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.

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.

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

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 20 million people are currently infected with HPV. At least 50% of sexually active men and women acquire genital HPV infection at some point in their lives. Persistent infection with high-risk types of HPV is associated with almost all cervical cancers.

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

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

Influenza: Photo of emergency hospital during the 1918 influenza pandemic, Camp Funston, Kansas. This pandemic killed at least 50 million people worldwide.
Measles: This child has a severe measles rash. He has red eyes, a runny nose, and a fever.

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

Measles: Boy with measles.

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 meningococcemia.

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 (sometimes causing sterility), 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.

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.

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.

Polio: This child has a severely deformed leg caused by polio.

Rotavirus: Doctor examining a child dehydrated from rotavirus infection. In developing countries, rotavirus causes approximately 600,000 deaths each year in children younger than age 5 years.

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 mental retardation.
**Tetanus:** This baby has neonatal tetanus. His body is rigid. Infection can occur when the newly cut umbilical cord is exposed to dirt. Most newborns who get tetanus die.

*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.

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

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

*Source: Unknown*

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

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

**Other diseases for which vaccines are used in special situations**

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

**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 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)*
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 result in severe disease characterized by rapid onset of high fever, headache, neck stiffness, disorientation, coma, seizures, spastic paralysis, and death. Vaccines are available to prevent Japanese encephalitis.

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.

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.

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.

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.

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

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