



# CHILD AND TEEN VACCINE-PREVENTABLE DISEASES

Chickenpox (Varicella)	COVID-19	Diphtheria	Haemophilus Influenzae Type B (Hib)	Hepatitis A
Hepatitis B	Human Papillomavirus (HPV)	Influenza (Flu)	Measles	Meningococcal Disease
Mumps	Pneumococcal Disease	Polio	Respiratory Syncytial Virus (RSV)	Rotavirus
Rubella	Tetanus	Whooping Cough (Pertussis)		

 **VACCINATE  
YOUR FAMILY**

VACCINATEYOURFAMILY.ORG

# CHICKENPOX (VARICELLA)

Chickenpox (varicella) 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 a person 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

The chickenpox 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.

CHICKENPOX (VARICELLA)
COVID-19
DIPHTHERIA
HAEMOPHILUS INFLUENZAE TYPE B (HIB)
HEPATITIS A
HEPATITIS B
HUMAN PAPILLOMAVIRUS (HPV)
INFLUENZA (FLU)
MEASLES
MENINGOCOCCAL DISEASE
MUMPS
PNEUMOCOCCAL DISEASE
POLIO
RESPIRATORY SYNCYTIAL VIRUS (RSV)
ROTAVIRUS
RUBELLA
TETANUS
WHOPING COUGH (PERTUSSIS)

BEFORE THE VACCINE,

# 11,000

PEOPLE WERE HOSPITALIZED, AND



# 150 PEOPLE

## DIED FROM CHICKENPOX

EACH YEAR IN THE U.S.

ROUGHLY  
**14,000**  
**CHILDREN**

WERE HOSPITALIZED IN THE U.S.  
**DUE TO COVID-19**  
BETWEEN MARCH 2020 & MARCH 2021

# COVID-19

COVID-19 is a disease caused by a coronavirus called SARS-CoV-2. It is very serious and very contagious. Since the COVID-19 pandemic first began in early 2020, there have been over 32 million COVID-19 cases and over 574,000 deaths due to COVID in the U.S. alone.

While most children with COVID-19 have mild symptoms or no symptoms at all, children can – and some do – get severely ill from COVID. Those that get very sick from COVID could need to be hospitalized. In rare cases, they might die.

Babies under 1 year old and children with certain underlying health conditions may be more likely to have severe illness from COVID-19

Experts are looking into a rare, but serious medical condition associated with COVID-19 in children called Multisystem Inflammatory Syndrome in Children (MIS-C). Unfortunately, it is not yet known what causes MIS-C and who is at increased risk for getting it.

## SYMPTOMS

Symptoms may include:

- Shortness of breath or difficulty breathing
- Cough
- Fever or chills
- Muscle or body aches
- Vomiting or diarrhea
- New loss of taste or smell

Children with COVID-19 – with or without symptoms – can also spread the COVID-19 virus to others.

## PREVENTION

COVID-19 vaccines are the best protection against the virus that causes COVID.

There should soon be one or more COVID-19 vaccines authorized for children between 12-15 years old in the U.S. The Pfizer vaccine is the only vaccine available in the U.S. for people under 18 years old.

A number of vaccine makers are currently testing COVID-19 vaccines in children through clinical trials.

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.

CHICKENPOX  
(VARICELLA)

COVID-19

DIPHTHERIA

HAEMOPHILUS  
INFLUENZAE  
TYPE B (HIB)

HEPATITIS A

HEPATITIS B

HUMAN  
PAPILLOMAVIRUS (HPV)

INFLUENZA (FLU)

MEASLES

MENINGOCOCCAL  
DISEASE

MUMPS

PNEUMOCOCCAL  
DISEASE

POLIO

RESPIRATORY SYNCYTIAL  
VIRUS (RSV)

ROTAVIRUS

RUBELLA

TETANUS

WHOPING COUGH  
(PERTUSSIS)

WITHOUT TREATMENT,  
**UP TO HALF**  
 OF INFECTED PEOPLE DIE  
**FROM DIPHTHERIA,**



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

# 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 painful swallowing
- Swollen glands (enlarged lymph nodes) in the neck
- A thick, gray coating in the throat and nose
- Difficulty breathing or rapid breathing
- Weakness
- Open sores or ulcers on the skin (if the bacteria infects the skin)

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 combination 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.

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COVID-19
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WHOOPING COUGH (PERTUSSIS)

WITHOUT THE VACCINE,  
**HIB DISEASE**  
CAN KILL ABOUT



**EACH YEAR.**

# HAEMOPHILUS INFLUENZAE TYPE B (HIB)

*Haemophilus Influenzae* type b (Hib) is a very serious bacterial illness, especially for 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). Even with good medical care, as many as 1 in 20 kids who get sick with Hib meningitis will die from it, and up to 1 in 5 who survive will become deaf or have brain damage as a result of the infection.

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 or 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.

PEOPLE CAN GET HEPATITIS A BY  
 TOUCHING OBJECTS SUCH AS  
**DOORKNOBS  
 OR DIAPERS,**  

 OR EATING  
**FOOD**  
 THAT HAS BEEN CONTAMINATED WITH THE  
**HEPATITIS A VIRUS.**

# 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 stool (poop) 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:

- Extreme tiredness
- Nausea and vomiting
- Stomach pain or discomfort, especially in the area of the liver on the right side beneath the lower ribs
- Loss of appetite
- Low-grade fever (under 100.4 F)
- 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.

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WHOOPING COUGH (PERTUSSIS)



EACH YEAR UP TO



FROM HEPATITIS B

# 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. Roughly 1 in 3 people worldwide have been infected with hepatitis B, making it the most common serious liver infection on the planet.

The hepatitis B virus spreads through blood and infected bodily fluids. It can be passed to others through direct contact with blood, unprotected sex, use of illegal drugs, unsterilized or contaminated needles, and from an infected woman to her newborn during pregnancy or childbirth. The virus can live on objects for up to 7 days and an individual who is unaware that they have hepatitis B can easily pass the virus on to an unvaccinated child through contact with their blood from cuts or sores, or through actions as simple as sharing a toothbrush. In fact, many people with hepatitis B don't know they are infected with the virus because they don't feel or look sick. However, they can still spread the virus to others.

## 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:

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

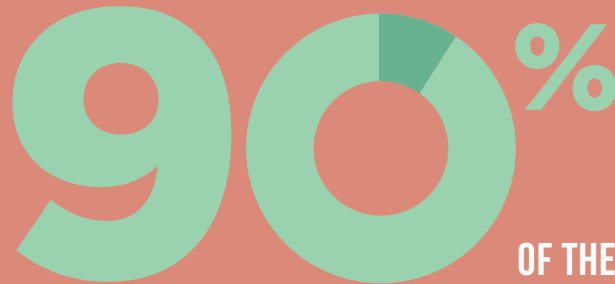
## PREVENTION

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, starting with the birth dose before your baby leaves the hospital. 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.

HPV VACCINE COULD

PREVENT



~36,000

HPV-RELATED CANCERS

DIAGNOSED IN THE U.S. EACH YEAR

# HUMAN PAPILOMAVIRUS (HPV)

Human papillomavirus (HPV) is a virus that spreads through sexual contact. HPV is so common that roughly 80% of U.S. adults will be infected with the virus at least once 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 at age 11-12 (though it can be given as young as 9) and offers the greatest health benefits to people who finish the series before engaging in 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.

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FLU KILLS MORE  
**CHILDREN**  
 EACH YEAR IN THE U.S.



THAN ANY OTHER  
**VACCINE-PREVENTABLE**  
**DISEASE.**

# 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.

Influenza (flu) is caused by a highly contagious virus that spreads from person-to-person when people cough, sneeze, talk, or when a person touches a surface or object that has the flu virus on it and then touches their own mouth or nose. Serious complications of flu can result in hospitalization or death, even in healthy children. Each year nearly 20,000 children under age 5 are hospitalized because of flu and approximately 100 children die.

## SYMPTOMS

“Symptoms of the flu usually come on quickly and may include:

- Fever over 100°F (38°C)
- Chest discomfort and cough
- Muscle and body aches
- Chills and sweats
- Headache
- Extreme tiredness and weakness
- Stuffy or runny nose, and sneezing

## PREVENTION

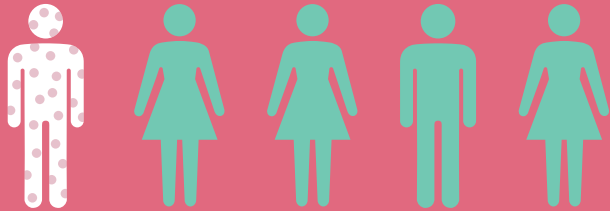
Children are at particularly high risk of serious flu illness and complications if they are under 5 years of age or have chronic health conditions. The best way to protect yourself and your family from the flu and its serious complications is to get the flu vaccine every year. Children are at particularly high risk of severe flu illness if they are under 5 years old or have chronic health conditions. Some children 6 months through 8 years of age will need two doses of flu vaccine for protection. If your child needs two doses, try to get their first vaccine as early as possible during the season to make sure they are protected before flu starts spreading. Vaccination can help reduce your child’s risk of dying from the flu.

Adults, particularly pregnant women, also need to be vaccinated against the flu every year. Vaccination during every pregnancy protects both mothers and babies.

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.

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# 1 IN 5



UNVACCINATED PEOPLE IN THE U.S.

## WITH MEASLES WILL BE HOSPITALIZED

DUE TO LIFE-THREATENING COMPLICATIONS

# MEASLES

Measles is more than just a rash. It is a serious disease that spreads quickly through the air when an infected person coughs or sneezes. It is so contagious that if one person has it, up to 9 out of 10 people around them will also become infected if they are not protected. It can be serious or even fatal for small children. The disease kills hundreds of thousands of young children every year around the world.

Even in previously healthy people, measles can be a serious illness requiring hospitalization. According to the CDC, about 1 in 5 unvaccinated individuals who get measles are hospitalized, and measles during pregnancy can lead to babies being born too early or too small. 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 swelling in the brain that can leave children deaf or intellectually disabled.

Vaccines have kept the number of measles cases in the U.S. to a minimum, but outbreaks continue to happen each year. These outbreaks are caused by unvaccinated individuals bringing in the virus after traveling from places where measles is more common and spreading it to unvaccinated children and adults.

## SYMPTOMS

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

- Cough
- Runny nose
- Sore throat
- Red eyes
- Rash of tiny, red spots that start at the head and spread to the rest of the body

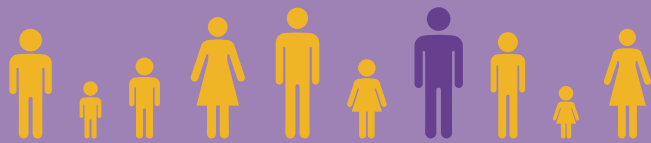
## PREVENTION

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. Before traveling to another country, infants 6 to 11 months should get 1 dose of the MMR shot. 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.

EVEN WITH GOOD MEDICAL TREATMENT,

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.

Hundreds of people get meningococcal disease each year in the U.S., and 10-15 percent of these people die — sometimes within 24 hours. Of those who survive, as many as 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

Meningococcal vaccines are the best way to prevent meningococcal disease. Two vaccines are recommended for preteens and teens. The MenACWY vaccine protects against four strains (meningococcal A,C,W and Y) and the MenB vaccine protects against the B strain. For the most protection against meningococcal disease, your children need to receive all recommended doses of the vaccines. 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.

# MUMPS OUTBREAKS,

ONCE A COMMON CAUSE OF



# DEAFNESS & MENINGITIS,

CONTINUE THROUGHOUT THE

# UNITED STATES

## 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:

- Puffy cheeks and tender, swollen jaw caused by swollen salivary glands
- Fever
- Headache
- Weakness and extreme tiredness
- Loss of appetite
- Muscle aches

### 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.

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ABOUT

1  
12



CHILDREN WHO GET

**PNEUMOCOCCAL  
MENINGITIS DIES**

# 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 who get pneumococcal meningitis, about 1 out of 12 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
- Vomiting (babies with meningitis)
- Low alertness (bacteremia)
- Ear pain, red/swollen ear drum and sleepiness (middle ear infection)

## PREVENTION

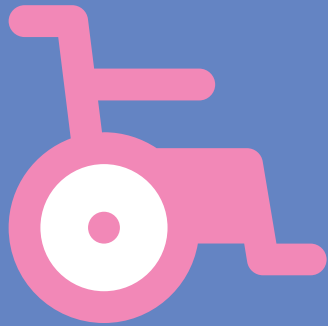
The pneumococcal vaccine (PCV) is the best way to prevent pneumococcal disease.

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.

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 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.

The world is very close to eradicating polio, with only a few countries still reporting cases. One day we will no longer need polio vaccines, but until the disease is officially eradicated, it is very important for children to continue to be vaccinated.

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RUBELLA
TETANUS
WHOPING COUGH (PERTUSSIS)



EACH YEAR IN THE U.S.,

**RSV**

LEADS TO

**80,000**



**HOSPITALIZATIONS**

AMONG

**CHILDREN UNDER 5**

# RESPIRATORY SYNCYTIAL VIRUS (RSV)

Respiratory Syncytial Virus (RSV) is a common respiratory virus which causes cold-like symptoms. It usually spreads seasonally between October and early spring. RSV can spread both directly (through droplets of another person's cough or sneeze) and indirectly (by touching a surface with the virus on it, then touching your face).

Almost all children will get an RSV infection by the time they are 2 years old. It can be particularly severe in premature infants, infants younger than 6 months, and young children with pre-existing health conditions. However, approximately 75% of infants hospitalized for RSV are not born prematurely and don't have underlying medical conditions. In the U.S., RSV is the leading cause of hospitalization in children younger than one year old. Older adults and those with high-risk conditions are also at high risk of complications from RSV.

## SYMPTOMS

Common symptoms of RSV include:

- Fever
- Runny or stuffy nose
- Cough
- Shortness of breath
- Wheezing

Additional serious warning signs of RSV include blue lips or face, irritability, decreased activity, decreased appetite, and apnea (temporary stop of breathing). RSV can lead to bronchiolitis (inflammation in the small airways in the lung) and pneumonia (infection in the lung).

## PREVENTION

There are now two options to protect infants against RSV. First, a vaccine can be given between weeks 32 and 36 of pregnancy to protect newborns. The vaccine is recommended only if those 32 to 36 weeks fall between September and January so that the immunity from the vaccine can be passed along, protecting the baby during their first RSV season.

Second, a preventive antibody is available to protect infants and children during their first RSV season when the disease can be most dangerous for them. The monoclonal antibody (mAb) gives children the ability to fight RSV for up to one year. The mAb is recommended for all children born during the RSV season and for children with high-risk conditions during their second RSV season.

CHICKENPOX (VARICELLA)

COVID-19

DIPHTHERIA

HAEMOPHILUS INFLUENZAE TYPE B (HIB)

HEPATITIS A

HEPATITIS B

HUMAN PAPILLOMAVIRUS (HPV)

INFLUENZA (FLU)

MEASLES

MENINGOCOCCAL DISEASE

MUMPS

PNEUMOCOCCAL DISEASE

POLIO

RESPIRATORY SYNCYTIAL VIRUS (RSV)

ROTAVIRUS

RUBELLA

TETANUS

WHOPPING COUGH (PERTUSSIS)

WITHOUT A VACCINE, EACH YEAR

# ROTAVIRUS

COULD CAUSE APPROXIMATELY



# 250,000

## ER VISITS

AMONG CHILDREN YOUNGER THAN 5

# ROTAVIRUS

Rotavirus is a stomach virus that can cause children to become so dehydrated they need to be hospitalized. Even with good handwashing and disinfecting surfaces, the virus can easily spread among family members or in hospitals or childcare centers. Rotavirus is a major cause of childhood deaths in developing countries.

Before a rotavirus vaccine became available, the virus caused 2.7 million kids to get sick, as many as 70,000 hospitalizations, and 20 to 60 deaths every year in the U.S. alone. Now that we have a vaccine, those numbers have dropped in the U.S., but the virus is still common in other parts of the world. Roughly half a million children die from rotavirus every year — roughly 1,400 a day.

## 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 young children.

For the best protection against rotavirus, your children need to receive all two or 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.

DURING THE LAST MAJOR  
RUBELLA EPIDEMIC IN THE U.S.,

11,000

PREGNANT WOMEN LOST THEIR BABIES,

2,100

NEWBORNS DIED, AND

20,000

BABIES WERE BORN WITH  
CONGENITAL RUBELLA SYNDROME.

# 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.

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TETANUS

WHOOPIING COUGH  
(PERTUSSIS)

1-2 OF EVERY



CASES OF TETANUS  
ARE FATAL

# 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 tetanus resolve. Most deaths from tetanus occur in people who haven't been vaccinated.

## 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. Preteens need a booster dose of Tdap between 11 and 12 years old, and then a dose of Td every 10 years. 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.

# 7 IN 10

## DEATHS



# FROM WHOOPING COUGH

## OCCUR IN

# BABIES UNDER 2 MONTHS OLD

# WHOOPING COUGH (PERTUSSIS)

Whooping cough (pertussis) 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." About half babies younger than 1 who get pertussis will be hospitalized. 1 in 4 will end up with pneumonia and 1 out of 100 of hospitalized babies will die. Many babies who get pertussis are infected by older siblings, parents, or caregivers who might not even know they have the disease.

Whooping cough is still common in the United States. Between 15,000 and 40,000 cases of whooping cough are reported each year in the U.S.

## 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 builds up inside the airways, causing uncontrollable coughing. Severe and prolonged coughing attacks may cause:

- Vomiting
- A red or blue face
- Extreme tiredness
- Broken ribs
- "Whoop" sounds as the lungs attempt to refill with air

Some babies with whooping cough don't cough at all. Instead the disease causes them to have a hard time breathing, or even to stop breathing for short periods of time.

## PREVENTION

To protect against whooping cough it is recommended that children receive all five recommended doses of the DTaP vaccine, which also prevents tetanus and diphtheria. Preteens need a booster dose of Tdap between 11 and 12 years old, and then a dose of Td every 10 years."

To best protect newborns from whooping cough, pregnant women should be vaccinated with Tdap during each pregnancy during their third trimester. Family members and caregivers of infants and young children should also be vaccinated at least 2 weeks before contact.

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.

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TETANUS

WHOOPING COUGH  
(PERTUSSIS)



VACCINATEYOURFAMILY.ORG

Vaccinate Your Family is a non profit organization founded in 1991. Our mission is to protect people of all ages from vaccine-preventable diseases.

#### RECOMMENDED WEBSITES

Vaccinate Your Family  
[www.vaccinateyourfamily.org](http://www.vaccinateyourfamily.org)

VYF's Paying for Vaccines Online Tool  
[www.vaccinateyourfamily.org/paying-for-vax](http://www.vaccinateyourfamily.org/paying-for-vax)

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

American College of Obstetricians and Gynecologists  
[www.acog.org/womens-health](http://www.acog.org/womens-health)

Vaccine Education Center at The Children's Hospital of Philadelphia  
[www.chop.edu/centers-programs/vaccine-education-center](http://www.chop.edu/centers-programs/vaccine-education-center)

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