

APPENDIX B

Glossary

Adapted from www.cdc.gov/vaccines/terms/glossary.html

Acellular vaccine: A vaccine containing partial cellular material as opposed to complete cells.

Acquired Immune Deficiency Syndrome (AIDS): A medical condition where the immune system cannot function properly and protect the body from disease. As a result, the body cannot defend itself against infections (like pneumonia). AIDS is caused by the Human Immunodeficiency Virus (HIV). This virus is spread through direct contact with the blood and body fluids of an infected individual. High risk activities include unprotected sexual intercourse and intravenous drug use (sharing needles). There is no cure for AIDS; however, research efforts are ongoing to develop a vaccine.

Active immunity: The production of antibodies against a specific disease by the immune system. Active immunity can be acquired in two ways, either by contracting the disease or through vaccination. Active immunity is usually permanent, meaning individuals are protected from the disease for the duration of their lives.

Adjuvant: A substance (such as an aluminum salt) that is added during the manufacturing process to increase the body's immune response to a vaccine.

Adverse event: Undesirable medical condition occurring after vaccination that may or may not be related to the vaccine.

Advisory Committee on Immunization Practices (ACIP): A panel of 15 experts who make recommendations on the use of vaccines in the United States. The panel is advised on current issues by representatives from the Centers for Disease Control and Prevention, Food and Drug Administration, National Institutes of Health, American Academy of Pediatrics, American Academy of Family Physicians, American Medical Association, and others. The recommendations of the ACIP guide immunization practice at the federal, state, and local level.

Allergy: A condition in which the body has an undesirable, exaggerated response to a substance, such as a food or drug. Also known as hypersensitivity.

Anaphylaxis: An immediate and severe allergic reaction to a substance (e.g., food or drugs). Symptoms of anaphylaxis include breathing difficulties, loss of consciousness, and a drop in blood pressure. This condition can be fatal and requires immediate medical attention.

Antibody: A protein found in the blood that is produced in response to foreign substances (such as bacteria or viruses) invading the body. Antibodies protect the body from disease by binding to these organisms and destroying them.

Antigen: A foreign substance (such as bacteria or virus) in the body that is capable of causing disease. The presence of antigen in the body triggers an immune response, usually the production of antibodies.

Antitoxin: Antibodies capable of destroying toxins generated by microorganisms, including viruses and bacteria.

Antiviral: Literally "against-virus" – any medicine capable of destroying or weakening a virus.

Arthralgia: Joint pain.

Arthritis: A medical condition characterized by inflammation of the joints which results in pain and difficulty moving.

Attenuated vaccine: A vaccine in which live virus is weakened through chemical or physical processes in order to produce an immune response without causing the severe effects of the disease. Attenuated vaccines currently licensed in the United States include measles, mumps, rubella, varicella, *Zostavax*, rotavirus, oral typhoid, yellow fever, vaccinia (smallpox), and adenovirus (used only among certain military personnel). Also known as a live vaccine.

B cells: Small white blood cells that help the body defend itself against infection. These cells are produced in bone marrow and develop into plasma cells which produce antibodies. Also known as B-lymphocytes.

Bacteria: Tiny one-celled organisms present throughout the environment that require a microscope to be seen. While not all bacteria are harmful, some cause disease. Examples of bacterial diseases include diphtheria, pertussis, and *Haemophilus influenzae* type b (Hib), as well as meningococcal and pneumococcal diseases.

Bone marrow: Soft tissue located within bones that produce blood cells, including the ones that fight infection.

Booster shot: An additional dose or doses of a vaccine needed periodically to "boost" the immune system. An example is the tetanus and diphtheria (Td) vaccine which is recommended for adults every ten years.

Brachial neuritis: Inflammation of nerves in the arm causing muscle weakness and pain.

Chickenpox: See Varicella.

Chronic health condition: A health-related state that lasts for a long period of time (such as cancer or asthma).

Combination vaccine: Two or more vaccines administered in a single dose in order to reduce the number of shots given. An example is the MMR (measles, mumps, rubella) vaccine.

Community immunity: A situation in which a sufficient proportion of a population is immune to an infectious disease (through vaccination and/or prior illness) to make its spread from person to person unlikely. Even individuals not vaccinated (such as newborns and those with chronic illnesses) are offered some protection because the disease has little opportunity to spread within the community. Also known as herd immunity.

Conjugate vaccine: The joining together of two compounds (usually a protein and polysaccharide) to increase a vaccine's effectiveness.

Contraindication: A condition in a vaccine recipient that increases the likelihood of a serious adverse reaction if the vaccine were to be administered to a patient with that condition.

Deltoid: A muscle in the upper arm where vaccines are usually given.

Diabetes: A chronic health condition where the body is unable to produce insulin and properly break down sugar (glucose) in the blood (Type 1 diabetes), or insulin is present but the cells of the body become resistant to its action (Type 2 diabetes). Symptoms usually include hunger, thirst, excessive urination, dehydration, and weight loss. The treatment of Type 1 diabetes (and some Type 2 diabetes) requires daily insulin injections, proper nutrition, and regular exercise. Complications can include heart disease, stroke, neuropathy, poor circulation leading to loss of limbs, hearing impairment, vision problems, and death.

Diphtheria: A bacterial disease marked by the formation of a false membrane, especially in the throat, which can cause death.

Disease: Sickness, illness, or loss of health.

Encephalitis: Inflammation of the brain. Encephalitis is often caused by a virus and can result in permanent brain damage or death.

Encephalopathy: A general term describing brain dysfunction. Examples include encephalitis, meningitis, seizures, and head trauma.

Epidemic: The occurrence of disease within a specific geographical area or population that is in excess of what is normally expected.

Etiology: The cause of.

Haemophilus influenzae type b (Hib): A bacterial infection that may result in severe respiratory infections, including pneumonia, and other diseases such as meningitis.

Hepatitis A: A viral infection of the liver that usually does not persist in the blood; transmitted through ingestion of contaminated food or water.

Hepatitis B: A viral infection of the liver transmitted by infected blood or blood products, or through unprotected sex with someone who is infected. Hepatitis B may become chronic and lead to severe liver disease.

Herd immunity: See Community immunity.

Herpes zoster (shingles): A disease characterized by painful skin lesions that occur mainly on the trunk (back and abdomen) of the body, but which can also develop on the face and in the mouth. Complications include headache, vomiting, fever, and meningitis. Recovery may take up to 5 weeks. Herpes zoster is caused by the same virus that is responsible for chickenpox. Most people are exposed to this virus during childhood. After the primary infection (chickenpox), the virus becomes dormant, or inactivated. In some people the virus reactivates years, or even decades, later and causes herpes zoster.

Hives: The eruption of red marks on the skin that are usually accompanied by itching. This condition can be caused by an allergy (e.g., to food or drugs), stress, infection, or physical agents (e.g., heat or cold). Also known as urticaria.

Human papillomavirus (HPV): A sexually transmitted virus responsible for almost all cases of cervical cancer, as well as cancers of the vagina, anus, and penis. Certain strains of HPV cause warts of the genitalia and skin.

Hypersensitivity: A condition in which the body has an exaggerated response to a substance (e.g., food or drug). Also known as an allergy.

Immune globulin: A protein found in the blood that fights infection. Also known as gamma globulin.

Immune system: The complex system of the body responsible for fighting disease. Its primary function is to identify foreign substances in the body (bacteria, viruses, fungi, or parasites) and develop a defense against them. This defense is known as the immune response. It involves production of protein molecules called antibodies to eliminate foreign organisms that invade the body.

Immunity: Protection against a disease. There are two types of immunity, passive and active. Immunity is indicated by the presence of antibodies in the blood and can usually be determined with a laboratory test. See Active immunity and Passive immunity.

Immunization: The process by which a person or animal becomes protected against a disease. This term is often used interchangeably with vaccination.

Immunosuppression: When the immune system is unable to protect the body from disease. This condition can be caused by disease (like HIV infection or cancer) or by certain drugs (like those used in chemotherapy). Individuals whose immune systems are compromised should not receive live, attenuated vaccines.

Inactivated vaccine: A vaccine made from viruses or bacteria that have been killed through physical or chemical processes. These killed organisms cannot cause disease.

Incubation period: The time from contact with infectious agents (bacteria or viruses) to onset of disease.

Infectious: Capable of spreading disease. Also known as communicable.

Influenza: A highly contagious viral infection characterized by sudden onset of fever, severe aches and pains, and cough.

Live vaccine: A vaccine in which live virus is weakened (attenuated) through chemical or physical processes in order to produce an immune response without causing the severe effects of the disease. Live vaccines currently licensed in the United States include measles, mumps, rubella, varicella, *Zostavax*, rotavirus, oral typhoid, yellow fever, vaccinia (smallpox), and adenovirus (used only among certain military personnel). Also known as an attenuated vaccine.

Measles: A contagious viral disease marked by the eruption of red circular spots on the skin. Also known as rubeola.

Meningitis: Inflammation of the brain and spinal cord that can result in permanent brain damage and death. Meningitis is most commonly caused by certain viruses and bacteria.

Mumps: Acute contagious viral illness marked by swelling, especially of the parotid glands.

Optic neuritis: A medical condition where vision deteriorates rapidly over hours or days. One or both eyes may be affected. This condition results from the demyelination of the optic nerve. In most cases, the cause of optic neuritis is unknown. Patients may regain their vision or be left with permanent impairment.

Outbreak: Sudden appearance of a disease in a specific geographic area (e.g., neighborhood or community) or population (e.g., adolescents).

Pandemic: An epidemic occurring over a very large geographic area.

Passive immunity: Protection against disease through antibodies produced by another human being or animal. Passive immunity is effective, but protection is generally limited and diminishes over time (usually a few weeks or months). For example, maternal antibodies are passed to the infant prior to birth. These antibodies temporarily protect the baby for the first 4–6 months of life.

Pathogens: Organisms (such as bacteria, viruses, parasites, and fungi) that cause disease.

Pertussis (whooping cough): Bacterial infectious disease marked by a convulsive spasmodic cough, sometimes followed by a crowing intake of breath.

Pneumonia: Inflammation of the lungs characterized by fever, chills, muscle stiffness, chest pain, cough, shortness of breath, rapid heart rate, and difficulty breathing. Pneumonia may be caused by bacteria or viruses.

Poliomyelitis (polio): An acute infectious viral disease of the nervous system characterized by fever, paralysis, and atrophy of skeletal muscles.

Polysaccharide vaccine: Vaccines that are composed of long chains of sugar molecules that resemble the surface of certain types of bacteria. Polysaccharide vaccines are available for pneumococcal disease, meningococcal disease, *Haemophilus influenzae* type b, and typhoid.

Potency: A measure of strength.

Precaution: A condition in a vaccine recipient that could increase the chance or severity of an adverse reaction, or that might compromise the ability of the vaccine to produce immunity. Injury could result, but the chance of this happening is less than with a contraindication. In general, vaccines are deferred when a precaution condition is present. However, situations may arise when the benefit of protection from the vaccine outweighs the risk of an adverse reaction, and a provider may decide to give the vaccine.

Prodromal: An early symptom indicating the onset of a disease.

Recombinant: Of or resulting from new combinations of genetic material or cells; the genetic material produced when segments of DNA from different sources are joined to produce recombinant DNA.

Rubella: (German measles): An acute viral infection that causes a mild rash illness in the infected person, but which may cause severe fetal damage and birth defects if infection occurs early in pregnancy.

Rubeola: See measles.

Seroconversion: Development of antibodies in the blood of an individual who previously did not have detectable antibodies. Usually a consequence of infection or vaccination.

Serology: Measurement of antibodies, and other immunological properties, in the blood serum.

Shingles: See Herpes zoster.

Susceptible: Unprotected against disease.

Tetanus: A disease caused by a toxin produced by tetanus bacteria. This disease is characterized by prolonged painful muscle spasms.

Titer: The detection of antibodies in blood through a laboratory test.

Urticaria: The eruption of red marks on the skin that are usually accompanied by itching. This condition can be caused by an allergy (such as to food or drugs), stress, infection, or physical agents (such as heat or cold). Also known as hives.

Vaccination: Injection of a killed or weakened infectious organism in order to prevent the disease.

Vaccine: A product that produces immunity, thereby protecting the body from the disease. Vaccines are administered through needle injections, by mouth, and by aerosol.

Vaccine Adverse Event Reporting System (VAERS): A database managed by the Centers for Disease Control and Prevention and the Food and Drug Administration. VAERS provides a mechanism for the collection and analysis of adverse events associated with vaccines currently licensed in the United States. Reports to VAERS can be made by the vaccine manufacturer, recipient, their parent/guardian, or healthcare provider.

Vaccine Safety Datalink (VSD): In order to increase knowledge about vaccine adverse events, the Centers for Disease Control and Prevention has formed partnerships with several large health maintenance organizations (HMOs) to continually evaluate vaccine safety. The project contains data on more than 6 million people. Medical records are monitored for potential adverse events following immunization. VSD allows for planned vaccine safety studies as well as timely investigations of hypotheses.

Varicella (chickenpox): An acute contagious disease characterized by papular and vesicular lesions.

Virus: A tiny infectious agent that multiplies within cells and causes diseases such as chickenpox, measles, mumps, rubella, and hepatitis. Viruses do not respond to treatment with antibiotics, the drugs used to kill bacteria.

Waning immunity: The loss of protective antibodies over time.

Whooping cough: See pertussis.