

DTaP Vaccine

Vaccine for Diphtheria, Tetanus, and Pertussis

You can protect your children from diphtheria, tetanus and pertussis by getting them immunized with DTaP vaccine. DTaP is actually three vaccines - Diphtheria, Tetanus, and Pertussis - combined into one shot.

DTaP is an updated version of DTP vaccine. The "a" stands for "acellular" pertussis, which means that only part of the pertussis bacteria is used in the vaccine. The older DTP vaccine is rarely used in the U.S.

A child needs five DTaP shots for maximum protection. The first three shots should be given at 2, 4, and 6 months of age. The fourth (booster) shot is given between 15 and 18 months, and a fifth shot - another booster - is given when the child is about to enter school, at 4-6 years of age. When DTaP vaccine is given according to this schedule it protects most children from all three diseases. If a child does get one of the diseases in spite of the vaccine, it will probably be milder than it would have been otherwise.

Side Effects from DTaP Immunization

Up to one third of children who get DTaP have local reactions (tenderness, pain, redness, swelling) where the shot was given. These reactions are more likely after the fourth and fifth doses of DTaP than after the earlier doses, and may also be more pronounced. When they do occur, it is usually within two days after the shot. Some children also experience swelling of the entire leg or arm after the fourth or fifth DTaP dose. This happens within 3 days of the vaccination and usually lasts around 4 days, with no after-effects.

Fever is another fairly common reaction. Up to about 1 child out of 20 will get a fever of over 101°F; more often after the fourth or fifth dose. Up to 1 out of 5 children will be fussy or lose their appetite for a day or two after the shot, and nearly half may be drowsy afterward.

Occasionally, a child will have a more serious side effect. About one child in 3,000 will get a fever of 104°F or more. Rarely a child may cry continuously for 3 hours or more after getting the shot (in various studies this has happened with anywhere from about 1 child in 8,000 to about 1 child in 900). About once in 14,000 injections, a child may have convulsions or become limp or pale for a short while.

Convulsions that occur after a DTaP shot are usually not caused directly by the vaccine but by a fever, which in turn was triggered by the vaccine. These are called "febrile seizures" and, while they might be alarming when they occur, children recover from them quickly and they do not cause permanent harm. Some experts recommend giving a non-aspirin pain reliever (Tylenol® or other acetaminophen products) to reduce the chances of a fever, which should also make febrile seizures less likely. These pain relievers can be given at the same time as the shot and then every 4-6 hours over the next 24 hours.

The older DTP vaccine was sometimes accused of being "unsafe" - mainly because of the pertussis component. While DTP vaccine was associated with more reactions than many other vaccines, the small risk was still far outweighed by its benefits. It is DTP that has been largely responsible for bringing diphtheria, tetanus and pertussis under control in the United States and around the world. Reactions are much less likely with DTaP vaccine.

Serious reactions to either DTP or DTaP have been very rare. Over the years several cases of permanent brain damage were reported following DTP vaccination. But whether these were true vaccine reactions or merely coincidence is impossible to say, because they occurred so infrequently. Some people used to believe that DTP or DTaP shots could cause Sudden Infant Death Syndrome (SIDS), but studies have not shown a connection. Most experts - including the SIDS Alliance - agree that vaccinations do not cause SIDS. No deaths are known to have ever been caused by DTP or DTaP vaccine.

Precautions

A child who has had convulsions or other nervous system problems in the past is slightly more likely than other children to have a serious reaction after DTaP, although the risk is still very small.

There are several reasons a doctor might want to delay giving a child a DTaP vaccination or not give it at all:

- A child who had a severe (life-threatening) **allergic reaction** after a dose of DTaP vaccine should not get another dose.
- A child who had **encephalopathy** (brain illness) within 7 days after a dose of DTaP should not get another dose of pertussis-containing vaccine (see information on DT vaccine, below).

- A child who had a **temperature of 105°F** within 48 hours after a dose of DTaP should probably not get another dose of pertussis-containing vaccine.
- A child who **collapses** or goes into a "shock-like" state within 48 hours after a dose of DTaP should probably not get another dose of pertussis-containing vaccine.
- A child who **cries continuously** for 3 or more hours within 48 hours after a dose of DTaP should probably not get another dose of pertussis-containing vaccine.
- A child who has **convulsions** within 3 days after a dose of DTaP should probably not get another dose of pertussis-containing vaccine.
- A child who has a **moderate or severe illness** on the day a DTaP (or any) vaccination is scheduled should probably delay the vaccination until he or she has recovered.

NOTE: Children who should not get a pertussis-containing vaccine can get DT (diphtheria/tetanus) vaccine instead of DTaP - see *Similar Vaccines*, below. Your doctor or nurse can give you more details.

After Getting DTaP Vaccine . . .

If your child has **any** serious or unusual problem after getting DTaP or any other vaccine, call a doctor or get the child to a doctor right away.

Similar Vaccines

There are two other related vaccines you should know about. The first is called **Td**. Td is a vaccine for children 7 years old and over, and for adults. It does not contain pertussis vaccine, and has less diphtheria toxoid than DTaP. Immunity to diphtheria and tetanus starts to fade over time, and a "booster" shot of Td every 10 years keeps you protected. The first dose of Td is recommended at 11-12 or 14-16 years of age, with another dose every 10 years after that.

The second vaccine is called **DT**. DT contains diphtheria and tetanus toxoids but no pertussis vaccine. It is given to children under 7 years old who should not get pertussis vaccine. Usually these are children who have had certain reactions after a previous DTaP shot. Side effects from DT or Td vaccines are not common. If they occur at all, they usually consist of soreness where the shot was given and a slight fever.