

# Pertussis (Whooping Cough)

## Pertussis Frequently Asked Questions



### Q: Can vaccines prevent pertussis?

A: Yes. Vaccines can prevent pertussis, or whooping cough. Before pertussis vaccines became widely available in the 1940s, about 200,000 children got sick with it each year in the United States and about 9,000 died as a result of the infection. Now we see about 10,000 to 40,000 cases reported each year and unfortunately up to 20 deaths.

CDC recommends pertussis vaccines for people of all ages. Babies and children should get 5 doses of DTaP for maximum protection. Healthcare professionals give a dose at 2, 4 and 6 months, at 15 through 18 months, and again at 4 through 6 years. They give a booster dose of Tdap to preteens at 11 or 12 years old.

Teens or adults who didn't get Tdap as a preteen should get one dose. Getting Tdap is especially important for pregnant women during the third trimester of *each* pregnancy. It's also important that those who care for babies are up-to-date with pertussis vaccination. You can get the Tdap booster dose no matter when you got your last regular tetanus and diphtheria booster shot (Td). Also, you need to get Tdap even if you got pertussis vaccines as a child or have been sick with pertussis in the past.

Learn more about [preventing pertussis](#).

### Q: Why is the



Whooping cough can be deadly for babies. Learn how to protect them through vaccination. [See this infographic.](#)

### focus on protecting babies from pertussis?

A: Babies are at greatest risk for getting pertussis and then having serious complications from it, including death. About half of babies younger than 1 year old who get pertussis need care in the hospital, and 1 out of 100 babies who get treatment in the hospital die.

There are two strategies to protect babies until they're old enough to receive vaccines and build their own immunity against this disease.

First, [vaccinate pregnant women with Tdap between 27 and 36 weeks of each pregnancy](#), preferably during the earlier part of this time period. By getting Tdap during pregnancy, mothers build antibodies that transfer to the newborn. These antibodies provide protection against pertussis in early life, before the baby can start getting DTaP vaccines at 2 months old. Tdap also helps protect mothers, making them less likely to spread pertussis to their babies.

Second, [make sure everyone around the baby is up to date with their pertussis vaccines](#). This includes parents, siblings, grandparents (including those 65 years and older), other family members, babysitters, etc. They should be up to date with the age-appropriate vaccine (DTaP or Tdap) at least two weeks before coming into close contact with the baby. Unless pregnant, only one dose of Tdap is recommended in a lifetime.

These two strategies should reduce infection in babies.

It's also critical that healthcare professionals are up to date with a one-time Tdap booster dose, especially those who care for babies.

Learn more about [complications in babies](#).

## Q: If I've had whooping cough, do I still need a pertussis booster?

A: Yes. Getting sick with pertussis or getting pertussis vaccines doesn't provide lifelong protection. This means you can still get pertussis and pass it onto others, including babies..

## Q: Do pertussis vaccines protect for a lifetime?

A: Pertussis vaccines are effective, but not perfect. They typically offer good levels of protection within the first 2 years after getting the vaccine, but then protection decreases over time. Public health experts call this 'waning immunity.' Similarly, natural infection may also only protect you for a few years.

In general, DTaP vaccines are 80% to 90% effective. Among kids who get all 5 doses of DTaP on schedule, effectiveness is very high within the year following the 5th dose – at least 9 out of 10 kids are fully protected. There is a modest decrease in effectiveness in each following year. About 7 out of 10 kids are fully protected 5 years after getting their last dose of DTaP and the other 3 out of 10 kids are partially protected – protecting against serious disease.

CDC's current estimate is that in the first year after getting vaccinated with Tdap, it protects about 7 out of 10 people who receive it. There is a decrease in effectiveness in each following year. About 3 or 4 out of 10 people are fully protected 4 years after getting Tdap.

Keeping up-to-date with recommended pertussis vaccines is the best way to protect you and your loved ones.

Learn more about [protection from vaccines and infection](#).

## Q: Do pertussis vaccines protect from serious disease?

A: If you get pertussis after getting pertussis vaccines, you are less likely to have a serious infection. Typically, your cough won't last as many days and coughing fits, whooping, and vomiting after coughing fits won't occur as often. When vaccinated children get pertussis, fewer have apnea (life-threatening pauses in breathing), cyanosis (blue/purplish skin coloration due to lack of oxygen), and vomiting.

Learn more about [pertussis symptoms](#).

## Q: Why are reported cases of pertussis increasing?

A: Since the early 1980s, there has been an overall trend of an increase in reported pertussis cases. Pertussis is naturally cyclic in nature, with peaks in disease every 3 to 5 years. But for the past few decades, peaks got higher and overall case counts went up. There are several reasons that could help explain why CDC is seeing more cases. These include:

- Increased awareness
- Improved diagnostic tests
- Better reporting
- More circulation of the bacteria
- Waning immunity

The bacteria that cause pertussis are also always changing at a genetic level. Research is underway to determine if any of the changes are having an impact on public health. However, the [latest studies](#) suggest that pertussis vaccines continue to be effective despite recent genetic changes.

When it comes to waning immunity, it seems that the acellular pertussis vaccines (DTaP and Tdap) used now may not protect for as long as the whole cell vaccine (DTP) doctors used to use. Throughout the 1990s, the United States switched from using DTP to using DTaP for babies and children. Whole cell pertussis vaccines are associated with higher rates of waning and temporary side effects such as fever and rash, and swelling at the injection site. Current recommendations advise

minor and temporary side effects such as fever and pain and swelling at the injection site. Serious neurologic adverse reactions, including chronic neurological problems, occurred rarely among children who had recently received whole cell vaccines. Studies have inconsistent results about whether the vaccine could cause chronic neurological problems. However, public concern in the United States and other countries led to a concerted effort to develop a vaccine with improved safety. Due to these concerns, along with the availability of a safe and effective acellular vaccine, the United States switched to acellular pertussis vaccines (DTaP).

Learn more about [DTaP waning immunity](#) [1 page] and [pertussis outbreaks](#).

## Q: I've heard about parents refusing to get their children vaccinated and travelers to the United States spreading disease; are they to blame for pertussis outbreaks?

A: Even though children who haven't received DTaP vaccines are at least 8 times more likely to get pertussis than children who received all 5 recommended doses of DTaP, they are not the driving force behind the large scale outbreaks or epidemics. However, their parents are putting them at greater risk of getting a serious pertussis infection and then possibly spreading it to other family or community members.

We often see people blaming pertussis outbreaks on people coming to the United States from other countries. This is not the case. The United States never eliminated pertussis like measles or polio, so there's always the chance for it to get into a community. Plus, every country vaccinates against pertussis.

Learn more about [pertussis in other countries](#).

## Q: Are most coughs pertussis and does everyone with pertussis "whoop"?

A: There are a lot of causes behind a person's cough and not every cough is pertussis. In general, pertussis starts off with cold-like symptoms and maybe a mild cough or fever. But after 1 to 2 weeks, severe coughing can begin. Unlike the common cold, pertussis can become a series of coughing fits that continues for weeks. The best way to know if you have pertussis is to see your doctor. Your doctor can make a diagnosis and prescribe antibiotics if needed.

The name "whooping cough" comes from the sound people make gasping for air after a pertussis coughing fit. However, not everyone with pertussis will cough and many who cough will not "whoop."

Teens and adults, especially those who did not get pertussis vaccines, may have a prolonged (lengthy) cough that keeps them up at night. Those who do get the coughing fits say it's the worst cough of their lives. And the cough may last for weeks or months. It can also cause major disruptions to daily life and complications like broken ribs and ruptured blood vessels.

Babies may not cough at all. Instead, they may have life-threatening pauses in breathing (apnea) or struggle to breathe. Any time someone is struggling to breathe, it is important to get them to a doctor right away.

Learn more about [pertussis symptoms](#).

## Q: Are pertussis bacteria changing and causing an increase in pertussis cases?

A: CDC is evaluating potential causes of increasing rates of pertussis, including changes in disease-causing bacteria types ("strains"). Unlike a foodborne illness where one strain causes an outbreak, multiple types or strains of pertussis bacteria can be found causing disease at any given time, including during outbreaks. Research is underway to determine if any of the recent genetic changes to pertussis bacteria may contribute to the increase in disease in the United States.

Learn more about [Pertactin-Negative Pertussis Strains](#).

## Q: How contagious is pertussis?

A: Pertussis spreads easily from person to person through coughing and sneezing. A person with pertussis can infect up to 12 to 15 other people. That's why being up to date with pertussis vaccines and practicing good [cough and sneeze etiquette](#) are so important.

Older siblings, parents, or caregivers who might not know they have the disease infect many babies who get pertussis. If pertussis is circulating in the community, there's a chance that even a fully vaccinated person of any age can catch this very contagious disease. But if you received pertussis vaccines, your infection is usually less serious.

If you or your child develops a cold that includes a very bad cough or a cough that lasts a long time, it may be pertussis. The best way to know is to contact your doctor.

Learn more about [pertussis transmission](#).

## Q: Doesn't herd immunity protect most people?

A: When enough of a population is immune to an infectious disease, through vaccination or prior illness, its spread from person to person is unlikely. Public health experts call this 'herd immunity' (or community immunity). Even people not vaccinated (such as newborns and those with chronic illnesses) typically have protection because the disease has little opportunity to spread within their community. Public health experts cannot rely on herd immunity to protect people from pertussis since:

- Pertussis spreads so easily
- Vaccine protection decreases over time
- Acellular pertussis vaccines may not prevent colonization (carrying the bacteria in your body without getting sick) or spread of the bacteria

Vaccines are the most effective tool doctors have to provide protection against pertussis. It's important that everyone get their recommended pertussis vaccines to protect themselves.

Learn more about [vaccine coverage](#).

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