Vaccine Side Effects

While vaccines are very safe, like any medicine they do sometimes cause reactions. Mostly, these are mild "local" reactions (soreness or redness where the shot is given) or a low-grade fever. They may last a day or two and then go away. Sometimes more serious reactions are associated with vaccines. These are much less common. Some of them are clearly caused by the vaccine; some have been reported after vaccination but are so rare that it is impossible to tell if they were caused by the vaccine or would have happened anyway. We will mention any side effects specifically associated with each vaccine in the descriptions below.

Some children also have allergies, and occasionally a child will have a severe allergy to a substance that is component of a vaccine. There is a very small risk (estimated at around one in a million) that any vaccine could trigger a severe reaction in a child who has such an allergy. Should one of these allergic reactions occur, it would happen within several minutes to several hours after the vaccination, and would be characterized by hives, difficulty breathing, paleness, weakness, hoarseness or wheezing, a rapid heart beat, and dizziness. Doctors' offices are equipped to deal with these reactions. Always tell your provider if your child has any known allergies.

Vaccine Precautions

A child who has had a severe (life-threatening) **allergic reaction** to a previous dose of any vaccine should not get another dose of that vaccine. A child with a known severe (life-threatening) **allergy** to any vaccine component should not get a vaccine containing that component.

If a child has any **moderate or severe illness** on the day any vaccine is scheduled, it should probably be delayed until the child has recovered. A mild illness or fever is usually not a reason to delay an immunization.

We will mention any additional precautions for each vaccine in the following descriptions.

6. MMR Vaccine

MMR combines vaccines for **M**easles, **M**umps and **R**ubella into one shot. MMR has been around since 1971, although its three components were licensed separately during the 1960s. It is a live vaccine, containing measles, mumps and rubella viruses that have been "attenuated" (weakened), so they won't cause disease. Most children who get the vaccine develop immunity to all three diseases (over 99% for measles and 95% for mumps and rubella). Protection is believed to be life-long.

Two doses of vaccine are recommended, with the first dose given at 12–15 months of age. The second dose may be given 4 weeks after the first, but it is usually given at 4–6 years. No boosters are needed.

Measles, mumps and rubella vaccines may be given separately, although these individual vaccines are not always readily available. Doctors usually prefer not to give the vaccines this way because it means giving a child 3 shots instead of one.

MMR Vaccine Side Effects

Some children (about 1 in 5) get a mild rash or fever after MMR vaccine. These reactions begin a week or two after the vaccination and usually last for 1–3 days. About 1 child in 7 may get swollen lymph glands, and 1 child in 100 may have pain or stiffness in the joints that can last from a few days to a few weeks. There is a smaller risk of painful **swelling of the joints** (arthritis). These joint symptoms occur more often in adults, especially women.

Febrile seizures (seizures caused by a fever) have occasionally been reported after MMR vaccination. These usually happen 1 or 2 weeks after the shot and are caused by the fever than can accompany the vaccination rather than by the vaccine itself. Children recover from febrile seizures quickly and they do not cause permanent harm.

There have been reports of children getting **encephalitis** (inflammation of the brain) after an MMR shot. This happens so rarely — less than once in a million shots — that experts can't be sure whether the vaccine is the cause or not. Remember, though, that if the same million children were infected with measles, about 1,000 of them would get encephalitis.

MMR Vaccine Precautions

In addition to the normal precautions for all vaccines, shown on page 30, children who are known to have a **severe allergy to gelatin** or the **antibiotic neomycin** should not get MMR. A child who has a **suppressed immune system**, either because of a disease such as cancer or HIV infection or a medication such as steroids, should be evaluated by a doctor before getting MMR. A child who has recently gotten a **transfusion or other blood product** might have to wait up to several months before getting MMR.

Two live vaccines (for example, MMR and varicella) may be given on the same day or separated by at least 4 weeks. But they should not be given less than 4 weeks apart, because they might interfere with each other. MMR and inactivated (killed) vaccines may be given together, or at any time in relation to each other.
Children who have gotten MMR vaccine can not infect people they come in contact with.

Combination Vaccines

Several vaccines are sometimes combined into a single shot. These are called combination vaccines. Some combination vaccines are used routinely — DTaP is a combination; so is MMR. There are currently four other combination vaccines available for children. One combines DTaP and Hib vaccines; the second Hib and hepatitis B; the third combines DTaP, hepatitis B, and polio, and the fourth combines measles, mumps, rubella and varicella. The advantage of combination vaccines is, of course, that your children get the protection of all the component vaccines while getting fewer injections.

Each of these vaccines has certain restrictions, and not all providers carry them. But ask your provider about them if you are interested in reducing the number of shots your child must get for complete vaccine coverage.