth dose is not necessary if the third dose was administered at age 4 years or older *and* at least 6 months after the previous dose.	A fourth dose of IPV is indicated if all previous doses were administered at <4 years *OR* if the third dose was administered <6 months after the second dose.	
Measles, mumps, rubella	N/A	**4 weeks**			
Varicella	N/A	**3 months** if younger than age 13 years. **4 weeks** if age 13 years or older			
Dengue	9 years	**6 months**	6 months		

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

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

Vaccine and other immunizing agents	Pregnancy	Immunocompromised (excluding HIV infection)	HIV infection CD4 percentage and count[a]		CSF leak or cochlear implant	Asplenia or persistent complement component deficiencies	Heart disease or chronic lung disease	Kidney failure, End-stage renal disease or on dialysis	Chronic liver disease	Diabetes
			<15% or <200/mm³	≥15% and ≥200/mm³						
RSV-mAb (nirsevimab)		2nd RSV season		1 dose depending on maternal RSV vaccination status (See Notes)			2nd RSV season for chronic lung disease (See Notes)	1 dose depending on maternal RSV vaccination status (See Notes)		
Hepatitis B										
Rotavirus		SCID[b]								
DTaP/Tdap	DTaP Tdap: 1 dose each pregnancy									
Hib		HSCT: 3 doses	See Notes			See Notes				
Pneumococcal										
IPV										
COVID-19		See Notes		See Notes						
Influenza inactivated		Solid organ transplant: 18yrs (See Notes)								
LAIV3							Asthma, wheezing: 2–4 years[c]			
MMR	*									
VAR	*									
Hepatitis A										
HPV	*	3-dose series (See Notes)								
MenACWY										
MenB										
RSV (Abrysvo)	Seasonal administration (See Notes)									
Dengue										
Mpox	See Notes									

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

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

Recommended vaccination based on shared clinical decision-making

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

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

Contraindicated or not recommended
*Vaccinate after pregnancy, if indicated

No Guidance/ Not Applicable

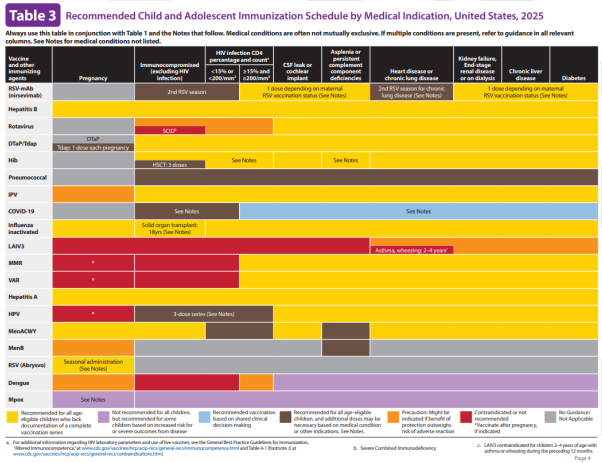
a. For additional information regarding HIV laboratory parameters and use of live vaccines, see the General Best Practice Guidelines for Immunization, "Altered Immunocompetence," at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/immunocompetence.html and Table 4-1 (footnote J) at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html.

b. Severe Combined Immunodeficiency

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

Table 3

- Pregnancy
- Immunocompromised (excluding HIV infection)
- HIV infection
  - Split depending on CD4 cell percentage count
- Cerebrospinal fluid (CSF) leak or cochlear implant
- Asplenia or persistent complement component deficiencies
- Heart disease or chronic lung disease
- Kidney failure, end-stage renal disease, or on dialysis
- Chronic liver disease
- Diabetes



Notes

- 11 pages of notes!
  - Section for each vaccine on schedule

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

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

Additional information

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

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

Routine vaccination

Age 18 years and older who are NOT moderately or severely immunocompromised

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

Shared clinical decision-making

Ages 6 month –17 years who are NOT moderately or severely immunocompromised. Shared clinical decision-making vaccinations are individually based and informed by a decision process between the health care provider and the patient or parent/guardian. Where the parent presents with a desire for their child to be vaccinated, children 6 months and older may receive COVID-19 vaccination, informed by the clinical judgment of a healthcare provider and personal preference and circumstances. www.cdc.gov/acip/vaccine-recommendations/shared-clinical-decision-making.html

Age 6 months–4 years

All vaccine doses should be from the same manufacturer.

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

Age 5–11 years

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

Age 12–17 years

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

Shared clinical decision-making

Shared clinical decision-making vaccinations are individually based and informed by a decision process between the health care provider and the patient or parent/guardian. This provision would allow for COVID-19 vaccination in children aged 6 months and older based on shared clinical decision-making, allowing for vaccination of immunocompromised children. www.cdc.gov/acip/vaccine-recommendations/shared-clinical-decision-making.html

Page 5

Notes

- Calculating intervals
  - 4 weeks = 28 days
  - Intervals of ≥4 months are determined by calendar months
- Within a number range (e.g., 12-18), a dash (-) should be read as “through”
- Vaccine doses administered ≤4 days before the minimum age or interval are considered valid
  - Known as the 4-day grace period
  - Doses of any vaccine administered ≥5 days earlier than the minimum age or interval should not be counted as valid and should be repeated
    - The repeat dose should be spaced after the invalid dose by the recommended minimum interval
  - Does not apply to 2 live vaccines given on separate days and the rabies vaccine series

Notes

- Additional information
  - Travel vaccination requirements and recommendations
  - Vaccination of persons with immunodeficiencies
  - Vaccination in the setting of a vaccine-preventable disease outbreak
  - National Vaccine Injury Compensation Program

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

Guide to Contraindications and Precautions to Commonly Used Vaccines

Adapted from Table 4-1 in Advisory Committee on Immunization Practices (ACIP) General Best Practice Guidelines for Immunization: Contraindication and Precautions, Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices—United States, 2024–25 Influenza Season | MMWR (cdc.gov), *and* Contraindications and Precautions for COVID-19 Vaccination

Vaccines and other Immunizing Agents	Contraindicated or Not Recommended[1]	Precautions[2]
COVID-19 mRNA vaccines [Pfizer-BioNTech, Moderna]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of an mRNA COVID-19 vaccine[3]	• Diagnosed non-severe allergy (e.g., urticaria beyond the injection site) to a component of an mRNA COVID-19 vaccine[3]; or non-severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of an mRNA COVID-19 vaccine • Myocarditis or pericarditis within 3 weeks after a dose of any COVID-19 vaccine • Multisystem inflammatory syndrome in children (MIS-C) or multisystem inflammatory syndrome in adults (MIS-A) • Moderate or severe acute illness, with or without fever
COVID-19 protein subunit vaccine [Novavax]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of a Novavax COVID-19 vaccine[3]	• Diagnosed non-severe allergy (e.g., urticaria beyond the injection site) to a component of Novavax COVID-19 vaccine[3]; or non-severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of a Novavax COVID-19 vaccine • Myocarditis or pericarditis within 3 weeks after a dose of any COVID-19 vaccine • Multisystem inflammatory syndrome in children (MIS-C) or multisystem inflammatory syndrome in adults (MIS-A) • Moderate or severe acute illness, with or without fever
Influenza, egg-based, inactivated injectable (IIV3)	• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component[4] (excluding egg)	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Moderate or severe acute illness with or without fever
Influenza, cell culture-based inactivated injectable (ccIIV3) [Flucelvax]	• Severe allergic reaction (e.g., anaphylaxis) to any ccIIV of any valency, or to any component[4] of ccIIV3	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IIV, RIV, or LAIV of any valency. If using ccIIV3, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. • Moderate or severe acute illness with or without fever
Influenza, recombinant injectable (RIV3) [Flublok]	• Severe allergic reaction (e.g., anaphylaxis) to any RIV of any valency, or to any component[4] of RIV3	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IIV, ccIIV, or LAIV of any valency. If using RIV3, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. • Moderate or severe acute illness with or without fever
Influenza, live attenuated (LAIV3) [Flumist]	• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component[4] (excluding egg) • Children age 2–4 years with a history of asthma or wheezing • Anatomic or functional asplenia • Immunocompromised due to any cause including, but not limited to, medications and HIV infection • Close contacts or caregivers of severely immunosuppressed persons who require a protected environment • Pregnancy • Cochlear implant • Active communication between the cerebrospinal fluid (CSF) and the oropharynx, nasopharynx, nose, ear or any other cranial CSF leak • Children and adolescents receiving aspirin or salicylate-containing medications • Received influenza antiviral medications oseltamivir or zanamivir within the previous 48 hours, peramivir within the previous 5 days, or baloxavir within the previous 17 days	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Asthma in persons age 5 years old or older • Persons with underlying medical conditions other than those listed under contraindications that might predispose to complications after wild-type influenza virus infection, e.g., chronic pulmonary, cardiovascular (except isolated hypertension), renal, hepatic, neurologic, hematologic, or metabolic disorders (including diabetes mellitus) • Moderate or severe acute illness with or without fever

1. When a contraindication is present, a vaccine should **NOT** be administered. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization.
2. When a precaution is present, vaccination should generally be deferred but might be indicated if the benefit of protection from the vaccine outweighs the risk for an adverse reaction. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization.
3. See package inserts and FDA EUA fact sheets for a full list of vaccine ingredients. mRNA COVID-19 vaccines contain polyethylene glycol (PEG).
4. Vaccination providers should check FDA-approved prescribing information for the most complete and updated information, including contraindications, warnings, and precautions. See Package inserts for U.S.-licensed vaccines.

Appendix

- Guide to Contraindications and Precautions to Commonly Used Vaccines
  - Contraindications
    - Conditions under which vaccines should **not** be administered
  - Precautions
    - A condition in a recipient that might increase the risk for a serious adverse reaction, might cause diagnostic confusion, or might compromise the ability of the vaccine to produce immunity
    - In general, vaccination should be deferred when a precaution against that specific vaccine is present

Addendum

- Removed in May 2025 revision

Questions?

Recommended Adult Schedule

19 years and older

How to use the adult immunization schedule

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

Recommended Adult Immunization Schedule
for ages 19 years or older

UNITED STATES
2025

Vaccines in the Adult Immunization Schedule*

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

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

Revised 05/28/2025

How to use the adult immunization schedule

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

Report

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

Questions or comments

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

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

Helpful information

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

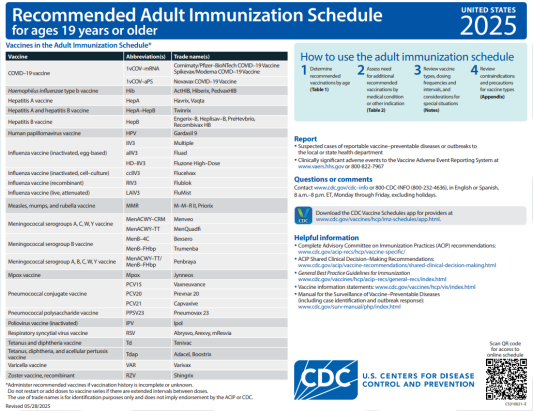
U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

Scan QR code for access to online schedule

CS310021-E

Front page

- Vaccine trade names and abbreviations
- Approvals by CDC and other professional organizations
- Helpful advice
  - Administer recommended vaccines if immunization history is incomplete or unknown
  - Do not restart or add doses to vaccine series for extended intervals between doses
  - When vaccine is not administered at the recommended age, administer it at a subsequent visit
- Links to VAERS and other resources



Recommended Adult Immunization Schedule
for ages 19 years or older
UNITED STATES 2025

Vaccines in the Adult Immunization Schedule*

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

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

Revised 01/28/2025

How to use the adult immunization schedule

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

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

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

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

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

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

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

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

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

Recommended vaccination based on shared clinical decision–making

No Guidance/ Not Applicable

Table 1

- Yellow: recommended vaccines for adults who meet age requirements, lack documentation of vaccination, or lack evidence of immunity
- Purple: recommended vaccination for adults with an additional risk factor or another indication
- Light blue: recommended vaccination based on shared clinical decision making
- Grey: no recommendation or not applicable

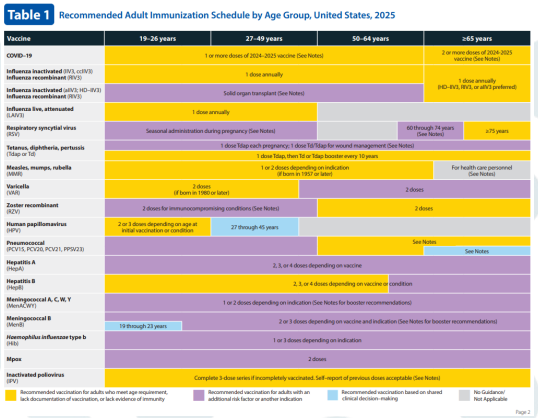


Table 2 Recommended Adult Immunization Schedule by Medical Condition or Other Indication, United States, 2025

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

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

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

a. Precaution for LAIV3 does not apply to alcoholism.

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

c. Hematopoietic stem cell transplant.

Table 2

- Pregnancy
- Immunocompromised (excluding HIV infection)
- HIV infection
  - Split depending on CD4 cell percentage and county
- Men who have sex with men
- Asplenia, complement deficiency
- Heart or lung disease
- Kidney failure, end-stage renal disease, or on dialysis
- Chronic liver disease, alcoholism
- Diabetes
- Healthcare personnel

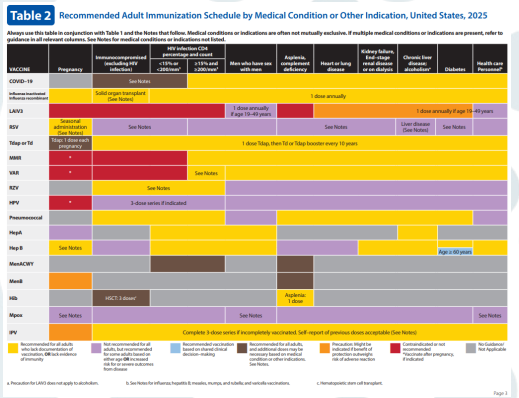


Table 2 Recommended Adult Immunization Schedule by Medical Condition or Other Indication, United States, 2025

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

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

Recommended for all adults who lack documentation of vaccination OR lack evidence of immunity

Not recommended for all adults; Recommended for some adults based on either age OR increased risk for or severe outcomes from disease

Recommended vaccination based on shared clinical decision-making

Recommended for all adults, but additional doses may be necessary based on medical condition or other indications. See Notes.

Precaution: Might be less effective or offer protection outweighs risk of adverse reaction

Contraindicated or not recommended; Discontinue after pregnancy, if indicated

No Guidance/ Not Applicable

a. Precaution for LAIV3 does not apply to alcoholism. b. See Notes for influenza; hepatitis B; measles, mumps, and rubella; and varicella vaccinations. c. Hematopoietic stem cell transplant.

Page 1

Notes

- 9 pages of notes!
  - Section for each vaccine on the schedule
- Same guidance as childhood schedule for interval calculations, dashes, and 4-day grace period

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

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

Additional Information

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

COVID–19 vaccination

Routine vaccination

Age 19–64 years (not pregnant)

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

Age 65 years and older

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

Special situations

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

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

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

Contraindications and Precautions to Commonly Used Vaccines

Adapted from Table 4–1 in Advisory Committee on Immunization Practices (ACIP) General Best Practice Guidelines for Immunization: Contraindication and Precautions, Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices—United States, 2024–25 Influenza Season | MMWR (cdc.gov), *and* Contraindications and Precautions for COVID–19 Vaccination

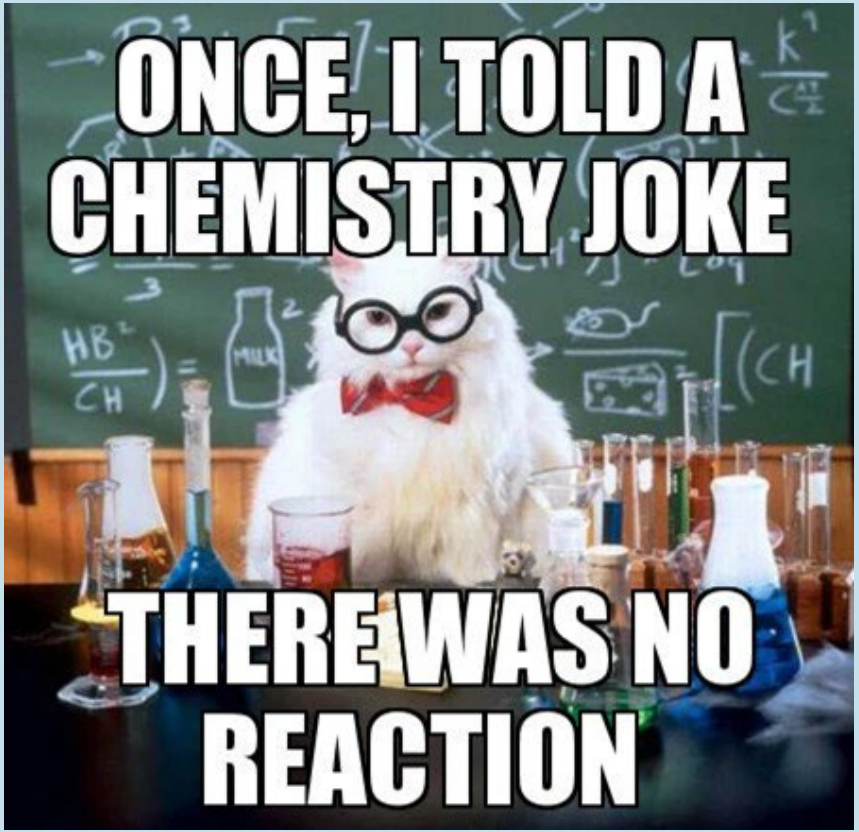
Vaccines and Other Immunizing Agents	Contraindicated or Not Recommended[1]	Precautions[2]
COVID–19 mRNA vaccines [Pfizer–BioNTech, Moderna]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of an mRNA COVID–19 vaccine[3]	• Diagnosed non–severe allergy (e.g., urticaria beyond the injection site) to a component of an mRNA COVID–19 vaccine[3]; or non–severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of an mRNA COVID–19 vaccine • Myocarditis or pericarditis within 3 weeks after a dose of any COVID–19 vaccine • Multisystem inflammatory syndrome in children (MIS–C) or multisystem inflammatory syndrome in adults (MIS–A) • Moderate or severe acute illness, with or without fever
COVID–19 protein subunit vaccine [Novavax]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of a Novavax COVID–19 vaccine[3]	• Diagnosed non–severe allergy (e.g., urticaria beyond the injection site) to a component of Novavax COVID–19 vaccine[3]; or non–severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of a Novavax COVID–19 vaccine • Myocarditis or pericarditis within 3 weeks after a dose of any COVID–19 vaccine • Multisystem inflammatory syndrome in children (MIS–C) or multisystem inflammatory syndrome in adults (MIS–A) • Moderate or severe acute illness, with or without fever
Influenza, egg-based, inactivated injectable (IIV3)	• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component[4] (excluding egg)	• Guillain–Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Moderate or severe acute illness with or without fever
Influenza, cell culture–based inactivated injectable (ccIIV3) [Flucelvax]	• Severe allergic reaction (e.g., anaphylaxis) to any ccIIV of any valency, or to any component[4] of ccIIV3	• Guillain–Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IIV, RIV, or LAIV of any valency. If using ccIIV3, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. • Moderate or severe acute illness with or without fever
Influenza, recombinant injectable (RIV3) [Flublok]	• Severe allergic reaction (e.g., anaphylaxis) to any RIV of any valency, or to any component[4] of RIV3	• Guillain–Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IIV, ccIIV, or LAIV of any valency. If using RIV3, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. • Moderate or severe acute illness with or without fever
Influenza, live attenuated (LAIV3) [Flumist]	• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component[4] (excluding egg) • Anatomic or functional asplenia • Immunocompromised due to any cause including, but not limited to, medications and HIV infection • Close contacts or caregivers of severely immunosuppressed persons who require a protected environment • Pregnancy • Cochlear implant • Active communication between the cerebrospinal fluid (CSF) and the oropharynx, nasopharynx, nose, ear, or any other cranial CSF leak • Received influenza antiviral medications oseltamivir or zanamivir within the previous 48 hours, peramivir within the previous 5 days, or baloxavir within the previous 17 days.	• Guillain–Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Asthma in persons aged 5 years or older • Persons with underlying medical conditions (other than those listed under contraindications) that might predispose to complications after wild–type influenza virus infection [e.g., chronic pulmonary, cardiovascular (except isolated hypertension), renal, hepatic, neurologic, hematologic, or metabolic disorders (including diabetes mellitus)] • Moderate or severe acute illness with or without fever

1. When a contraindication is present, a vaccine should NOT be administered. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization.
2. When a precaution is present, vaccination should generally be deferred but might be indicated if the benefit of protection from the vaccine outweighs the risk for an adverse reaction. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization.
3. See package inserts and FDA EUA fact sheets for a full list of vaccine ingredients. mRNA COVID–19 vaccines contain polyethylene glycol (PEG).
4. Vaccination providers should check FDA–approved prescribing information for the most complete and updated information, including contraindications, warnings, and precautions. See Package inserts for U.S.–licensed vaccines.

Addendum

- Removed in May 2025 revision

Questions?



“Alternate” Schedules

There is only one official recommended schedule!

- The ACIP recommended immunization schedules are the only ones endorsed by the CDC, American Academy of Pediatrics, American College of Obstetricians and Gynecologists, and the American Academy of Family Physicians
- The ACIP recommended schedule is the only schedule valid for meeting child care facility and school immunization requirements in Wyoming

Alternate schedules

- These schedules delay, spread out, or skip recommended vaccines and doses

Why do parents request alternate schedules?

- Vaccine safety concerns about long-term effects or specific outcomes like autism
- Low perceived risk of a child contracting a vaccine-preventable disease
- Low perceived risk that vaccine-preventable diseases are harmful
- Concern that vaccination will affect the immune system
- Parents' desire to be involved in their child's medical care
- Concerns about vaccine ingredients
- Concerns about pain associated with vaccination, or common side effects like fever

Risks of alternate schedules

- Alternate schedules have not been evaluated for safety and efficacy
- Can leave patients susceptible to certain diseases
- Some may never catch up or become fully immunized
- Can lead to more injections
  - Combination vaccines cannot always be used
  - May be more likely to induce needle phobia
- Not compliant with mandatory immunizations for child-care facilities and schools, as Wyoming administrative rule follows the ACIP schedule
  - Not a valid reason to obtain a medical waiver

Resources

- Immunize.org has an index of resources for parent and patient education on the topic of alternate schedules
  - https://www.immunize.org/clinical/vaccine-confidence/topic/alt-schedules/

International Vaccine Schedules

International vaccine schedules

- Doses administered internationally can be counted as valid in the U.S. if the doses comply with the ACIP minimum intervals and ages
  - Common differences
    - Measles-containing vaccine given younger than 12 months of age
      - Minimum valid age in the U.S. is 12 months
    - IPV dose given in pre-teen or teenage years
      - The U.S. recommended age is 4-6 years
- It is not appropriate to revaccinate a patient instead of assessing the international immunization record

Dates

- The U.S. utilizes the month/day/year format
  - I.e. 5/4/1983 = May 4, 1983
- Outside of the U.S., the day/month/year format is commonly used
  - I.e. 5/4/1983 = April 5, 1983

Resources

- European Centre for Disease Prevention and Control (ECDC) Vaccine Schedule
  - Publishes schedules for every EU/EEU country
  - https://vaccine-schedule.ecdc.europa.eu/
- World Health Organization
  - Publishes schedules for most countries, territories, and occupied regions of the world
  - https://immunizationdata.who.int/global?topic=Vaccination-schedule&location=
- Binational Immunization Tool
  - Crosswalk of U.S. and Mexico childhood immunization schedules
  - Reach out to Heidi for a copy
- Quick Reference Guide: Understanding Immunization Records from Outside the United States (WDH Immunization Unit)
  - https://health.wyo.gov/wp-content/uploads/2024/11/QRG_-Understanding-Immunization-Records-from-Outside-the-United-States-.pdf

Schedule Resources

Immunization Schedules - CDC website

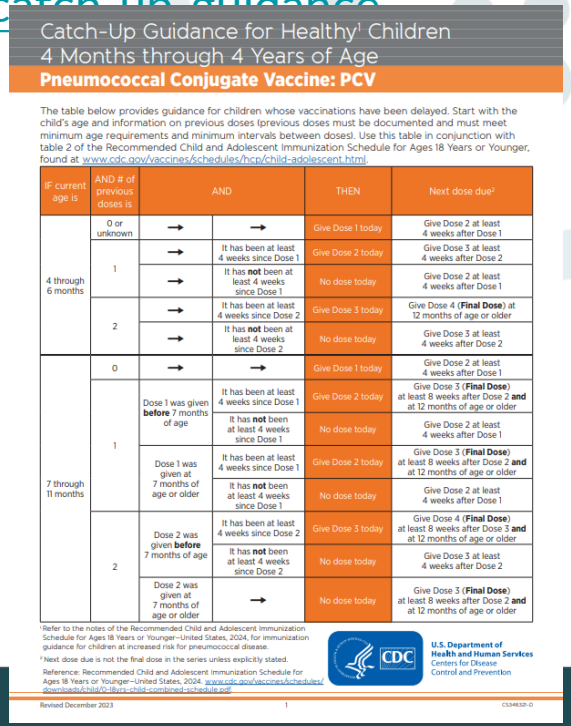
- https://www.cdc.gov/vaccines/hcp/imz-schedules/index.html
- Healthcare provider and general public sections
- Link to schedules are static
  - Links do not change, and will update automatically with the most recent information

CDC Vaccine Schedules App for Healthcare Providers

- https://www.cdc.gov/vaccines/hcp/imz-schedules/app.html
- This free tool provides the most current version of the
  - Child and adolescent schedule with immunization recommendations from birth through age 18
  - Catch-up schedule for children and adolescents 4 months through 18 years
  - Adult schedule, including recommended vaccines for adults by age group and by medical conditions
  - Adult Contraindications and Precautions Table

Vaccine catch -up guidance job aides

- https://www.cdc.gov/vaccines/hcp/imz-schedules/changes-guidance.html#cdc_generic_section_3-vaccine-catch-up-guidance
- Available for
  - Pneumococcal conjugate (4 months-4 years)
  - Hib (4 months-4 years)
  - DTaP (4 months-6 years)
  - IPV
  - Tdap (7-9 years, 10-18 years)



Catch-Up Guidance for Healthy[1] Children
4 Months through 4 Years of Age

Pneumococcal Conjugate Vaccine: PCV

The table below provides guidance for children whose vaccinations have been delayed. Start with the child's age and information on previous doses (previous doses must be documented and must meet minimum age requirements and minimum intervals between doses). Use this table in conjunction with table 2 of the Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, found at www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html.

IF current age is	AND # of previous doses is	AND		THEN	Next dose due[2]
4 through 6 months	0 or unknown	→	→	Give Dose 1 today	Give Dose 2 at least 4 weeks after Dose 1
	1	→	It has been at least 4 weeks since Dose 1	Give Dose 2 today	Give Dose 3 at least 4 weeks after Dose 2
		→	It has **not** been at least 4 weeks since Dose 1	No dose today	Give Dose 2 at least 4 weeks after Dose 1
	2	→	It has been at least 4 weeks since Dose 2	Give Dose 3 today	Give Dose 4 (**Final Dose**) at 12 months of age or older
		→	It has **not** been at least 4 weeks since Dose 2	No dose today	Give Dose 3 at least 4 weeks after Dose 2
7 through 11 months	0	→	→	Give Dose 1 today	Give Dose 2 at least 4 weeks after Dose 1
	1	Dose 1 was given **before** 7 months of age	It has been at least 4 weeks since Dose 1	Give Dose 2 today	Give Dose 3 (**Final Dose**) at least 8 weeks after Dose 2 **and** at 12 months of age or older
			It has **not** been at least 4 weeks since Dose 1	No dose today	Give Dose 2 at least 4 weeks after Dose 1
		Dose 1 was given at 7 months of age or older	It has been at least 4 weeks since Dose 1	Give Dose 2 today	Give Dose 3 (**Final Dose**) at least 8 weeks after Dose 2 **and** at 12 months of age or older
			It has **not** been at least 4 weeks since Dose 1	No dose today	Give Dose 2 at least 4 weeks after Dose 1
	2	Dose 2 was given **before** 7 months of age	It has been at least 4 weeks since Dose 2	Give Dose 3 today	Give Dose 4 (**Final Dose**) at least 8 weeks after Dose 3 **and** at 12 months of age or older
			It has **not** been at least 4 weeks since Dose 2	No dose today	Give Dose 3 at least 4 weeks after Dose 2
		Dose 2 was given at 7 months of age or older	→	No dose today	Give Dose 3 (**Final Dose**) at least 8 weeks after Dose 2 **and** at 12 months of age or older

[1] Refer to the notes of the Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger—United States, 2024, for immunization guidance for children at increased risk for pneumococcal disease.

[2] Next dose due is not the final dose in the series unless explicitly stated.

Reference: Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger—United States, 2024. www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf

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

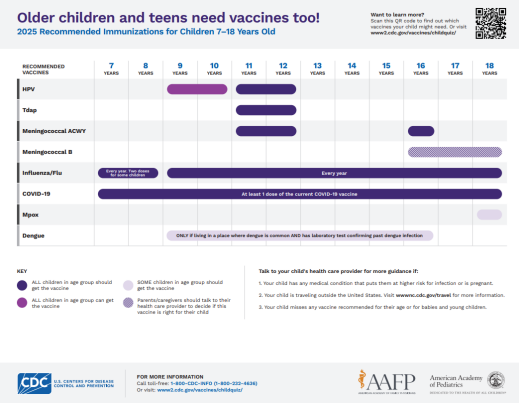
Revised December 2023 1 CS346321-D

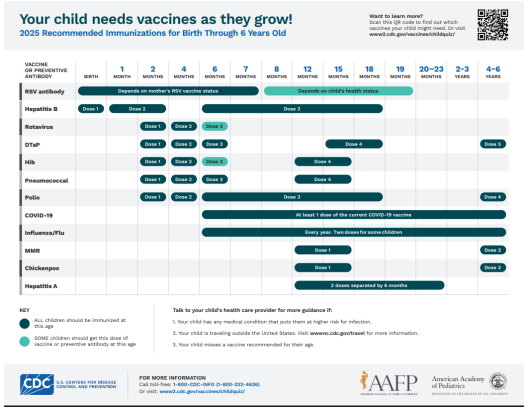
PneumoRecs VaxAdvisor

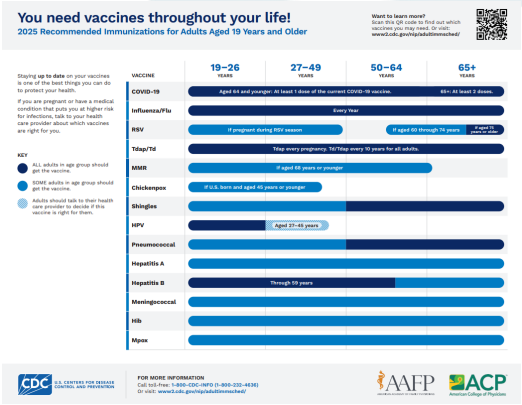
- Web-based and phone app versions available
- Assists with determining which pneumococcal vaccines a patient needs and when by entering
  - Patient's age
  - Patient's underlying medical conditions
  - Patient's pneumococcal vaccination history
- https://www2a.cdc.gov/vaccines/m/pneumo/pneumo.html

Easy-to-read schedules

- Birth to 6 years
- 7-18 years
- Adults
- https://www.cdc.gov/vaccines/imz-schedules/index.html

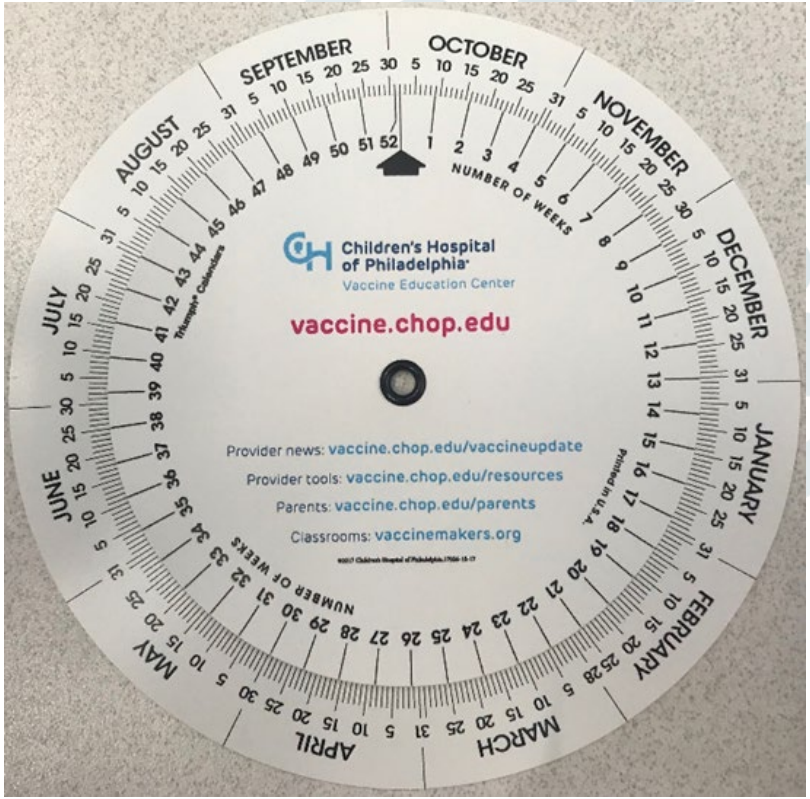






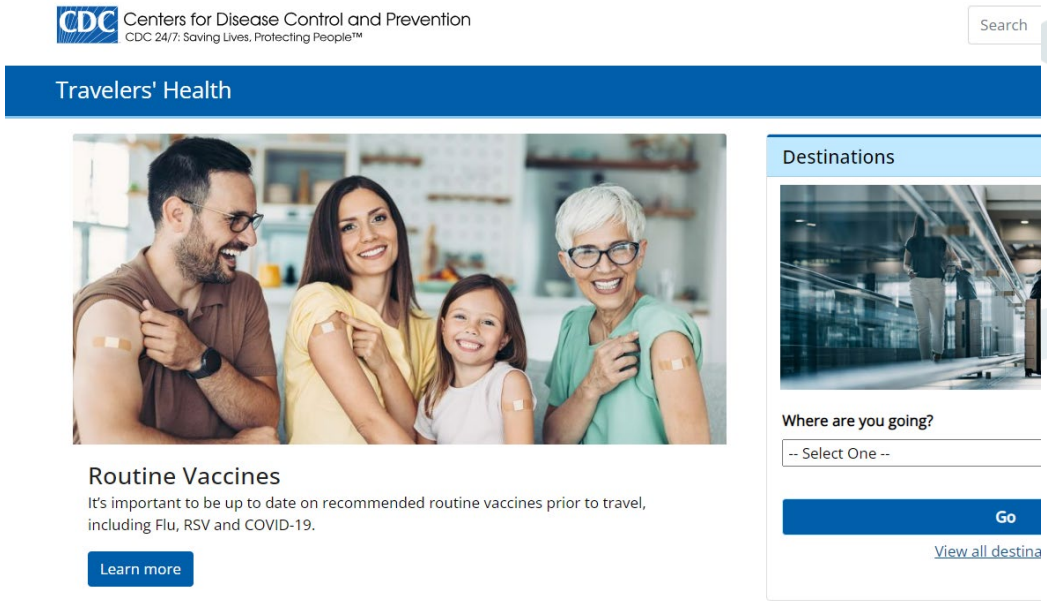
Swivel calendar

- From the Vaccine Education Center at Children's Hospital of Philadelphia
- Allows the user to check minimum intervals, next doses, and other vaccine record-related intervals quickly and easily



Travel vaccines

- cdc.gov/travel



Questions?

Thank you!!

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Wyoming Department of Health | PUBLIC HEALTH DIVISION | IMMUNIZATION UNIT