

Recommended Adult Immunization Schedule

Minnesota

Also includes the Catch-Up Schedule and Minimum Intervals for Adults

Based on recommendations of the Advisory Committee on Immunization Practices, the American Academy of Family Physicians, the American College of Physicians, and the American College of Obstetricians and Gynecologists, and endorsed by the Minnesota Immunization Practices Advisory Committee of the Minnesota Department of Health.



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Charts must be used with footnotes on next page.

Recommended Adult Immunization Schedule


Assess the vaccination status of adult patients at every visit.


Vaccine ↓	Age →	19 through 26 years	27 through 49 years	50 through 59 years	60 through 64 years	65 years and older
Influenza ^{1*}		1 dose annually				
Tetanus, Diphtheria, Pertussis ^{2*}		Substitute 1-time dose of Tdap for next Td				Td booster every 10 years
Human Papillomavirus ^{3*}		3 doses (0, 1-2, 6 months)				
Varicella ^{4*}		2 doses (0, 4-8 weeks)				
Zoster ⁵					1 dose (60 years and older)	
Measles, Mumps, Rubella ^{6*}		1 - 2 doses		1 - 2 doses		
Pneumococcal ⁷		1 - 2 doses				1 dose
Hepatitis A ^{8*}		2 doses (0, 6 months)				
Hepatitis B ^{9*}		3 doses (0, 1, 6 months)				
Meningococcal ^{10*}		1 or more doses				

Vaccines Indicated for Adults Based on Medical and Other Indications

Indication →	Pregnancy	Immuno-compromising conditions (excluding human immunodeficiency virus [HIV] infection) ^{11,12}	HIV infection ^{11,12} CD4+ T lymphocyte count		Men who have sex with men (MSM)	Heart disease, chronic lung disease, chronic alcoholism	Asplenia ¹² (including elective splenectomy and persistent complement component deficiencies)	Chronic liver disease	Diabetes, Kidney failure, end-stage renal disease, on hemodialysis	Health care personnel (HCP)
			<200 cells/μL	≥200 cells/μL						
Influenza ^{1*}		1 dose TIV annually			1 dose TIV or LAIV annually	1 dose TIV annually			1 dose TIV or LAIV annually	
Tetanus, Diphtheria, Pertussis ^{2*}		Substitute 1-time dose of Tdap for next Td; then boost with Td every 10 years								
Human Papillomavirus ^{3*}		3 doses for males and females through age 26 years			3 doses females through age 26 years; males through age 21 years					
Varicella ^{4*}		Contraindicated			2 doses					
Zoster ⁵		Contraindicated			1 dose					
Measles, Mumps, Rubella ^{6*}		Contraindicated			1 or 2 doses					
Pneumococcal ⁷		1 or 2 doses								
Hepatitis A ^{8*}		2 doses								
Hepatitis B ^{9*}		3 doses								
Meningococcal ^{10*}					1 or more doses					

* Covered by the National Vaccine Injury Compensation Program (see back for more information)

 Recommended for all persons who meet the age requirements and who lack evidence of immunity (i.e., no documented vaccination, no evidence of prior infection, or no laboratory evidence of immunity)

 Recommended if some other risk factor is present (e.g., based on medical, occupational, lifestyle, or other indications)

 Contraindicated

 No recommendation

1. **Influenza, seasonal (TIV, LAIV)** trivalent inactivated influenza vaccine (TIV); live attenuated influenza vaccine (LAIV).
 - Give LAIV or TIV to healthy (i.e., without high-risk medical conditions) nonpregnant adults under age 50 years.
 - Give TIV to:
 - Persons with high-risk medical conditions.
 - Persons age 50 years and older.
 - Health care personnel (HCP) who care for severely immunocompromised patients in protective isolation.
2. **Tetanus and diphtheria (Td) and tetanus, diphtheria, and pertussis (Tdap)**
 - Give 1 dose of Tdap to adults age 64 years and younger in place of their next 10-year booster dose of Td. Td is recommended every 10 years as a booster for all adults.
 - Tdap is recommended for adults having close contact with infants under age 1 year including (parents, grandparents, child care staff, pregnant women after 20 weeks gestation, and HCP).
 - Tdap can be given regardless of when the last Td was given.
 - Adults with unknown or incomplete history of completing primary vaccination should complete a 3-dose primary series of Td (see page 4 for catch-up schedule). Give Tdap for 1 of the 3 doses.
 - Pregnant women not vaccinated during pregnancy should receive Tdap in the immediate postpartum period.
 - Adults age 65 years and older may also receive Tdap.
3. **Human papillomavirus (HPV2, HPV4)**
 - Give HPV2 or HPV4 to all females through age 26 years and HPV4 to males through age 21 years.
 - HPV4 is recommended for males through age 26 years who are immunocompromised or men who have sex with men.
 - HPV is given as a 3 dose series at intervals of 0, 1-2, and 6 months.
 - Ideally, vaccine should be given prior to potential exposure through sexual activity; however, sexually active persons should still be vaccinated. Inform them that they may not receive protection against all HPV types in the vaccine if previously exposed to any of them.
 - Instruct all females to continue to receive annual Pap smears.
 - HPV4 may be given to males age 22 through 26 years.
4. **Varicella (VAR)**
 - Give varicella vaccine as 2 doses separated by 4 to 8 weeks to all adults without evidence of immunity, particularly those who will have close contact with persons at high risk for serious complications (e.g., HCP and family contacts of immunocompromised persons), or at high-risk of exposure (e.g., child care personnel, teachers).
 - Evidence of immunity to varicella includes any of the following:
 - Documentation of 2 doses of varicella vaccine at least 4 weeks apart, or
 - U.S.-born before 1980, or
 - History of varicella disease verified by a health care provider, or
 - History of herpes zoster disease verified by a health care provider, or
 - Laboratory evidence of immunity.
 - When assessing immunity of HCP or pregnant women the "U.S.-born before 1980" evidence of immunity should not be considered.
 - HCP with no other evidence of immunity should be given 2 doses of varicella at least 4 to 8 weeks apart.
 - Pregnant women with no other evidence of immunity should be vaccinated upon completion of pregnancy.
5. **Zoster (ZOS)**
 - Give 1 dose of zoster vaccine to persons age 60 years and older, regardless of a previous herpes zoster infection.
 - Persons with chronic medical conditions may be vaccinated unless it is specifically contraindicated, see *Vaccines Indicated for Adults Based on Medical and Other Indications* chart on page 2.
6. **Measles, mumps, rubella (MMR)**
 - Adults born before 1957 are generally considered immune to measles and mumps.
 - Post-secondary students, persons working in health care facilities, and international travelers need a second dose at least 4 weeks after their first dose.
 - HCP born before 1957: If they lack evidence of immunity, i.e., documentation of immunization or laboratory confirmation, give 2 doses of MMR at least 4 weeks apart.
 - Issues specific to measles and mumps: Adults born in 1957 or later should receive 1-2 doses of MMR vaccine unless they have evidence of immunity, which includes:
 - Documentation of 1 or more doses of MMR (or measles vaccine), or
 - History of disease based on health care provider diagnosis, or
 - Laboratory evidence of immunity.
 - Revaccination is recommended for persons that received inactivated (killed) measles vaccine or measles vaccine of unknown type received from 1963 to 1967.
 - Rubella-specific issues: Women of childbearing age should have rubella immunity assessed and be given MMR if susceptible. If assessment is performed during pregnancy and if susceptible, give MMR upon completion of pregnancy.
7. **Pneumococcal (PPSV)**– Give pneumococcal polysaccharide vaccine (PPSV) to:
 - All adults age 65 years and older.
 - Adults younger than age 65 years with chronic cardiovascular disease, chronic pulmonary disease including asthma, diabetes mellitus, alcoholism, chronic liver disease including cirrhosis, CSF leaks, cochlear implants, anatomic or functional asplenia, HIV infection, malignancy, chronic renal failure, nephrotic syndrome, receiving immunosuppressive chemotherapy, who smoke cigarettes, or live in a nursing home or long-term care facility.
 - Timing: Give PPSV at least 2 weeks prior to an elective splenectomy or when chemotherapy or other immunosuppressive treatment is anticipated. Give PPSV to HIV positive persons as soon as possible after diagnosis.
- Revaccination**
 - Once-in-a-lifetime revaccination recommended if a person was vaccinated 5 or more years ago and either:
 - Was under age 65 years when first vaccinated and is now age 65 years and older, or
 - Is under age 65 years and at highest risk for invasive pneumococcal infection: chronic renal failure or nephrotic syndrome, anatomic or functional asplenia, or immunocompromising conditions.
8. **Hepatitis A (HepA)**
 - Give 2 doses of hepatitis A vaccine 6 months apart to:
 - Persons traveling to or working in countries with intermediate to high rates of HAV.
 - Men who have sex with men.
 - Persons who use street drugs.
 - Persons with chronic liver disease.
 - Persons who receive clotting factor concentrates.
 - Persons working with HAV in research settings or with HAV-infected primates.
 - Persons in close contact (e.g., household or regular child care contact) with an international adoptee during the first 60 days after arrival of the adoptee from an intermediate or high HAV endemic area. Vaccinate at least 2 weeks prior to adoptee's arrival.
 - Other adults wishing to obtain immunity.
9. **Hepatitis B (HepB)**– Give 3 doses of hepatitis B vaccine at intervals of 0, 1, and 6 months to all high-risk adults. Indications grouped by risk are as follows:
 - Occupational: health care and public safety personnel who are exposed to blood or other potentially infectious bodily fluids.
 - Behavioral: sexually active persons who are not in a long-term mutually monogamous relationship, injection-drug users, persons with a recently acquired STD, clients of STD clinics, and men who have sex with men.
 - Medical: those with HIV infection, chronic liver disease, persons younger than age 60 years with diabetes, end-stage renal disease, or on dialysis.
 - Other: household contacts and sex partners of persons with chronic hepatitis B virus (HBV) infection, clients and staff of institutions for the developmentally disabled, jail and prison inmates, persons in drug treatment, and international travelers to countries with intermediate or high rates of HBV.
 - Higher dosing of HepB is recommended for persons undergoing hemodialysis or who are immunocompromised. Give Recombivax HB 40 mcg at intervals of 0, 1, and 6 months or Engerix-B 20 mcg at intervals of 0, 1, 2, and 6 months.
10. **Meningococcal (MCV, MPSV)**
Meningococcal conjugate vaccine (MCV)
 - Give a 2-dose series at intervals of 0, 2 months to:
 - Persons with persistent complement component deficiency, anatomic or functional asplenia.
 - Persons with HIV infection who are at risk due to other indicators (e.g., travel to endemic areas, lab personnel working with *N. meningitidis*).
 - Give 1 dose to:
 - Persons traveling to countries with endemic meningococcal disease. It is required for travelers to Saudi Arabia during annual Hajj.
 - Military recruits.
 - Lab personnel working with *N. meningitidis*.
 - College students through age 21 years and living in freshmen dormitories if they have not received MCV on or after their 16th birthday.
 - Give MCV every 5 years following initial vaccination for adults who remain at risk and are age 54 years and younger.
- Meningococcal polysaccharide vaccine (MPSV)**
 - Give one dose of MPSV to adults age 56 years and older who have any of the above risk factors.
 - Give MPSV every 5 years to persons age 56 years or older who remain at risk for meningococcal disease.
11. **Immunocompromising conditions**
 - Inactivated vaccines generally are acceptable, e.g., pneumococcal, meningococcal, and inactivated influenza vaccine. However, the immune response and efficacy may be reduced.
 - Generally avoid live vaccines for persons with immune deficiencies or immunocompromising conditions.
 - Information on specific conditions is available at www.cdc.gov/vaccines/pubs/acip-list.htm.
12. **Selected conditions for which *Haemophilus influenzae* type b (Hib) vaccine may be used**
 - Consider 1 dose for any unvaccinated persons who have sickle cell disease, leukemia, HIV infection, or who have had a splenectomy.

Catch-Up Schedule and Minimum Intervals for Adults

This catch-up schedule must be used together with the guidelines printed on the previous page(s).

Doses to be given and minimum intervals from previous dose for adults age 19 years and older				
Vaccine	Schedule	Minimum Interval Between Doses		
		Dose 1 to 2	Dose 2 to 3	Booster Dose
Tetanus, Diphtheria (Td) Tetanus, Diphtheria, Pertussis (Tdap)	0, 1, 7 months	4 weeks	6 months	Td: 10 years after completing the primary series or since last booster dose
		Give Tdap for one of the doses in the series		
Human Papillomavirus (HPV)	0, 1-2, 6 months	4 weeks	12 weeks and at least 6 months after first dose	
Varicella (VAR)¹	0, 4 weeks	4 weeks		
Measles, Mumps, Rubella (MMR)¹	0, 4 weeks	4 weeks		
Hepatitis A (HepA)	0, 6 months	6 months		
Hepatitis B (HepB)	0, 1, 6 months	4 weeks	8 weeks and at least 16 weeks after first dose	

1. MMR and varicella vaccines

- MMR and varicella vaccine may be given simultaneously, otherwise they must be separated by at least 4 weeks.
- A tuberculin skin test (TST) or interferon gamma release assay (IGRA) can be given simultaneously with any live or inactivated vaccine. If the patient already received a measles-containing or another live attenuated virus vaccine, TST or IGRA must be delayed for at least 4 weeks after vaccination. If the TST or IGRA was applied first, any vaccine, including live attenuated virus vaccines, can be given at any time.

Guidelines for Patients with an Incomplete or Nonexistent Vaccine History

- There is no need to restart a vaccine series no matter how much time has elapsed between doses.
- For refugees and immigrants, provide vaccinations as you would for any other adult patient. For translations of foreign vaccine terms and vaccine products visit the Immunization Action Coalition website at www.immunize.org/izpractices/p5122.pdf.
- Patients age 18 years and older, including foreign-born adults, do not need polio vaccination unless they are traveling to a country where wild poliovirus still exists.
- Count only documented vaccinations (i.e., including month, year, and preferably, day of vaccination). If no documentation exists, assume the patient is unvaccinated. It is always better to vaccinate when in doubt, rather than miss an opportunity to provide protection.

Give Vaccine Information Statements

When vaccinating adults with vaccines covered by the Vaccine Injury Compensation Program, a Vaccine Information Statement (VIS) must be given each time the patient receives vaccine. The date of the edition of VIS given and the date the VIS was provided to the patient must be documented in the clinic/patient record. Other required documentation includes date of vaccination, name of the vaccine, manufacturer, and lot number; and name, address, and title of the individual who gave the vaccine. Download the most current VISs from the Immunization Action Coalition website at www.immunize.org/vis.

Reporting Adverse Reactions

Report adverse reactions to vaccines through the federal Vaccine Adverse Event Reporting System (VAERS). For information on reporting reactions following vaccines given by private clinics, call the 24-hour national toll-free information line, 800-822-7967. You may also visit <http://vaers.hhs.gov/index>. Report reactions to vaccines given in public clinics to the Minnesota Department of Health, 651-201-5414 or toll-free 877-676-5414.

Disease Reporting

Report suspected cases of vaccine-preventable diseases to the local health department or to the Minnesota Department of Health, P.O. Box 64975, St. Paul, MN 55164-0975, 651-201-5414 or toll-free 877-676-5414.