Measles

"106 Degrees": A True Story

If you hear "106 degrees" you probably think "heat wave," not a baby's temperature. But for Megan Campbell's 10-month-old son, a life-threatening bout of measles caused fevers spiking to 106 degrees and sent him to the hospital.

"After picking our son up at child care because he had a fever," Megan said. "We went straight to our pediatrician who said our baby had a virus. Two days later, his fever hit 104 degrees and a rash appeared on his head."

The rash quickly crept down to his arms and chest. Megan and husband Chris turned to the Internet. Finding pictures of measles that looked like their son's rash, they rushed him to the local children's hospital.

"No one there had seen or tested for measles for about 17 years," says Megan said. "And no one expected it in the year 2008 in the United States. The next day, an infectious disease specialist confirmed measles.

"We spent 3 days in the hospital fearing we might lose our baby boy. He couldn't drink or eat, so he was on an IV, and for a while he seemed to be wasting away. When he began to be able to drink again we got to take him home. But the doctors told us to expect the disease to continue to run its course, including high fever, —which did spike as high as 106 degrees. We spent a week waking at all hours to stay on schedule with fever reducing medications and soothing him with damp wash cloths. Also, as instructed, we watched closely for signs of lethargy or non-responsiveness. If we'd seen that, we'd have gone back to the hospital immediately."

Thankfully, the baby recovered fully.

Megan now knows that her son was exposed to measles during his 10-month check-up, when another mother brought her ill son into the pediatrician's waiting room. An investigation found that the boy and his siblings had gotten measles overseas and brought it back to the United States. They had not been vaccinated.

"People who choose not to vaccinate their children actually make a choice for other children and put them at risk," Megan explained. "At 10 months, my son was too young to get the measles, mumps, rubella (MMR) vaccine. But when he was 12 months old, we got him the vaccine, —even though he wasn't susceptible to measles anymore. This way, he won't suffer from mumps or rubella, or spread them to anyone else."

Measles Symptoms

Measles begins with an increasing fever, then coughing, runny nose, redness of the eyes, and finally, a rash breaks out. The rash usually starts on the head and then spreads to the rest of the body. Fever can persist, reaching extremely high temperatures, rash can last for up to a week, and coughing can last about 10 days.

Measles Is Serious

Measles ranges from a pretty uncomfortable disease to a very serious one. For example, for every 1,000 children who get measles in a developed country like the United States, 1 to 3 of them die, despite the best treatment. Even recently, from 2001 through 2010, an average of 1 out of every 4 people in the United States who got measles had to be hospitalized. Many of these serious cases were among children.

People Exposed to Measles Who Have Not Been Vaccinated Almost Always Get Measles

Measles is one of the most contagious diseases known. It is a virus that mainly spreads by direct contact with airborne respiratory droplets. For example, if someone who is contagious coughs or sneezes near someone who is susceptible, the susceptible person is very likely to get measles. You can catch measles just by being in a room where a person with measles has been—even if the person is gone!

Vaccination Has Made Measles Rare in United States, but Not Worldwide

Thanks to wide-spread use of a safe and effective vaccine, the number of reported measles cases in the United States is now, on average, less than 100 a year. But worldwide, measles still causes 164,000 deaths each year. There is no drug to cure measles. "It's critical to remember the global picture for any vaccine-preventable disease," said the World Health Organization's Dr. Peter Strebel. "More than ever, we live in a global society where travel is common. And even if you and

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your family don't travel, you can come into contact with travelers anywhere in your community, from the grocery store to a sporting event."

Measles, Mumps, and Rubella Vaccine

The measles, mumps, and rubella vaccine (MMR) is the best way to protect against getting measles. The risk of MMR vaccine causing a serious side effect is rare. Getting MMR vaccine is much safer than getting measles. In the United States, the first dose of MMR vaccine is recommended at age 12 months through 15 months old. The vaccine is less effective if it is given earlier than age 12 months, because the antibodies that babies may receive from their mothers may interfere with the process of making new antibodies after getting the vaccine. A second dose is recommended at age 4 through 6 years. Anyone born during or after 1957 who has not had measles or been vaccinated is at risk and should get at least one dose of MMR vaccine.

All Reputable Studies Have Found No Link Between MMR Vaccine and Autism

Some parents of children with autism believe the condition is linked to vaccination because their child's diagnosis of autism came after their child got MMR vaccine. According to Dr. Anne Schuchat, the director of the immunization program at the Centers for Disease Control and Prevention (CDC), "As you think about risks and benefits of the MMR vaccine for your child, you should know that the possibility of a link between MMR vaccine and autism has been studied since 1998—beginning immediately when the concern first came up." Dr. Schuchat added that "Large studies of children done in the United States, the United Kingdom, and Denmark found no link between MMR vaccine and autism. CDC and its partners support continued research to find the causes of autism. I encourage parents who are concerned about autism to visit CDC's 'Learn the Signs, Act Early' website at http://www.cdc.gov/ncbddd/autism/actearly/ to find out more about child development. Most importantly, parents who have questions about the MMR vaccine should talk to their child's doctor."

Benefits of MMR Vaccine

In addition to protecting from mumps and rubella, getting MMR vaccine as recommended to protect against measles—

- Saves lives.
- Prevents hospitalizations.
- Protects young children, for whom the disease can be especially serious.
- Keeps others safe. For example, following the recommended vaccination schedule, babies younger than 1 year old are not vaccinated, so they need the protection that comes from those around them being vaccinated. All babies are at increased risk for complications if they get measles.

Risks of MMR Vaccine

- Mild side effects are fever, mild rash, and, rarely, swelling of the glands in the cheeks or neck.
- Moderate side effects are rare. For example, about 1 out of 3,000 vaccinated children gets a fever that is high enough to cause a seizure. About 1 out of 30,000 could develop a temporary low platelet count, which could cause bruising.
- Severe side effects are very rare. For example, fewer than one in 1 million children have a serious allergic reaction.

Measles Vaccine Saves Lives

According to Dr. Michael Brady, Chair of the Committee on Infectious Diseases, American Academy of Pediatrics, "It's true that most people in the United States who get measles recover totally—most but definitely not all. By the late 1950s, even before the vaccine was developed, improved health care and nutrition had reduced the risk of measles. But getting measles is always risky; measles can result in hospitalization, life-long disability, and death."

Measles vaccine was developed in the United States in the 1960s. Right before the vaccine came out, there were about 3 to 4 million measles cases every year. About 48,000 people, most of them children, were hospitalized each year with complications such as encephalitis (brain swelling) or severe respiratory illness, and there were 400 to 500 deaths from complications. Most cases were in school-age children. Measles was, and remains, most risky for children younger than 5 years of age.

Measles Today

In 2011, the number of people with measles in the United States was higher than usual. "There were 220 people reported to have measles. That's more than any year since 1996," said Dr. Greg Wallace of the CDC. Measles sent 70 of these people to the hospital. People who had measles spread the disease to others. This caused 16 different measles outbreaks in U.S. communities in 2011.

Why are there so many people with measles? According to CDC's Dr. Jane Seward, a long-time leader in CDC's group that monitors vaccine-preventable viral diseases, "Measles spreads easily among unvaccinated people. In 2011, 86% of the people reported to have measles in the United States had not been vaccinated or did not know if they had been vaccinated."

In 2000, experts concluded that year-round circulation of measles virus had been interrupted in the United States because of our high immunity due to vaccination.

So where do measles cases come from? According to Dr. Wallace, "Measles is still common in other parts of the world, including countries in Europe, Asia, the Pacific, and Africa. These days, measles is brought into the United States by people who got infected while they were in other countries. Some people may not even realize they are at risk even when they travel to highly-industrialized countries, like France, England, and Italy. But, these countries do have measles and travelers who get measles can return and infect others in their communities. Communities with many unvaccinated people put themselves and others at risk."

Because of the risk of getting measles in another country, CDC recommends that babies ages 6 to 11 months who are traveling internationally receive one dose of MMR vaccine before their trip. These infants will still need 2 more doses of the vaccine later for best protection (one dose at 12 through 15 months and another dose at least 28 days later).

"The best thing we can all do," says Dr. Seward, "is to be vigilant about on-time vaccination for children and those adults who need vaccination, so measles cannot spread from person to person."

Selected References

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The Centers for Disease Control and Prevention, the American Academy of Family Physicians, and the American Academy of Pediatrics strongly recommend vaccines.

800-CDC-INFO *(800-232-4636)* **http://www.cdc.gov/vaccines**