

POSTSCRIPT

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## Measles Q&A: Pediatrician fields common queries

Responding to the state outbreak, Beth Ebel discusses the vaccinations, dosages, herd immunity, age requirements, and more.



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Nine out of 10 unvaccinated people who are exposed to measles will develop the disease.

**Is it true that vaccinations increase antibodies and provide herd immunity?**

Vaccinations work by training the body's immune system and increasing protective antibodies. Vaccines teach the immune system how to recognize an infection. For example, a child develops protective antibodies after the measles vaccine. If a measles outbreak occurs in the future, the body has already developed antibodies and fighting cells which are prepared to protect us against the measles virus.

"Herd" immunity means that most people in a community are vaccinated against a disease. When most people are vaccinated, an infection can't pass readily from one person to the next. For a highly contagious infection like measles, communities need to reach around 95 percent vaccination rates in order to reduce the risk of measles transmission.

### **Why are two or more doses needed for some vaccines?**

Parents and families should follow the recommended vaccine schedule for each vaccine. The recommended vaccine schedule is designed to protect young children, who are at greatest risk, as early as possible. Repeat vaccines are needed when immunity wanes. For example, the measles vaccine is safe and wonderfully effective. Children should get their first measles vaccine at 1 year of age, which provides 93 percent protection from disease. When a child is old enough for the second shot, protection rates reach 97 percent. For most people, two measles vaccinations will protect them for a lifetime.

For children who are too young to get their first vaccine, parents can protect them by making sure that everyone in the family has been vaccinated. We also recommend asking relatives and child care providers if they are fully vaccinated.

### **How old should a child be for the second measles vaccine?**

Children typically receive the second measles vaccine between 4 and 6 years of age.

### **Can someone develop immunity to a disease such as measles without vaccination?**

Our immune system is a marvelous "fighting force" to fight infections and protect us from future infections. The immune system learns to recognize and destroy "antigens," which are identifiable pieces of a virus or bacteria. Immunity occurs when your immune system has been trained how to recognize and fight a particular infection.

There are three ways to develop immunity. First, we may develop immunity when we develop an infection. For example, a person who had measles as a child is now

immune to measles. The drawback is that some people can get very sick from these infections, which can cause serious illness and can even be fatal.

Second, we can develop immunity when we get a vaccine, which introduces a safe and small amount of an “antigen” so that the body’s immune system can safely train itself to recognize and fight a future infection. Approved vaccines are remarkably safe and effective. They provide protection without the risk of getting the actual infection.

Third, moms pass some maternal immunity to their newborn babies through the womb and through breastfeeding. But that protection wanes quickly for babies, who are the most vulnerable to infection. That’s why your child’s pediatrician or doctor provides vaccinations starting in infancy.

### **Is there any risk that the MMR vaccine might cause autism?**

No. There is absolutely no increased risk of autism from the MMR vaccine. And remember that 9 out of 10 unvaccinated people who are exposed to measles will develop the disease.

This unfounded concern has been rigorously studied. There is a good summary of the information from the CDC: <https://www.cdc.gov/vaccinesafety/concerns/autism.html> . The scientist whose work suggesting a connection had falsified his data, and the journal which published his work retracted the study as false.

### **What if a child is too young to be vaccinated?**

I’ve heard from many worried parents of young babies who are not yet old enough to get the measles vaccine themselves. The best way to protect an infant under 1 year of age is to make sure everyone around her has been vaccinated. Have a conversation with child care providers, relatives and visiting children to ensure that they are fully vaccinated. You may consider avoiding some settings where many kids gather indoors until the measles outbreak is over.

### **Is it too late to get the measles vaccine?**

You can protect your child right now. Call your child’s doctor and schedule a shots-only visit. I’ve also heard from many parents who had previously put off getting the measles vaccine, but are now rushing in to get their kids vaccinated. Our state has ample supply of the measles vaccine and your child will start to benefit from the vaccine protection within one week of getting the shot.