



# PROTECT YOUR CHILD

IMMUNIZE ON TIME, EVERY TIME.

Diphtheria	Haemophilus Influenzae Type B (Hib)	Hepatitis A	Hepatitis B
Human Papillomavirus (HPV)	Influenza (Flu)	Measles	Meningococcal Disease
Mumps	Pertussis (Whooping Cough)	Pneumococcal Disease	Polio
Rotavirus	Rubella	Tetanus	Varicella (Chickenpox)

WITHOUT TREATMENT,

40% TO 50%

OF INFECTED PEOPLE DIE FROM DIPHTHERIA,



WITH THE HIGHEST DEATH RATES IN CHILDREN UNDER 5 AND ADULTS OVER 40.

# DIPHTHERIA

Diphtheria is a serious bacterial disease that causes heart and nerve problems. The disease can be spread from an infected person (or someone who carries the bacteria but has no symptoms) by coughing and sneezing. Diphtheria can also be spread by contaminated objects or foods.

Once infected, dangerous substances called toxins, caused by the bacteria, can spread through the bloodstream to other organs and cause significant damage such as injury to the heart, kidneys and other organs. Nerve damage and paralysis can also result.

## SYMPTOMS

Signs and symptoms of diphtheria may include:

- A sore throat and hoarseness
- Painful swallowing
- Swollen glands (enlarged lymph nodes) in the neck
- A thick, gray membrane covering the throat and tonsils
- Difficulty breathing or rapid breathing
- Nasal discharge
- Fever and chills

Signs and symptoms usually begin two to five days after a person becomes infected.

## PREVENTION

The diphtheria vaccine is usually combined with vaccines that protect against tetanus and pertussis (whooping cough). This three-in-one vaccine is known as the DTaP vaccine for children. For adolescents and adults, it is called the Tdap vaccine.

For the best protection against diphtheria, your children need to receive all recommended doses of the vaccine. To see if your children are up-to-date on their vaccines, look at the [CDC's immunization schedule](#) and talk to your healthcare provider.

+ DIPHTHERIA

HAEMOPHILUS INFLUENZAE TYPE B (HIB)

HEPATITIS A

HEPATITIS B

HUMAN PAPILLOMAVIRUS (HPV)

INFLUENZA (FLU)

MEASLES

MENINGOCOCCAL DISEASE

MUMPS

PERTUSSIS (WHOOPING COUGH)

PNEUMOCOCCAL DISEASE

POLIO

ROTAVIRUS

RUBELLA

TETANUS

VARICELLA (CHICKENPOX)

PRIOR TO THE VACCINE,  
SERIOUS HIB DISEASE

KILLED  
ABOUT  
1,000  
CHILDREN  
IN THE U.S.  
EACH YEAR.

# HAEMOPHILUS INFLUENZAE TYPE B (HIB)

*Haemophilus Influenzae* type b (Hib) is a serious illness caused by a bacteria 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.

## SYMPTOMS

Hib causes different symptoms depending on which part of the body is affected.

Symptoms may include:

- Fever, headache, confusion, stiff neck, and pain when looking into bright lights (meningitis)
- Poor eating and drinking, and vomiting (meningitis in babies)
- Fever and chills, headache, cough, shortness of breath, and chest pain (pneumonia)
- Fever and chills, excessive tiredness, and confusion (bacteremia)
- Trouble breathing (epiglottitis)

## PREVENTION

The Hib vaccine is the best prevention against this dangerous disease.

For the most protection against Hib, your children need to receive all three to four (depending on vaccine brand) recommended doses of the vaccine. To see if your children are up-to-date on their vaccines, look at the [CDC's immunization schedule](#) and talk to your healthcare provider.

	DIPHTHERIA
+	HAEMOPHILUS INFLUENZAE TYPE B (HIB)
	HEPATITIS A
	HEPATITIS B
	HUMAN PAPILLOMAVIRUS (HPV)
	INFLUENZA (FLU)
	MEASLES
	MENINGOCOCCAL DISEASE
	MUMPS
	PERTUSSIS (WHOOPIING COUGH)
	PNEUMOCOCCAL DISEASE
	POLIO
	ROTAVIRUS
	RUBELLA
	TETANUS
	VARICELLA (CHICKENPOX)



APPROXIMATELY

**1 IN 5 PEOPLE  
WITH HEPATITIS A**

HAVE TO BE  
**HOSPITALIZED.**



# HEPATITIS A

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.

## SYMPTOMS

Not all people with hepatitis A have symptoms. However, if symptoms develop, they usually appear two to six weeks after being infected and may include:

- Fatigue
- Nausea and vomiting
- Abdominal pain or discomfort, especially in the area of the liver on the right side beneath the lower ribs
- Loss of appetite
- Low-grade fever
- Dark urine
- Muscle pain
- Yellowing of the skin and eyes (jaundice)

## PREVENTION

The hepatitis A vaccine can prevent infection with the virus.

For the best protection against hepatitis A, your children need to receive the two recommended doses of the vaccine. To see if your children are up-to-date on their vaccines, look at the [CDC's immunization schedule](#) and talk to your healthcare provider.

DIPHTHERIA
HAEMOPHILUS INFLUENZAE TYPE B (HIB)
<b>+</b> HEPATITIS A
HEPATITIS B
HUMAN PAPILLOMAVIRUS (HPV)
INFLUENZA (FLU)
MEASLES
MENINGOCOCCAL DISEASE
MUMPS
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ROTAVIRUS
RUBELLA
TETANUS
VARICELLA (CHICKENPOX)



NEWBORNS THAT BECOME INFECTED WITH HEPATITIS B VIRUS HAVE A

**90% CHANCE**  
OF DEVELOPING  
**LIFELONG INFECTION.**

# HEPATITIS B

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 through actions as simple as the sharing of a toothbrush.

## SYMPTOMS

Not all people with hepatitis B have symptoms. However, if they occur, they usually appear about three months after infection and can range from mild to severe, including:

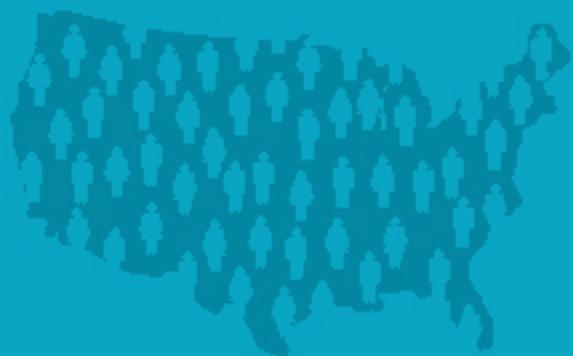
- Abdominal pain
- Dark urine
- Fever
- Joint pain
- Loss of appetite
- Nausea and vomiting
- Weakness and fatigue
- Yellowing of your skin and the whites of your eyes (jaundice)

## PREVENTION

The best way to prevent hepatitis B is by getting the vaccine.

For the most protection against hepatitis B, your children need to receive all three recommended doses of the vaccine. To see if your children are up-to-date on their vaccines, look at the [CDC's immunization schedule](#) and talk to your healthcare provider.

- DIPHTHERIA
- HAEMOPHILUS INFLUENZAE TYPE B (HIB)
- HEPATITIS A
- +** HEPATITIS B
- HUMAN PAPILOMAVIRUS (HPV)
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ABOUT  
**79 MILLION**  
AMERICANS  
ARE CURRENTLY INFECTED WITH HPV  
AND ANOTHER  
**14 MILLION**  
PEOPLE BECOME NEWLY INFECTED  
EACH YEAR.

# HUMAN PAPILLOMAVIRUS (HPV)

Human papillomavirus (HPV) is a virus that spreads through sexual contact. HPV is so common that almost everyone will be infected with the virus at some point in their lives. HPV can be passed even when an infected person has no signs or symptoms.

In most cases, HPV goes away on its own and people infected with the virus never knew they had it. However, when HPV does not go away, it can cause health problems such as genital warts and cancer. Cancer often takes years to develop after a person is infected with HPV.

## SYMPTOMS

HPV can have many serious consequences in both men and women including:

- Cervical cancer
- Vulvar cancer
- Vaginal cancer
- Anal cancer
- Penile cancer
- Oropharyngeal cancer (cancer in the back of throat, including the base of the tongue and tonsils)
- Genital warts
- Recurrent respiratory papillomatosis (RRP), a rare condition in which warts grow in the throat

## PREVENTION

The HPV vaccine is the best prevention against human papillomavirus.

The vaccine is recommended for both boys and girls, and offers the greatest health benefits to individuals who receive all three doses before having any type of sexual activity.

To see if your children are up-to-date on their vaccines, look at the [CDC's immunization schedule](#) and talk to your healthcare provider.

	DIPHTHERIA
	HAEMOPHILUS INFLUENZAE TYPE B (HIB)
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EACH YEAR IN THE U.S., MORE THAN

**20,000 CHILDREN**

**UNDER THE AGE OF 5 ARE HOSPITALIZED**

AND APPROXIMATELY

**100**

**DIE AS A RESULT OF THE FLU.**

# INFLUENZA (FLU)

Seasonal influenza (flu) is caused by viruses which infect 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 often occurs from October to May and usually peaks between December and 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.

## SYMPTOMS

Common signs and symptoms of the flu include:

- Fever over 100°F (38°C)
- Severe respiratory distress
- Aching muscles, especially in the back, arms and legs
- Chills and sweats
- Headache
- Dry cough
- Fatigue and weakness
- Nasal congestion

## PREVENTION

The best way to prevent the flu is to get the flu vaccine. An annual flu vaccine is recommended for everyone 6 months of age and older. There are two kinds of vaccine – the shot and the nasal spray. Talk to your healthcare provider to find out which type of vaccine is best for each member of your family.

Adults, particularly pregnant women, also need to be vaccinated against the flu every year. Vaccination during pregnancy protects both mothers and babies. Learn more about the importance of flu vaccination for the entire family at [Flu.gov](https://www.flu.gov).

To see if your children are up-to-date on their vaccines, look at the [CDC’s immunization schedule](#) and talk to your healthcare provider.

	DIPHTHERIA
	HAEMOPHILUS INFLUENZAE TYPE B (HIB)
	HEPATITIS A
	HEPATITIS B
	HUMAN PAPILOMAVIRUS (HPV)
+	INFLUENZA (FLU)
	MEASLES
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	PERTUSSIS (WHOOPIING COUGH)
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IN THE U.S., ROUGHLY

**1 IN 5 PEOPLE**

WHO DEVELOP MEASLES REQUIRE  
HOSPITALIZATION FOR

**1 OR MORE COMPLICATIONS**

FROM THE DISEASE.

# MEASLES

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 a swelling 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 have put children at risk.

## SYMPTOMS

Measles signs and symptoms appear seven to fourteen days after exposure to the virus. Signs and symptoms of measles typically include:

- Fever
- Dry cough
- Runny nose
- Sore throat
- Red eyes (conjunctivitis)
- Sensitivity to light
- Tiny white spots inside the mouth
- A skin rash made up of large, flat blotches

## PREVENTION

To prevent measles, children should be vaccinated with the combined measles, mumps, and rubella (MMR) vaccine.

For the best protection against measles, your children need to receive the two recommended doses of the vaccine. To see if your children are up-to-date on their vaccines, look at the [CDC's immunization schedule](#) and talk to your healthcare provider.

Adults born after 1957 who have not had the measles or the MMR vaccine (and don't show evidence of immunity) should receive at least one dose of the vaccine.

	DIPHTHERIA
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	RUBELLA
	TETANUS
	VARICELLA (CHICKENPOX)



APPROXIMATELY

1 OUT OF EVERY 10

PEOPLE WITH MENINGOCOCCAL DISEASE

WILL DIE.

# MENINGOCOCCAL DISEASE

Meningococcal disease is a serious bacterial illness and the leading cause of meningitis in children ages 2 through 18. Meningitis is an infection of the fluid surrounding the brain and spinal cord. Meningococcal disease can also cause blood infections.

Approximately 1,000 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.

## SYMPTOMS

It's easy to mistake the early signs and symptoms of meningococcal disease for the flu. Signs and symptoms may develop over several hours or over one or two days, including:

- Sudden high fever
- Severe headache
- Stiff neck
- Vomiting or nausea with headache
- Confusion or difficulty concentrating
- Seizures
- Sleepiness or difficulty waking up
- Sensitivity to light
- Lack of interest in drinking and eating
- Skin rash

## PREVENTION

The meningococcal vaccine is the best way to prevent meningococcal disease. Although it cannot prevent all types of meningococcal disease, it can prevent many types of the disease.

For the most protection against meningococcal disease, your children need to receive the two recommended doses of the vaccine. To see if your children are up-to-date on their vaccines, look at the [CDC's immunization schedule](#) and talk to your healthcare provider.

	DIPHTHERIA
	HAEMOPHILUS INFLUENZAE TYPE B (HIB)
	HEPATITIS A
	HEPATITIS B
	HUMAN PAPILLOMAVIRUS (HPV)
	INFLUENZA (FLU)
	MEASLES
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	PNEUMOCOCCAL DISEASE
	POLIO
	ROTAVIRUS
	RUBELLA
	TETANUS
	VARICELLA (CHICKENPOX)



BEFORE THE MMR VACCINE,  
**MUMPS MADE**  
APPROXIMATELY  
**200,000**  
PEOPLE SICK  
EACH YEAR IN THE U.S.

# MUMPS

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.

## SYMPTOMS

Some children infected with the mumps virus have either no signs or symptoms or very mild ones. When signs and symptoms do develop, they usually appear about two to three weeks after exposure to the virus and may include:

- Swollen, painful salivary glands on one or both sides of your face (parotitis)
- Fever
- Headache
- Weakness and fatigue
- Loss of appetite
- Pain while chewing or swallowing

## PREVENTION

To prevent mumps, children should be vaccinated with the combined measles, mumps, and rubella (MMR) vaccine.

For the best protection against mumps, your children need to receive the two recommended doses of the vaccine. To see if your children are up-to-date on their vaccines, look at the [CDC's immunization schedule](#) and talk to your healthcare provider.

	DIPHTHERIA
	HAEMOPHILUS INFLUENZAE TYPE B (HIB)
	HEPATITIS A
	HEPATITIS B
	HUMAN PAPILLOMAVIRUS (HPV)
	INFLUENZA (FLU)
	MEASLES
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+	MUMPS
	PERTUSSIS (WHOOPIING COUGH)
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	RUBELLA
	TETANUS
	VARICELLA (CHICKENPOX)



OF PERTUSSIS-ASSOCIATED DEATHS HAVE BEEN AMONG

**INFANTS**

LESS THAN ONE YEAR OLD.

# PERTUSSIS (WHOOPIING COUGH)

Pertussis (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.” Some babies with whooping cough don’t cough at all. Instead the disease can cause them to have a hard time breathing, or even stop breathing for short periods of time.

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.

## SYMPTOMS

Symptoms take one to three weeks to appear. They’re usually mild at first and resemble those of a common cold. After a week or two, signs and symptoms worsen. Thick mucus accumulates inside the airways, causing uncontrollable coughing. Violent coughing fits may cause:

- Vomiting
- A red or blue face from not getting enough air
- Extreme fatigue
- Broken ribs
- “Whoop” sounds as the lungs attempt to refill with air

## PREVENTION

For the best protection against pertussis, your children need to receive all five recommended doses of the DTaP vaccine. Adolescents and adults need to be vaccinated with Tdap, the adult version of the diphtheria, tetanus and pertussis vaccine. To see if your children are up-to-date on their vaccines, look at the [CDC’s immunization schedule](#) and talk to your healthcare provider.

To best protect newborns from pertussis, pregnant women should be vaccinated with Tdap during their third trimester. Family members and caregivers of young children should also be vaccinated.

- DIPHTHERIA
- HAEMOPHILUS INFLUENZAE TYPE B (HIB)
- HEPATITIS A
- HEPATITIS B
- HUMAN PAPILLOMAVIRUS (HPV)
- INFLUENZA (FLU)
- MEASLES
- MENINGOCOCCAL DISEASE
- MUMPS
- +** PERTUSSIS (WHOOPIING COUGH)
- PNEUMOCOCCAL DISEASE
- POLIO
- ROTAVIRUS
- RUBELLA
- TETANUS
- VARICELLA (CHICKENPOX)



BEFORE THE VACCINE WAS  
AVAILABLE IN THE U.S.,  
**PNEUMOCOCCAL DISEASE**  
CAUSED ABOUT

**700**

CASES OF MENINGITIS,

**13,000**

CASES OF BACTEREMIA,  
AND

**5 MILLION**

MIDDLE EAR INFECTIONS  
EACH YEAR AMONG

**CHILDREN YOUNGER THAN 5 YEARS OLD.**

# PNEUMOCOCCAL DISEASE

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.

## SYMPTOMS

Symptoms depend on the type of pneumococcal disease, but generally include fever and/or chills. Additional symptoms may include:

- Cough, shortness of breath and chest pain (pneumonia)
- Stiff neck, headache, confusion and pain when looking at lights (meningitis)
- Poor eating and drinking and vomiting (babies with meningitis)
- Low alertness (bacteremia)
- Ear pain, red/swollen ear drum and sleepiness (middle ear infection)

## PREVENTION

The pneumococcal vaccine is the best way to prevent pneumococcal disease.

For the most protection against pneumococcal disease, your children need to receive all four recommended doses of the vaccine. To see if your children are up-to-date on their vaccines, look at the **CDC's immunization schedule** and talk to your healthcare provider.

DIPHTHERIA

HAEMOPHILUS  
INFLUENZAE  
TYPE B (HIB)

HEPATITIS A

HEPATITIS B

HUMAN  
PAPILLOMAVIRUS  
(HPV)

INFLUENZA (FLU)

MEASLES

MENINGOCOCCAL  
DISEASE

MUMPS

PERTUSSIS  
(WHOOPIING COUGH)

**+** PNEUMOCOCCAL  
DISEASE

POLIO

ROTAVIRUS

RUBELLA

TETANUS

VARICELLA  
(CHICKENPOX)

BEFORE POLIO VACCINES  
WERE AVAILABLE,  
**POLIO OUTBREAKS CAUSED**  
MORE THAN  
**15,000**  
CASES OF PARALYSIS  
**EACH YEAR**  
IN THE U.S.

# POLIO

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.

## SYMPTOMS

Polio can cause paralysis. Signs of paralytic polio include:

- Loss of reflexes
- Severe muscle aches or spasms
- Loose and floppy limbs (flaccid paralysis), often worse on one side of the body

Polio does not always cause paralysis, and people with polio don't always show symptoms. If symptoms of nonparalytic polio appear, they may include:

- Fever
- Sore throat
- Headache
- Vomiting
- Fatigue
- Pain or stiffness in the back, neck, arms or legs
- Muscle spasms or tenderness

## PREVENTION

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, your children need to receive all four recommended doses of the vaccine. To see if your children are up-to-date on their vaccines, look at the [CDC's immunization schedule](#) and talk to your healthcare provider.

DIPHTHERIA

HAEMOPHILUS  
INFLUENZAE  
TYPE B (HIB)

HEPATITIS A

HEPATITIS B

HUMAN  
PAPILLOMAVIRUS  
(HPV)

INFLUENZA (FLU)

MEASLES

MENINGOCOCCAL  
DISEASE

MUMPS

PERTUSSIS  
(WHOOPIING COUGH)

PNEUMOCOCCAL  
DISEASE

**+** POLIO

ROTAVIRUS

RUBELLA

TETANUS

VARICELLA  
(CHICKENPOX)



BEFORE THE ROTAVIRUS VACCINE  
WAS INTRODUCED IN THE U.S.  
ROTAVIRUS WAS RESPONSIBLE FOR UP TO

70,000

HOSPITALIZATIONS,  
APPROXIMATELY

250,000

EMERGENCY ROOM VISITS  
AND UP TO

60

DEATHS AMONG CHILDREN  
YOUNGER THAN 5 YEARS OF AGE

EVERY YEAR.

# ROTAVIRUS

Rotavirus is a virus that causes gastroenteritis (inflammation of the stomach and intestines). 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.

## SYMPTOMS

After a child has been infected with rotavirus, it takes about two days for symptoms to appear. Symptoms may include:

- Vomiting
- Severe watery diarrhea
- Stomach pain
- Fever
- Loss of appetite
- Dehydration (loss of body fluids)

In adults who are otherwise healthy, a rotavirus infection may cause only mild signs and symptoms — or none at all.

## PREVENTION

Vaccination is the most effective way to prevent rotavirus infection in infants.

For the best protection against rotavirus, your children need to receive all two to three (depending on vaccine brand) recommended doses of the vaccine. To see if your children are up-to-date on their vaccines, look at the **CDC's immunization schedule** and talk to your healthcare provider.

DIPHTHERIA

HAEMOPHILUS  
INFLUENZAE  
TYPE B (HIB)

HEPATITIS A

HEPATITIS B

HUMAN  
PAPILLOMAVIRUS  
(HPV)

INFLUENZA (FLU)

MEASLES

MENINGOCOCCAL  
DISEASE

MUMPS

PERTUSSIS  
(WHOOPIING COUGH)

PNEUMOCOCCAL  
DISEASE

POLIO

**+** ROTAVIRUS

RUBELLA

TETANUS

VARICELLA  
(CHICKENPOX)

APPROXIMATELY  
**85%**

**OF INFANTS**  
BORN TO MOTHERS INFECTED WITH  
RUBELLA DURING THE FIRST TRIMESTER  
OF PREGNANCY WILL DEVELOP  
**CONGENITAL RUBELLA SYNDROME,**  
RESULTING IN  
**SERIOUS BIRTH DEFECTS.**

# RUBELLA

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 woman 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 (also known as mental retardation), 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.

## SYMPTOMS

The symptoms of rubella are often so mild they're difficult to notice, especially in children. If symptoms do occur, they generally appear two to three weeks after exposure to the virus and last two to three days. Symptoms may include:

- Mild fever of 102°F (38.9°C) or lower
- Headache
- Stuffy or runny nose
- Inflamed, red eyes
- Enlarged, tender lymph nodes
- A fine, pink rash that begins on the face and quickly spreads to the trunk and then the arms and legs, before disappearing in the same sequence
- Aching joints

## PREVENTION

To prevent rubella, children should be vaccinated with the combined measles, mumps, and rubella (MMR) vaccine.

For the best protection against rubella, your children need to receive the two recommended doses of the vaccine. To see if your children are up-to-date on their vaccines, look at the [CDC's immunization schedule](#) and talk to your healthcare provider.

- DIPHTHERIA
- HAEMOPHILUS INFLUENZAE TYPE B (HIB)
- HEPATITIS A
- HEPATITIS B
- HUMAN PAPILOMAVIRUS (HPV)
- INFLUENZA (FLU)
- MEASLES
- MENINGOCOCCAL DISEASE
- MUMPS
- PERTUSSIS (WHOOPIING COUGH)
- PNEUMOCOCCAL DISEASE
- POLIO
- ROTAVIRUS
- +** RUBELLA
- TETANUS
- VARICELLA (CHICKENPOX)

UP TO  
**20%**  
OF REPORTED  
TETANUS CASES END IN

DEATH.

# 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's 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.

## SYMPTOMS

Common signs and symptoms of tetanus, in order of appearance, are:

- Spasms and stiffness in jaw muscles
- Stiffness of neck muscles
- Difficulty swallowing
- Stiffness of abdominal muscles
- Painful body spasms lasting for several minutes, typically triggered by minor occurrences, such as a draft, loud noise, physical touch or light

## PREVENTION

Vaccination is the most effective way to prevent tetanus. The tetanus vaccine, DTaP, also protects children from diphtheria and pertussis. The adolescent and adult version of this vaccine is known as Tdap. When tetanus is just combined with diphtheria, the vaccine is called Td.

For the best protection against tetanus, your children need to receive all of the five recommended doses of the DTaP vaccine. Booster doses of Tdap and Td are needed for adolescents and adults. To see if your children are up-to-date on their vaccines, look at the [CDC's immunization schedule](#) and talk to your healthcare provider.

DIPHTHERIA

HAEMOPHILUS  
INFLUENZAE  
TYPE B (HIB)

HEPATITIS A

HEPATITIS B

HUMAN  
PAPILLOMAVIRUS  
(HPV)

INFLUENZA (FLU)

MEASLES

MENINGOCOCCAL  
DISEASE

MUMPS

PERTUSSIS  
(WHOOPIING COUGH)

PNEUMOCOCCAL  
DISEASE

POLIO

ROTAVIRUS

RUBELLA



TETANUS

VARICELLA  
(CHICKENPOX)

BEFORE THE VARICELLA VACCINE,  
THE U.S. REPORTED AN ESTIMATED  
**4 MILLION**  
CASES OF CHICKENPOX A YEAR,  
LEADING TO APPROXIMATELY

**11,000**  
HOSPITALIZATIONS

AND

**100**  
DEATHS.

# VARICELLA (CHICKENPOX)

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, sometimes with serious complications. Today, the number of cases and hospitalizations is down dramatically.

## SYMPTOMS

Chickenpox infection usually lasts about five to ten days. The rash is the telltale indication of chickenpox. Other signs and symptoms, which may appear one to two days before the rash, include:

- Fever
- Loss of appetite
- Headache
- Tiredness and a general feeling of being unwell

## PREVENTION

The varicella vaccine is the best way to prevent chickenpox.

For the best protection against chickenpox, your children need to receive the two recommended doses of the vaccine. To see if your children are up-to-date on their vaccines, look at the [CDC's immunization schedule](#) and talk to your healthcare provider.

DIPHTHERIA

HAEMOPHILUS  
INFLUENZAE  
TYPE B (HIB)

HEPATITIS A

HEPATITIS B

HUMAN  
PAPILLOMAVIRUS  
(HPV)

INFLUENZA (FLU)

MEASLES

MENINGOCOCCAL  
DISEASE

MUMPS

PERTUSSIS  
(WHOOPIING COUGH)

PNEUMOCOCCAL  
DISEASE

POLIO

ROTAVIRUS

RUBELLA

TETANUS

**+** VARICELLA  
(CHICKENPOX)



WWW.ECBT.ORG

Every Child By Two – Carter/Bumpers Champions for Immunization strives to protect families and individuals from vaccine-preventable diseases by raising awareness of the critical need for timely immunizations for people of all ages, increasing the public’s understanding of the benefits of vaccines, increasing confidence in the safety of vaccines, ensuring that all families have access to life-saving vaccines, and advocating for policies that support timely vaccination.

#### **RECOMMENDED WEBSITES**

Every Child By Two  
[www.ecbt.org](http://www.ecbt.org)

ECBT’s Vaccinate Your Family Program  
[www.VaccinateYourFamily.org](http://www.VaccinateYourFamily.org)

CDC/Recommended Immunization Schedule  
[www.cdc.gov/vaccines/parents](http://www.cdc.gov/vaccines/parents)

American College of Obstetricians and Gynecologists  
[www.immunizationforwomen.org](http://www.immunizationforwomen.org)

Vaccine Education Center at The Children’s Hospital of Philadelphia  
[vaccine.chop.edu](http://vaccine.chop.edu)