

During 2010, outbreaks of pertussis (whooping cough) sickened thousands and led to the deaths of several infants less than 3 months of age. Teens and adults can protect themselves and help reduce transmission of pertussis by getting the Tdap vaccine.

Q. What is Tdap?

A. Tdap is a combination of three vaccines that protect against tetanus, diphtheria and pertussis (whooping cough).

Tetanus, also known as lockjaw, is caused by a bacterium found in the soil. Tetanus bacteria produce a toxin (poison) that causes painful muscle spasms. The tetanus vaccine is the only vaccine that prevents a disease that is not passed from person to person.

Diphtheria is also caused by a bacterium that produces a powerful toxin. The toxin can invade the heart, kidneys and nervous system. It usually causes a thick coating on the back of the throat that makes it difficult to swallow and breathe. Diphtheria is very contagious and is spread by coughing and sneezing.

Pertussis is also caused by a toxin-producing bacterium. These toxins primarily damage the lungs. People with pertussis usually have painful spasms of coughing. In some cases, the coughing can be so severe that people crack their ribs. Like diphtheria, pertussis is highly contagious and is spread by coughing and sneezing.

Q. Who should get Tdap?



A. Tdap is recommended for all teenagers beginning at 11 or 12 years of age.

Adults should receive a single dose of Tdap to replace their next tetanus booster.

Although the vaccine was originally recommended for adults less than 65 years old, the Centers for Disease Control and Prevention (CDC) extended their recommendations in

2010 to include older adults as pertussis outbreaks spread widely throughout the country and experience with the vaccine in this age group increased.

Q. Is the Tdap vaccine safe?

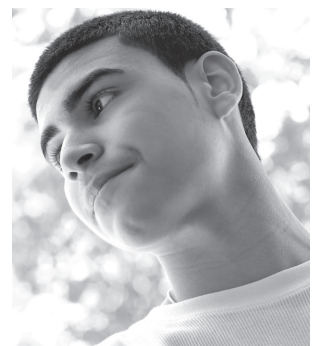
A. Yes. Most people experience pain at the site of injection, and some have swelling. Also, some people given Tdap develop headaches and fatigue. However, the vaccine does not cause any serious side effects.

Q. Does Tdap prevent pertussis?

A. Yes. In medical studies, Tdap was shown to decrease the incidence of pertussis by more than 90 percent.

Q. Can people get the Tdap vaccine if they recently had the Td vaccine?

A. Yes. A vaccine to prevent tetanus and diphtheria, called Td, is also available for teenagers and adults. Many people have already gotten this vaccine. Because Td doesn't protect against pertussis, Tdap is still recommended. Tdap should be given at least five years after receiving Td; however, if the risk of infection with pertussis is likely (for example, during pertussis outbreaks), this interval may be shortened.



Q. Can Tdap be given at the same time as other vaccines?

A. Yes.

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Tdap: What you should know

Q. Why is Tdap necessary for teenagers and adults?

A. Tdap is the first vaccine to protect teenagers and adults against pertussis. The history of pertussis vaccines in the United States is long and complicated.

In the 1920s, vaccines to protect against diphtheria, pertussis and tetanus became available. In the 1940s, these three vaccines were combined into a single shot (called DTP).

The pertussis component of the DTP vaccine was made by killing whole pertussis bacteria with the chemical formaldehyde. The pertussis part of DTP was called “whole-cell” pertussis because whole bacteria were used to make it. The vaccine was given to young children and dramatically reduced the incidence of hospitalizations and deaths caused by pertussis. However, the vaccine also rarely caused side effects that could be severe, such as seizures, high fever and persistent crying.

In the 1990s, a safer pertussis vaccine became available. This vaccine was made by purifying several pertussis proteins and inactivating them with formaldehyde. Because this new pertussis vaccine was purer and didn't contain whole bacteria, it was called the acellular pertussis vaccine (or aP). This new pertussis vaccine was combined with the diphtheria and tetanus vaccines in a combination called DTaP. The new DTaP vaccine caused fewer and less frequent side effects, so it replaced DTP and was recommended for all young children. Unfortunately, the DTaP vaccine couldn't be used in teenagers and adults because side effects from the vaccine (such as fever, headache, fatigue, and pain and swelling at the site of injection) were common in anyone 7 years of age or older.

Although the DTP and later DTaP vaccines prevented pertussis in young children, immunity to pertussis faded. As a consequence, the disease is still common in teenagers and adults. Every year, as many as 1 million teenagers and adults in the United States are infected with pertussis.

Researchers found that by reducing the quantities of diphtheria and pertussis proteins contained in the vaccine, teenagers and adults didn't experience the high rate of side effects found with DTaP. The designation “Tdap” reflects the fact that the vaccine contains a lower quantity of the diphtheria protein (hence the lowercase “d”) and lower quantities of pertussis proteins (hence the lowercase “p”) than DTaP.

This information is provided by the Vaccine Education Center at The Children's Hospital of Philadelphia. The Center is an educational resource for parents and healthcare professionals and is composed of scientists, physicians, mothers and fathers who are devoted to the study and prevention of infectious diseases. The Vaccine Education Center is funded by endowed chairs from The Children's Hospital of Philadelphia. The Center does not receive support from pharmaceutical companies.

Q. Is pertussis more serious in babies?

A. Yes. Because an infant's windpipe is much smaller than that of older children, babies are much more likely to die from pertussis. Babies typically catch the disease from teenagers and adults living in the same home. Approximately 15 to 20 babies in the United States die every year from pertussis. Almost all are younger than 4 months of age — too early to have been fully protected by the DTaP vaccine. The availability of Tdap allows teenagers and adults to be protected against the disease, thereby reducing the chance that babies will be infected with the bacterium.

Because young babies get sick from pertussis and because they are not fully protected until they have had several doses of DTaP vaccine, healthcare providers recommend that older children and adults around them be protected; this is known as cocooning. Teens and adults who will be around young infants should also get a dose of the Tdap vaccine. While dads, grandparents, caregivers and other extended family members can get this vaccine in anticipation of the baby's arrival, mom will need to wait until delivery. Mothers should request the Tdap vaccine for themselves before leaving the hospital with their newborns.



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