

Vaccines and Vaccine Safety

Vaccines save lives! Vaccines build immunity to a disease by imitating an infection which causes the body to create antibodies and defensive white blood cells. The defensive white blood cells remain in the body and fight the disease if the body encounters it in the future.^[3]

WHY ARE VACCINES IMPORTANT?

Vaccines protect against
14
serious and often
life-threatening diseases.^[4]

Polio	Measles
Tetanus	Pertussis
Influenza	Pneumococcal Disease
Hepatitis B	Rotavirus
Hepatitis A	Mumps
Rubella	Chickenpox
Hib	Diphtheria

*Prior to vaccination, these diseases killed thousands of children. Since the administration of vaccines, some of these diseases have been completely eradicated.^[1]

Vaccines protect^[2]



Newborns



People with Cancer/Weakened Immune Systems



Transplant Patients

VACCINES ARE SAFE!

- Side effects are minimal (i.e. slight discomfort and redness for short time).
- Serious side effects such as allergic reaction are extremely rare.
- Benefits of vaccines significantly outweigh any risks.^[1]

SO WHAT'S THE CONCERN?

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

VACCINES AND AUTISM



Vaccines do **NOT** cause autism!

Since 2003

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studies from the Centers for Disease Control confirmed the mercury-based ingredient thimerosal is not linked to autism.^[21]

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.^[22]

66,000

doctors and specialists with the American Academy of Pediatrics stress vaccines are safe, necessary to save lives and do not cause autism.^[23]

WHY HAVEN'T I HEARD OF THESE DISEASES?



Because vaccines **WORK!**

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

VACCINE-PREVENTABLE ILLNESSES

Polio	<ul style="list-style-type: none"> • Virus that spreads from person to person via contact with an infected person's feces; also more rarely spreads through sneezing or coughing^[5] • Lives in infected individual's throat and intestines but can enter the brain and spinal cord and result in paralysis or death • Vaccine developed 1955^[6]
Tetanus	<ul style="list-style-type: none"> • Serious disease caused by bacteria that produce toxins • Causes muscle stiffness and spasms, paralysis, and breathing problems • Treatment usually requires hospitalization • As many as 1 out of 5 cases result in death • Vaccine first introduced in late 1940s^[7]
Influenza	<ul style="list-style-type: none"> • Respiratory infection caused by a virus • Every year since 2010, between 6,000 and 26,000 children under the age of 5 years have been hospitalized by the flu • Vaccine first approved for military use in U.S. in 1945 and all citizens in 1946^[8]
Hepatitis B	<ul style="list-style-type: none"> • Liver infection caused by the hepatitis B virus • Spread via blood and other bodily fluids • Vaccine first became commercially available in 1982 in the U.S.^[9]
Hepatitis A	<ul style="list-style-type: none"> • Liver disease caused by hepatitis A virus that • Can be contracted from contaminated food and water or from person-to-person contact • Vaccine developed in 1995^[10]
Rubella	<ul style="list-style-type: none"> • Spreads through sneezing and coughing • Especially dangerous to pregnant women and fetuses • Vaccine first available in 1969^[11]
Hib	<ul style="list-style-type: none"> • Harms the immune system and causes brain damage and hearing loss and is sometimes fatal • Most concerning for children under the age of 5 years • Vaccine first licensed in 1987^[12]
Measles	<ul style="list-style-type: none"> • Very contagious and can be contracted by being in a room where a person with measles has been for as many as two hours prior • Especially serious for young children • Vaccine first available in 1963^[13]
Pertussis	<ul style="list-style-type: none"> • Highly contagious and sometimes deadly for infants • Known for uncontrollable, violent coughing which makes it difficult to breathe • Vaccine developed in 1930s and used widely by the mid-1940s^[14]
Pneumococcal Disease	<ul style="list-style-type: none"> • Bacterial disease that results in ear and sinus infections, pneumonia and sometimes meningitis • Especially dangerous for children and can affect the brain and spinal cord • Vaccine first used in U.S. in 1977^[15]
Rotavirus	<ul style="list-style-type: none"> • Spread from person to person or other direct contact • Symptoms include severe diarrhea and vomiting which can lead to severe dehydration requiring hospitalization • Vaccine first used in 1998 and a new version was licensed in 2006^[16]
Mumps	<ul style="list-style-type: none"> • Contagious disease that cannot be treated • Symptoms include salivary gland swelling, fever and aches and fatigue • Vaccine licensed in the U.S. in 1967^[17]
Chickenpox	<ul style="list-style-type: none"> • Can be serious or even deadly for infants, adults and immunosuppressed • Symptoms include itchy blisters and fever • Vaccine first licensed for use in the U.S. in 1995^[18]
Diphtheria	<ul style="list-style-type: none"> • Can cause difficulty breathing and lead to heart failure, paralysis or even death^[19] • Vaccine introduced in 1920s^[20]