

A Photo Collection of Vaccine-Preventable Diseases

Created by the
Immunization Action Coalition

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Diseases for which vaccination is routinely recommended

- Diphtheria
- *Haemophilus influenzae* type b (Hib)
- Hepatitis A
- Hepatitis B
- Herpes zoster (shingles)
- Human papillomavirus (HPV)
- Influenza
- Measles
- Meningococcal disease
- Mumps
- Pertussis
- Pneumococcal disease
- Polio
- Rotavirus
- Rubella
- Tetanus
- Varicella (chickenpox)



Diphtheria: This is a picture of the throat of a child who has diphtheria. Notice the thick gray coating over the back of the throat. If not treated, this child could die from suffocation.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Photo courtesy of the Centers for Disease Control and Prevention (CDC)

Diphtheria: This child has bullneck diphtheria.



***Haemophilus influenzae* type b:** This girl is hospitalized with *Haemophilus influenzae* type b (Hib) infection shown here involving deep tissue of this girl's face. Hib disease can also lead to brain damage, seizures, paralysis, hearing loss, and death.

Photo courtesy of the Children's Immunization Project, Saint Paul, Minn.



Hepatitis A: Hepatitis A virus infection has caused this man's skin and the whites of his eyes to turn yellow. Other symptoms of hepatitis A can include loss of appetite, abdominal pain, nausea or vomiting, fever, headaches, and dark urine.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)





Photo courtesy of Patricia Walker, M.D., Saint Paul, Minn.

Hepatitis B: This woman died from liver cancer four months after she arrived in a refugee resettlement camp. The liver cancer was caused by chronic infection with hepatitis B virus.

About 2 of 100 adults, 30 of 100 children age 1–5 years, and up to 90 of 100 infants infected with the virus will carry hepatitis B virus in their bodies for life. About 25% will develop serious liver problems.



Photo courtesy of www.webmd.com

Herpes Zoster (shingles): A dangerous complication of shingles infecting the eye which can lead to loss of vision. Without vaccination, approximately 30% of all people who have been infected with chickenpox will later develop shingles.



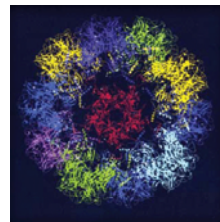
Human Papillomavirus (HPV): HPV is the most common sexually transmitted infection in the United States. Approximately 79 million American are infected with HPV. Most sexually-active men and women will get at least one type of HPV at some point in their lives.



Cervical cancer

Persistent infection with high-risk types of HPV is associated with almost all cervical cancers. An estimated 29,600 HPV-associated cancers occur annually in the U.S.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Human Papillomavirus (HPV)
Virus-like particles assembled from the L1 Protein of Human Papillomavirus 16

Human photos of people with HPV usually include genitalia and are quite graphic, so we have chosen not to include them here. To view some of these photos, go to the Public Health Image Library at <http://phil.cdc.gov/Phil/home.asp> and type HPV in the search box. You can also use the Google image search feature.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Influenza: This photo shows how the influenza virus can spread through the air when someone coughs.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Influenza: Although many people think of influenza as just a common cold, it is really a specific and serious respiratory infection that can result in hospitalization and death. In the U.S., the number of influenza-associated deaths has increased since 1990. This increase is due in part to the substantial increase in the number of people age 65 years or older who are at increased risk for death from influenza complications.

A CDC study found that more than 200,000 people in the U.S. are hospitalized each year for respiratory and heart conditions illnesses associated with seasonal influenza virus infections.

Photo courtesy of the National Museum of Health and Medicine, Armed Forces Institute of Pathology



Influenza: Photo of emergency hospital during the 1918 influenza pandemic, Camp Funston, Kansas. This pandemic killed at least 50 million people worldwide.



Photo courtesy of the National Museum of Health and Medicine, Armed Forces Institute of Pathology



Photo courtesy of the Centers for Disease Control and Prevention (CDC)

Measles: This child has a severe measles rash. He has red eyes, a runny nose, and a fever.

Measles can cause pneumonia, seizures, brain damage, and even death. Death from measles occurs in 2 to 3 per 1,000 reported cases in the U.S.



Measles: Boy with measles.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Meningococcal disease: Meningococcal disease is a sudden life-threatening illness. It is caused by bacteria that infect the blood, brain, and spinal cord. People often call it meningitis. Even with proper treatment, 10–15% of people with meningococcal disease die. Of the people who survive, as many as 20% suffer from some serious complication, such as loss of an arm or leg, brain damage, or permanent hearing loss. Meningitis can cause shock, coma, and death within hours of the first symptom.

For moving photos and stories of survivors of meningococcal disease, go to www.comeningitis.org/news-and-events/protecting-our-tomorrow-portraits-of-meningococcal-disease

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Meningococcal disease: This four-month-old infant has gangrene of her hands and lower extremities as a result of meningococemia.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Mumps: This child's jaw and cheek are swollen from mumps. Mumps can lead to painful swelling of the testicles in males, deafness, and brain damage.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)





Pertussis: This child has pertussis (whooping cough). He has severe coughing spasms, which are often followed by a “whooping” sound. It is difficult for him to stop coughing and catch his breath.

Babies are the most likely to die from pertussis and can have complications such as seizures and brain damage.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Pertussis: This child has broken blood vessels in his eyes and bruising on his face because of coughing from pertussis.

Photo courtesy of Thomas Schlenker, MD, MPH, Chief Medical Officer, Children's Hospital of Wisconsin



Pneumococcal disease: This is a photo of the brain of a person who died from pneumococcal meningitis. Note the purulence (pus) that covers the brain surface. Pneumococcal disease is caused by bacteria that can lead to serious infections in the lungs (pneumonia), blood, and brain (meningitis).

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Polio: This 1952 photo of a Los Angeles hospital respiratory ward shows polio victims in iron lungs — machines which were necessary to help victims breathe.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Polio: This child has a severely deformed leg caused by polio. Although polio has been eliminated from *most* of the world, until poliovirus transmission is interrupted in every country, all countries remain at risk of importation of polio.

Photo courtesy of the World Health Organization (WHO)



Rotavirus: Doctor examining a child dehydrated from rotavirus infection. In developing countries, rotavirus causes about half a million deaths each year in children younger than age 5 years. Almost all unvaccinated children get infected with rotavirus before they are 5 years old.

Photo courtesy of World Health Organization, photo credit Dr. D. Mahalanabis





Photo courtesy of the Centers for Disease Control and Prevention (CDC)

Rubella: This teenager has a rash from rubella. The rash is not as prominent as the measles rash and is often missed in diagnosis. Rubella in pregnant women can lead to miscarriage, severe heart defects, and blindness or deafness in their newborns.



Rubella: This infant was born with rubella. Babies whose mothers were infected with rubella during pregnancy can be born with deafness, blindness, heart damage, and intellectual disability.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Tetanus: This baby has neonatal tetanus. His body is rigid. Infection can occur when the newly cut umbilical cord is exposed to dirt, as can occur in a developing country. Most newborns who get tetanus die. Neonatal tetanus can be prevented by hygienic delivery practices, and/or by immunizing mothers against tetanus.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Tetanus: This person has tetanus. The muscles in his body are in spasm, making it nearly impossible for him to move. Tetanus bacilli live in the soil, and many types of injuries can allow the bacteria to enter the body.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Photo courtesy of the Centers for Disease Control and Prevention (CDC)

Varicella: This photo shows the typical itchy chickenpox rash. There can be 500 sores or more.

Many cases of chickenpox are mild, but deaths from this disease can occur. Before vaccine became available, about 100 previously healthy people died every year in the U.S. from chickenpox.



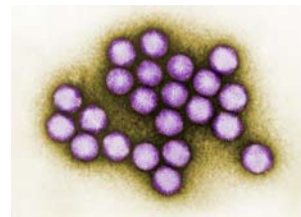
Source: Unknown

Varicella: This newborn has a secondary bacterial infection, which is a complication following infection with varicella (chickenpox). He contracted chickenpox from his infected mother.



Other diseases for which vaccines are used in special situations

- Adenovirus
- Anthrax
- Cholera
- Japanese encephalitis
- Rabies
- Smallpox
- Typhoid fever
- Yellow fever



Adenovirus: Adenoviruses are common causes of respiratory illness, but most infections are not severe. They can cause cold-like symptoms, sore throat, bronchitis, pneumonia, diarrhea, and pink eye (conjunctivitis).

A vaccine against adenovirus types 4 and 7 is approved by FDA for U.S. military personnel only.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Anthrax: Anthrax is a serious disease caused by *Bacillus anthracis*, a bacterium that forms spores. Three types of anthrax exist:

- Skin (cutaneous)
- Lungs (inhalation)
- Digestive (gastrointestinal)

This is an example of cutaneous anthrax.

Humans can become infected with anthrax by handling products from infected animals or by breathing in anthrax spores from infected animal products. It can also be used as a weapon.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Cholera: Cholera is an acute, diarrheal illness caused by infection of the intestine with the bacterium *Vibrio cholerae*. An estimated 3–5 million cases and over 100,000 deaths occur each year around the world. The infection is often mild or without symptoms, but can sometimes be severe.

In 2016, FDA approved the first cholera vaccine available in the U.S. The vaccine was approved for use in adults 18 through 64 years old traveling to cholera-affected areas.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Japanese Encephalitis: The virus is transmitted by the bites of infected mosquitoes. This is an image of a *Culex* mosquito laying eggs. Japanese encephalitis is the most common vaccine-preventable cause of encephalitis in Asia.

Most infections are mild (e.g., fever and headache) or without apparent symptoms. However, about 1 in 200 infections results in severe disease characterized by rapid onset of high fever, headache, neck stiffness, disorientation, coma, seizures, spastic paralysis, and death. A vaccine is available to prevent Japanese encephalitis.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Rabies: Bites from wild animals such as raccoons, bats, and skunks account for the majority of rabies cases in the U.S.

Rabies is caused by a virus that invades the central nervous system and disrupts its functioning. The virus is transmitted in the saliva of infected animals. Prompt postexposure treatment is generally effective. Once symptoms appear, the disease is almost always fatal.

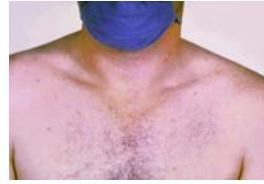
Photo courtesy of the Centers for Disease Control and Prevention (CDC)





Smallpox (Variola): This man's body is covered with lesions from smallpox. A worldwide smallpox vaccination program led to the eradication of the disease in the late 1970s. The global eradication of smallpox ranks as one of the greatest achievements in the history of medicine.

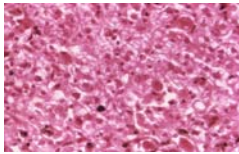
Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Typhoid Fever: This serious disease is caused by the bacteria *Salmonella typhi*. It is transmitted through the ingestion of food or drink, which has been contaminated by the feces of an infected person. Typhoid can

cause a high fever, weakness, headache, loss of appetite, stomach pains, and a rash of flat, rose-colored spots. If the disease is not treated, it can kill up to 20% of people who get infected. It can be treated with antibiotics, but drug-resistant strains are a growing problem. Typhoid fever is still common in the developing world. Effective vaccines are available to prevent typhoid fever.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Yellow Fever: This image of an autopsy specimen shows characteristic changes in liver tissue from yellow fever infection. Yellow fever is transmitted by the bites of infected mosquitoes.

The word "yellow" in the name refers to the jaundice that affects some patients. The virus is endemic in tropical areas of Africa and Latin America. There is no cure for yellow fever. Fortunately, the majority of infected patients improve and their symptoms disappear after 3 to 4 days. However, 15% of patients enter a second, more toxic, phase of the disease. About half of the patients who enter the second phase die within 10 to 14 days, the rest recover. Vaccination is the most important preventive measure against yellow fever.

Photo courtesy of the Centers for Disease Control and Prevention (CDC)



Useful handouts on vaccine-preventable diseases (VPDS) for parents and patients

- Detailed Q&A handouts on all routine VPDs and the vaccines that prevent them: www.immunize.org/handouts/vaccine-questions.asp
- Easy-to-read summaries of routine VPDs and the vaccines that prevent them: www.immunize.org/handouts/vaccine-summaries.asp
- Immunization schedules for patients and parents: www.immunize.org/handouts/vaccine-schedules.asp



For more information on any of these diseases and the vaccines that can prevent them, go to:

- www.immunize.org
- www.vaccineinformation.org

