



VACCINES AND VACCINE SAFETY

Vaccines save lives!

Prior to vaccinations, diseases injured or killed thousands of children. The development of vaccines created an opportunity to completely eliminate or eradicate such diseases.



How do vaccines work?

A vaccine builds immunity to a disease by imitating an infection which causes the body to create antibodies and defensive white blood cells.¹ The defensive white blood cells remain in the body and fight the disease if the body encounters it in the future.²

Why should children get vaccinated?

- Vaccines protect against **15+** serious, and often life-threatening, diseases in the U.S.³
- The majority of vaccines appear on the recommended childhood immunization schedule from the Centers for Disease Control and Prevention (CDC).⁴
- Vaccines protect **everyone**, but especially those with vulnerable immune systems including newborns, people with cancer, weak immune systems, elderly people, and transplant patients.⁵

Common Vaccines Available to Children

- Diphtheria***
- Hepatitis A***
- Hepatitis B***
- Hib***
- Human Papillomavirus (HPV)**
- Influenza (flu)**
- Measles***
- Meningococcal* (Meningitis)**
- Mumps***
- Pertussis* (Whooping cough)**
- Pneumococcal Disease***
- Polio***
- Respiratory Syncytial Virus (RSV)**
- Rotavirus**
- Rubella***
- 1vCOV-mRNA, 1vVOC-aPS (COVID-19)**
- Tetanus**
- Tuberculosis**
- Varicella* (chickenpox)**

*Vaccines that are required for school or childcare attendance in Georgia.⁶

Bolded vaccines appear on the Child and Adolescent Immunization Schedule.⁷



Are vaccines safe?

YES! Vaccines are safe. While there can be side effects, they are usually minimal (e.g., slight discomfort and redness at the injection site).⁸ Serious side effects such as allergic reactions are extremely rare.⁹ The benefits of vaccines significantly outweigh the risks.¹⁰

Why are parents opting out?

Despite ample evidence of vaccines being safe and effective, some parents are choosing to not vaccinate their children. When children are not vaccinated, they are at risk of life-threatening diseases, including diseases that were once rare.¹¹

Vaccines and Autism

Since 2003, **nine studies** from the CDC have confirmed the mercury-based ingredient thimerosal is not linked to autism.¹² Additional research provided further evidence by showing that antigens, the substance in vaccines that initiates the body's immune system to create the disease fighting antibodies, were the same in children with and without autism - indicating that antibody exposure was not related to autism development.¹³ The CDC stresses **vaccines are safe**, necessary to save lives, and there is no link between vaccines and autism.¹⁴

A study of **more than 95,000 children** found that the measles-mumps-rubella (MMR) vaccine did not increase a child's risk of autism.¹⁵

Vaccine-Preventable Diseases

Diphtheria

- Can cause difficulty breathing and lead to heart failure, nerve damage, or even death ¹⁶
- Vaccine was developed in the early 1920s and widely used by the 1930s ¹⁷
- Most commonly spread from person to person through coughing or sneezing ¹⁸

Hepatitis A

- Liver infection caused by hepatitis A virus ¹⁹
- Can be contracted from contaminated food, drink, stool, or sexual contact ²⁰
- Vaccine developed in 1995 ²¹

Hepatitis B

- Liver infection caused by hepatitis B virus ²²
- Spread when blood and other bodily fluids of an infected person enter an uninfected person ²³
- Vaccine became commercially available in 1981 in the U.S., replaced with an updated version in 1986 ²⁴
- Can be contracted through sexual contact, mother-to-child during pregnancy, sharing needles, and needle sticks ²⁵

Hib

- Haemophilus influenzae type b (Hib) is a bacteria that infects the lining of the brain ²⁶
- Harms the immune system, causes brain damage and hearing loss, and is sometimes fatal ²⁷
- Prior to vaccine development, Hib was the leading cause of bacterial meningitis for children under age five ²⁸
- Can cause severe infections of the lining of the brain and spinal cord (meningitis) and the bloodstream ²⁹
- Vaccine first licensed in 1987 ³⁰

Human Papillomavirus (HPV)

- Spread primarily through skin-to-skin contact (e.g., sexual contact, cuts, abrasions, or even a small tear in skin) ³¹
- Most infections go away on their own, some can cause certain types of cancer in both men and women ³²
- Children can receive the vaccine (administered in two doses) around ages 11-12, or around 15 (administered in three doses) ³³
- Nearly all unvaccinated, sexually active individuals will get HPV at some point in their lives ³⁴

Influenza (flu)

- Respiratory illness caused by a virus ³⁵
- On average, 35,485 children under the age of 18 have been hospitalized by the flu every year since 2014 ³⁶
- Vaccine licensed for all civilians in the U.S. during 1945 ³⁷

Measles

- Very contagious and can be contracted through airborne particles, which can stay active for up to 2 hours in the air or on objects ³⁸
- Especially serious for young children ³⁹
- Vaccine first available in 1963, and became a part of the combined measles, mumps, rubella program in 1971 ⁴⁰
- In 2019, the U.S. had more than 1,200 cases of measles (the greatest number of cases reported in the country since 1992 and since measles was declared eliminated in 2000) ⁴¹
- **As of February 27, 2025, the U.S. had 164 reported cases within 9 jurisdictions** ⁴²

Vaccine-Preventable Diseases

Meningococcal (Meningitis)

- Meningitis and bloodstream infections are the two most common types of meningococcal infections [43](#)
- Meningococcal meningitis is when bacteria infect the lining of the brain and spinal cord and cause swelling [44](#)
- Meningococcal bloodstream infection is when bacteria enter the blood and damage blood vessel walls, causing bleeding in the skin and organs [45](#)
- Spreading occurs by sharing respiratory and throat secretions (e.g., saliva or spit) [46](#)
- Five meningococcal vaccines are licensed in the U.S. (as of August 2020) [47](#)

Mumps

- Contagious disease with most common outbreaks occurring among groups of people who have prolonged, close contact (e.g., sharing eating and drinking utensils, kissing, heavy breathing, sports, close quarters) [48](#)
- Symptoms include salivary gland swelling, fever, and aches and fatigue [49](#)
- Vaccine licensed in the U.S. in 1967 and became a part of the combined measles, mumps, rubella program in 1971 [50](#)

Pertussis (Whooping Cough)

- Highly contagious and sometimes deadly for infants [51](#)
- Known for uncontrollable, violent coughing which makes it difficult to breathe [52](#)
- Vaccine developed in 1930s and used widely by the mid-1940s [53](#)

Pneumococcal Disease

- Bacterial disease that results in ear and sinus infections, pneumonia, and sometimes meningitis [54](#)
- Especially dangerous for children and can affect the brain and spinal cord [55](#)
- Vaccine first used in U.S. in 1977 with a newer vaccine being created in 2000 [56](#)

Polio

- A virus which lives in the infected individuals throat and intestines but can enter the brain and spinal cord and result in paralysis or death [57](#)
- Spreads from person to person via contact with an infected person's feces; a less common spread can occur through sneezing or coughing [58](#)
- Vaccine developed in 1955 [59](#)
- Can be contracted through contaminated food and unsanitary water [60](#)

Respiratory Syncytial Virus (RSV)

- Common respiratory virus causing cold-like symptoms [61](#)
- Infants and older adults are at-risk for severe cases and hospitalization [62](#)
- Each year in the U.S., 58,000 to 80,000 children from birth through 5 years old are hospitalized due to RSV [63](#)
- Vaccines for pregnant women can protect infants and young children from severe RSV [64](#)

Rotavirus

- Spread through hand-to-mouth contact [65](#)
- Symptoms include severe diarrhea and vomiting which can lead to severe dehydration requiring hospitalization [66](#), [67](#)
- Vaccine was approved by the FDA in 2006 and a second was introduced in 2008 [68](#)

Vaccine-Preventable Diseases

Rubella

- Spreads through sneezing and coughing ⁶⁹
- Especially dangerous to pregnant women and fetuses ⁷⁰
- Vaccine first available in 1969 and became a part of the combined measles, mumps, rubella program in 1971 ⁷¹

SARS-COV-2 (COVID-19)

- Is a very contagious disease caused by the SARS-CoV-2 virus ⁷²
- Symptoms similar to a cold, the flu, or pneumonia ⁷³
- Many people have mild symptoms, but some can become severely ill (approximately 1.2 million U.S. deaths as of June 24) ⁷⁴
- Vaccine made available to the public in December 2020 ⁷⁵

Tetanus

- Serious disease caused by bacteria, called Clostridium tetani, that produce toxins ⁷⁶
- Can be contracted through wounds and burns that are contaminated by the bacteria ⁷⁷
- Causes muscle stiffness and spasms, paralysis, and breathing problems ⁷⁸
- Treatment usually require hospitalization ⁷⁹
- Vaccine first introduced in the late 1940s ⁸⁰
- Tetanus has an overall fatality rate of approximately 11%; among unvaccinated individuals, the fatality rate is 22% ⁸¹

Tuberculosis

- Bacteria spread through the air (i.e., coughing, speaking, singing) from one person to another ⁸²
- Symptoms can include a cough lasting three weeks or longer, chest pain, and coughing up blood ⁸³
- Can be detected through two tests: a blood test or a skin test ⁸⁴

Varicella (Chickenpox)

- Can be serious or even deadly for infants, adults, and those who are immunosuppressed ⁸⁵
- Symptoms include itchy rash, blisters, and fever ⁸⁶
- Vaccine licensed for use in the U.S. in 1995 ⁸⁷



**Why haven't I heard of some of these diseases?
Because vaccines work!**

Many of these diseases have been wiped out or are exceedingly rare, thanks to vaccines!



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