



Immunizations

They're Not Just for Children

Immunity occurs when your body develops a resistance to an infectious disease. Immunity can happen once you've previously been infected with a bacteria or virus or as a result of getting a vaccine. Vaccines can protect you from serious or even deadly illnesses by helping your body develop immunity to certain bacteria or viruses before you become infected.

This brochure provides information about diseases that can be prevented by getting vaccinated, their symptoms, and who should be vaccinated. These diseases can be serious for a young adult, so it is important that your immunizations are up-to-date and that you get any booster vaccines you may need. If you are unsure if you should be immunized, check with your health care provider. You can also use the chart in this brochure as a reference.

Measles, Mumps, Rubella (MMR)

- People catch measles, mumps, and rubella by coming into contact with these viruses. The viruses are spread by coughing, sneezing, or even talking.
- Measles can cause serious complications, such as pneumonia, encephalitis (inflammation of the brain), and even death. Students sick with measles must be isolated for as long as 7-10 days.
- Mumps can cause painful swelling of the cheeks and neck and hearing loss. Men may suffer painful swelling of the testicles and, in rare cases, sterility.
- If a woman catches rubella in early pregnancy, her baby has a chance of being born with birth defects such as intellectual disability, heart disease, and the loss of sight or hearing.
- It is recommended that students receive two doses of the MMR vaccine before entering college. During mumps outbreaks, a third MMR vaccine may be recommended for students at increased risk.

Hepatitis B

- Hepatitis B is a viral infection that causes inflammation of the liver, which can lead to chronic liver disease, liver cancer, and death from liver failure.
- Like HIV, this disease can be transmitted to sexual partners through infected blood and body fluids. You are at risk for acquiring hepatitis B if you shoot drugs or have sex without using condoms.
- Public health authorities now recommend the hepatitis B vaccine, a series of three shots, for adolescents and young adults. It has been given routinely to infants in the United States since 1991.



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- It is particularly important to get vaccinated if you are sexually active or if you will be traveling to an area where there are high rates of hepatitis B.
- Health profession students should receive three doses of the hepatitis B vaccine to protect them from accidental exposure.

Hepatitis A

- Hepatitis A is a viral liver infection often associated with the consumption of contaminated food or water.
- The vaccine should be considered by anyone with chronic liver disease, men who have sex with men (the infection may also be sexually transmitted), and those traveling to or working in countries with poor sanitation.
- The two-dose vaccine series is now considered a routine vaccine recommended for everyone through the age of 18.
- The hepatitis A vaccine may be combined with the hepatitis B vaccine.

Tetanus/Diphtheria/Pertussis (Tdap)

- Tetanus, also known as lockjaw, is a dangerous disease that is often fatal. It may occur from an infection of any injury to the skin.
- Diphtheria, a severe infection of the throat, is a rare disease but is still a threat to people who are not immunized.
- Pertussis, or whooping cough, causes severe coughing spells and vomiting that can lead to rib fractures, passing out from violent coughing, or pneumonia. Pertussis can be life-threatening to infants.
- The primary vaccination series of tetanus, diphtheria, and pertussis is normally given in early childhood. A single booster dose of tetanus, diphtheria, and acellular pertussis should be given at age 11 or after. Boosters of tetanus and diphtheria (Td) should be given every 10 years after the one-time dose of Tdap. Tdap is now recommended with each pregnancy.

Chickenpox (Varicella)

- Chickenpox can be serious in older children and adults and may require isolation or quarantine for infected students living on campus.
- The chickenpox vaccine is recommended for everyone who does not have a reliable clinical history of chickenpox or a positive antibody (blood) test for chickenpox.
- Immunity to chickenpox is particularly recommended for those who work at colleges or live on campus.
- Two doses of varicella vaccine are now recommended for all ages. Students who received only one dose in childhood need to receive a booster dose to complete the vaccine series.

Immunizations Chart

VACCINE/ TOXOID	WHO?	WHEN?	WHY?
Measles, Mumps, Rubella (MMR)	<ul style="list-style-type: none"> ■ Everyone born in or after 1957 (two doses of MMR vaccine) ■ Travelers and health professional students of any age without other evidence of immunity 	<ul style="list-style-type: none"> ■ First dose after 12 months of age AND ■ Second dose at least 28 days after first dose 	<ul style="list-style-type: none"> ■ Measles: can cause ear infections, pneumonia, and encephalitis ■ Mumps: can cause deafness, encephalitis, meningitis, and, in rare cases, sterility ■ Rubella in pregnancy: can cause miscarriage or serious birth defects in the baby
Hepatitis B	<ul style="list-style-type: none"> ■ Adolescents and young adults, with particular importance for high-risk groups ■ All health care providers 	<ul style="list-style-type: none"> ■ All infants OR ■ At any age, if not given as part of routine childhood immunizations 	<ul style="list-style-type: none"> ■ Disease can cause inflammation of the liver, tiredness, nausea, vomiting, liver cancer, liver failure
Hepatitis A	<ul style="list-style-type: none"> ■ Adolescents through the age of 18 ■ Those with chronic liver disease ■ Those planning travel to countries with poor sanitation ■ Men who have sex with men 	<ul style="list-style-type: none"> ■ First dose after 1 year of age OR ■ Start at any time if not given as part of routine childhood immunizations; second dose 6–12 months later 	<ul style="list-style-type: none"> ■ Disease can cause an average loss of work/school time of 27 days; in rare cases, may be fatal
Tetanus/Diphtheria/ Pertussis	<ul style="list-style-type: none"> ■ Everyone ■ Students enrolled in health profession programs 	<ul style="list-style-type: none"> ■ Primary series in childhood AND ■ Everyone ages 11–64 should receive a single dose of Tdap, then a Td booster every 10 years for life ■ Tdap vaccine can be given regardless of the length of time since previous vaccination ■ Tdap should be given with each pregnancy 	<ul style="list-style-type: none"> ■ Tetanus: can cause severe muscle spasms, inability to open the jaw (lockjaw) ■ Diphtheria: can cause severe sore throat, difficulty breathing ■ Pertussis: can cause severe coughing spells and vomiting; complications such as rib fractures, pneumonia, and even death in newborns and incompletely immunized infants
Chickenpox (Varicella)	<ul style="list-style-type: none"> ■ Everyone without other evidence of immunity 	<ul style="list-style-type: none"> ■ Two doses of varicella-containing vaccine at least 12 weeks apart if vaccinated between 1 and 12 years of age and at least 4 weeks apart if vaccinated at age 13 years or older 	<ul style="list-style-type: none"> ■ Disease can cause shingles, secondary bacterial infections of the skin, as well as encephalitis, pneumonia, and ear infections
Influenza (Flu)	<ul style="list-style-type: none"> ■ Everyone 6 months or older ■ Those who have or those in contact with others who have high risk of complications from the flu such as students who have asthma, diabetes, or certain immunodeficiencies ■ Students enrolled in health profession programs 	<ul style="list-style-type: none"> ■ Annually 	<ul style="list-style-type: none"> ■ To prevent complications such as pneumonia, loss of school time
Meningococcal Disease (Strains ACWY; Strain B)	<ul style="list-style-type: none"> ■ Adolescents 11–18 years of age ■ Other populations at increased risk, including college students living in residence halls/similar housing ■ Anyone wishing to lower the risk of bacterial meningitis ■ For MenB vaccine: anyone at increased risk due to MenB outbreak or other factors 	<p>For MenACWY:</p> <ul style="list-style-type: none"> ■ 11–12 years with a booster dose at 16 years OR ■ 13–15 years with a booster at 16–18 years ■ No booster needed if initial dose given over age 16 ■ Boosters every five years for adults with continuing risk <p>For MenB:</p> <ul style="list-style-type: none"> ■ 10 years or older if at increased risk ■ 16–23 years for short term protection (preferred age 16–18) ■ Those determined at risk during meningitis B outbreaks 	<ul style="list-style-type: none"> ■ Though infection is rare, it often causes severe disability or even death.
Polio	<ul style="list-style-type: none"> ■ Everyone in childhood ■ Susceptible travelers 	<ul style="list-style-type: none"> ■ Primary series in childhood ■ Booster only if needed for travel after 18 years of age 	<ul style="list-style-type: none"> ■ Disease can cause paralysis, weakness, inability to swallow or talk
Human Papillomavirus 9-valent (HPV9)	<ul style="list-style-type: none"> ■ Girls and women ages 11–26 ■ Pre-adolescent boys and men: ages 11–21 ■ Men who have sex with men: until age 27 ■ Transgendergender and non-conforming people: until age 27 ■ Men who have compromised immune systems: until age 27 	<ul style="list-style-type: none"> ■ Primary series at 11–12 years OR ■ For those who have not already received vaccine, start (preferably before first sexual contact) series when 13–26 years of age or 13–21 years of age, depending on gender and health history ■ When series is started at age 15 or later, 3 doses are required 	<ul style="list-style-type: none"> ■ The 9-valent vaccines can prevent cervical cancers and precancers, anal cancer and anal intraepithelial dysplasia, and genital warts.

Refer to appropriate Advisory Committee on Immunization Practices (ACIP) recommendations for more details (www.cdc.gov/vaccines/acip/recs/index.html).

For the most up-to-date and complete information, consult with your health care provider.

Influenza (Flu)

- Influenza is a common respiratory illness, usually occurring during the winter months, that causes high fever, sore throat, and dry cough for 5–7 days.
- Everyone age 6 months or older should receive annual vaccination.
- Both injectable and live intranasal vaccines are available.
- Immunization is of particular importance for anyone with a high risk of complications from the flu, such as people who have asthma, diabetes, or certain immunodeficiencies. Health profession students who work in clinical settings with patients should also receive an annual flu shot.

Protect yourself and others by getting vaccinated.

One benefit of being vaccinated against these diseases is that you help provide “herd immunity” to people who are unable to get vaccinated.

People with certain medical conditions (like those on chemotherapy) and young children can't be vaccinated or may not develop full immunity, but they receive protection from some diseases when a large enough number of people in their community are vaccinated.

Meningococcal Disease

- Meningococcal disease (including meningitis and/or blood-stream infection) is rare, but it can be severely disabling or fatal. The quadrivalent vaccine helps prevent bacterial infection from four strains/serogroups (A, C, W, and Y).
- Students, especially those living in residence halls, are at a particularly high risk and should be vaccinated.
- A booster dose is needed for those whose first dose was given prior to age 16 (see chart).
- Two vaccines are available to help prevent infections from the fifth strain of bacteria (B). The vaccine is recommended for those at risk during meningitis B outbreaks.

Human Papillomavirus

- Genital human papillomavirus (HPV) is a common sexually transmitted virus that can cause genital warts, cervical cancer, and anal cancer.
- The 9-valent vaccine protects against nine strains of HPV and can prevent cervical and anal cancers and precancers and genital warts. The vaccine cannot protect against every type of HPV.
- The vaccine is recommended for all people ages 11 through 26. The vaccine is given as a series of two or three doses, depending on at what age the vaccine is first given.

For More Information

U.S. Centers for Disease Control

Vaccines and Immunizations Information

In English en Español

800-CDC-INFO, 800-232-4636

TTY: 888-232-6348

www.cdc.gov/vaccines

National Foundation for Infectious Diseases

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