Vaccine Preventable Diseases

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RSV Vaccine

Respiratory Syncytial Virus is a contagious viral infection of the nose, throat and sometimes lungs. The virus spreads through air and direct contact. It causes inflammation of the small airways in the lungs and is especially dangerous for infants, young children, and older adults. There are two different RSV vaccines. One is given to adults, including during pregnancy and the other is given to infants who are less than 8 months old during the RSV season.

DTaP (Diphtheria, Tetanus, Pertussis) Vaccine

- **Diphtheria** is a very contagious bacterial disease. When the bacteria invade the respiratory system, they produce a toxin (poison) that can cause weakness, sore throat, fever, and swollen glands in the neck. Within 2 to 3 days, a thick coating can build up in the throat or nose, making it very hard to breathe and swallow. A child can get infected with diphtheria by direct contact with droplets from an infected person's cough or sneeze. A child also can get infected with diphtheria by coming in contact with an object, like a toy, that has been contaminated with diphtheria bacteria.
- **Tetanus** Commonly known as "*lockjaw"*, tetanus is a severe disease that causes stiffness and spasms of the muscles. Unlike other vaccine-preventable diseases, which are transferred from person to person, tetanus bacteria are found in places such as soil/dirt, dust, and manure, and can therefore never be eradicated. They enter the body through any break in the skin, such as a cut or a puncture wound. A person can also be infected after a burn or animal bite. There is no cure for tetanus. Treatment focuses on managing complications until the effects of the tetanus toxin resolve. Fatality is highest in individuals who haven't been immunized.
- **Pertussis** commonly known as "whooping cough" is a highly contagious respiratory tract infection. In many children, it's marked by a severe hacking cough followed by a high-pitched intake of breath that sounds like a "whoop." People of all ages can be affected by pertussis. However, infants, particularly those younger than 1 year old, are at particularly high risk of severe complications, hospitalization, and death. Most unvaccinated children living with a family member with pertussis will contract the disease. Pertussis is still common in the United States. Recently between 10,000 and 50,000 cases have been reported each year.

For the most protection against these diseases, five doses of the DTaP vaccine are needed in childhood followed by one booster dose of Tdap at 11-12 years old. Additional boosters are recommended every 10 years or sooner following a burn or certain types of injury.

Polio Vaccine

Polio is a potentially crippling and deadly disease caused by a virus that spreads from person to person. It can invade the brain and spinal cord resulting in paralysis. Polio was one of the most dreaded childhood diseases of the 20th century with annual epidemics, primarily during the summer months. This often left thousands of victims — mostly children — permanently in braces, crutches, wheelchairs or in iron lungs. Because polio can paralyze the diaphragm, in the 1940s and 1950s, entire wards of hospitals housed polio victims who were dependent on large iron lungs to breathe for them. Polio vaccination is the best way to protect children and the only way to stop the disease from spreading. For the most protection against polio, children should receive all four recommended doses of the vaccine.

Haemophilus Influenzae type B (Hib) Vaccine

Haemophilus Influenzae **type b** is a serious illness caused by a bacterium and often affects children under 5 years old. The most common types of serious Hib disease are meningitis (infection of the covering of the brain and spinal cord), pneumonia (lung infection), bacteremia (blood stream infection) and epiglottitis (infection and swelling of the throat). Hib disease can cause lifelong disability and be deadly. Hib spreads when an infected person coughs or sneezes. Usually, the Hib bacteria stay in a person's nose and throat and do not cause illness. But if the bacteria spread into the lungs or blood, the person will get very sick. The Hib vaccine is the best prevention against this dangerous disease. For the most protection against Hib, children need to receive all three to four (depending on vaccine brand) recommended doses of the vaccine.

Hepatitis B Virus Vaccine

Hepatitis B is a serious liver infection caused by the hepatitis B virus. For some, hepatitis B infection becomes chronic, leading to liver failure, liver cancer or cirrhosis — a condition that causes permanent scarring of the liver. An individual who is unaware that they have hepatitis B can easily pass the disease on to an unvaccinated child when giving birth (spread from infected mother to baby), through contact with their blood from cuts or sores, or though actions as simple as the sharing of a toothbrush. The best way to prevent hepatitis B is by getting the vaccine. For the most protection against hepatitis B, children should receive all three recommended doses of the vaccine.

MMR (Measles, Mumps, Rubella) Vaccine

- **Measles -** is a highly contagious respiratory disease caused by a virus. The disease spreads quickly and can be serious or even fatal for small children. The disease kills hundreds of thousands of children a year around the world, most under the age of 5. Even in previously healthy children, measles can be a serious illness requiring hospitalization. As many as 1 out of every 20 children with measles gets pneumonia, and about 1 child in every 1,000 who get measles will develop encephalitis. (This is an inflammation of the brain that can lead to convulsions and can leave the child deaf or intellectually disabled.) Recently, measles has re-emerged as a threat in the United States, despite being eliminated in 2000. Outbreaks across the country continue to put unvaccinated children at risk.
- **Mumps -** is a contagious disease caused by a virus. It is spread from person to person through coughing and sneezing and through close contact (even regular conversation) with infected people. The primary — and best known — sign of mumps is swollen salivary glands that cause the cheeks to puff out. While usually a mild disease, mumps can also cause complications such as meningitis (swelling of the brain and spinal cord) and deafness. In addition, about one out of every four teenage or adult men who get mumps will develop a painful swelling of the testicles which can, although rarely, lead to sterility. Outbreaks across the country continue to put people at risk.
- **Rubella -** also called German measles, is a contagious viral infection best known by its distinctive red rash. While the disease is usually mild in children and adults, rubella can be very dangerous for pregnant women and their babies. If a pregnant women is infected with the disease, it can cause miscarriage, stillbirth, premature birth, and/or birth defects such as heart problems, hearing and vision loss, intellectual disabilities or delays, and liver or spleen damage. This group of health problems is called congenital rubella syndrome (CRS). The virus can spread to others through sneezing or coughing.

For the best protection against measles, mumps and rubella, children should receive the two recommended doses of the MMR vaccine.

Pneumococcal Vaccine

Pneumococcal disease is caused by bacteria that are present in many children's noses and throats. It is still unknown why it suddenly invades the body and causes disease in some children. Pneumococcal disease is spread by coughing and sneezing. Serious pneumococcal infections are most common in infants, toddlers, and the elderly. Meningitis is the most severe type of invasive pneumococcal disease. Of children younger than 5 years old who get pneumococcal meningitis, about 1 out of 10 dies and others may have long-term problems, such as hearing loss or developmental delay. Bacteremia (bacteria in the bloodstream) is also a type of invasive pneumococcal disease. About 4 out of 100 children with this blood stream infection will die from it. Other types of pneumococcal disease include pneumonia, middle ear infections and sinus infections. For the most protection against pneumococcal disease, children need to receive all four recommended doses of the vaccine. Some children with risk factors may be recommended to receive additional doses.

Varicella (Chickenpox) Vaccine

Varicella (chickenpox) is a viral infection that causes an itchy, blister-like rash. Chickenpox is highly contagious to children who haven't had the disease or been vaccinated against it. It can lead to severe illness with complications such as infected blisters, pneumonia, bleeding disorders, swelling of the brain, and even death. Once an individual is infected with the varicella virus it remains in the body for life and may reappear as shingles once they are older. Before routine chickenpox vaccination, virtually all people had been infected by the time they reached adulthood. Children and especially adults with this virus often had serious complications. Today, the number of cases and hospitalizations is down dramatically. For the best protection against chickenpox, children should receive the two recommended doses of the vaccine.

Meningococcal Vaccine

Meningococcal disease is a serious bacterial illness. Meningitis is an infection of the fluid surrounding the brain and spinal cord. Meningococcal disease can also cause blood infections. Approximately 1,000 people get meningococcal disease each year in the U.S. and 10–15 percent of these people die. Of those who survive, about 1 in 5 will have permanent disabilities such as brain damage, hearing loss, loss of kidney function or limb amputations. For the most protection against meningococcal disease, children will need to receive the two recommended doses of the vaccine in adolescence for the ACWY strains. Some high-risk children are recommended to receive the ACWY vaccine as young as 2 months of age. Another vaccine is available for serogroup B and is recommended for adolescents and young adults at high risk based on a discussion you're your health care provider.

Hepatitis A Virus Vaccine

Hepatitis A is a disease of the liver caused by the hepatitis A virus. It can range in severity from a mild illness lasting a few weeks to a severe illness lasting several months. Hepatitis A is usually spread by contact with people who are infected or from contact with objects, food, water, or drinks contaminated by the feces of an infected person, which can easily happen if someone doesn't wash his or her hands after using the toilet. For the best protection against hepatitis A, your children need to receive the two recommended doses of the vaccine.

Human Papillomavirus Vaccine

Human papillomavirus is a virus that spreads through intimate skin-to-skin or sexual contact. HPV is so common that almost everyone gets at least one type of HPV at some point in their lives. In most cases, HPV goes away on its own. But sometimes HPV infections will last longer and can cause cancers later in life. HPV infections can lead to cervical, vaginal, vulvar, penile, and anal cancers as well as many throat and mouth cancers. HPV can also cause anogenital warts. The vaccine is recommended for both boys and girls and offers the greatest health benefits to individuals who receive a complete series early, before 13 years old.

Rotavirus Vaccine

Rotavirus is a virus that causes gastroenteritis (inflammation of the stomach and intestines) causing vomiting and diarrhea. Severe dehydration from rotavirus can require intravenous fluids in the hospital for the child. Dehydration is a serious complication of the illness and a major cause of childhood deaths in developing countries. Rotavirus is responsible for an estimated 453,000 deaths among infants around the world each year. For the best protection against rotavirus, children should receive two to three (depending on vaccine brand) recommended doses of the vaccine.

Influenza (Flu) Vaccine

Influenza is caused by a virus which infects the respiratory tract (the nose, throat and lungs). It is not the same as the common cold or the stomach "flu" viruses that cause diarrhea and vomiting. The flu season is unpredictable, but it generally occurs from October to May and usually peaks in January or February. Serious complications of flu can result in hospitalization or death, even in healthy children. Children are at particularly high risk if they are less than 5 years of age or have chronic health conditions. For the best protection, everyone should receive an annual seasonal flu vaccine. People who routinely receive the seasonal flu vaccine may still contract the flu, but it is generally a much milder and less severe case than someone who is unvaccinated.

COVID Vaccine

COVID-19 is a contagious viral infection of the nose, throat, or lungs. COVID may feel like a cold or flu, but some individuals will have more severe infections including pneumonia, sinus or ear infections, worsening of underlying heart or lung conditions or death. COVID is spread through air and direct contact. The COVID vaccine is currently being administered as a seasonal vaccine that is annually updated based on the circulating strain(s).