

## MEASLES VACCINATION

# Myths and Facts

Measles is a highly contagious viral infection that frequently causes a severe flu-like illness accompanied by a rash. Complications occur in 3 in 10 who get measles and young children are especially vulnerable.<sup>1</sup> Ear infections and diarrhea are most common, but 1 in 20 will get pneumonia; 1 in 1,000 will have brain swelling that can cause deafness and intellectual disability; and 1 or 2 in 1,000 will die.<sup>1</sup> Before the vaccine was available in 1963, nearly every child got measles by age 15.<sup>2</sup> The disease sickened 3 to 4 million people and led to about 500 deaths and 48,000 hospitalizations every year.<sup>2</sup>

The growth of anti-vaccine propaganda is threatening our protection against this frightening illness, leading to local outbreaks of measles coast to coast. Outbreaks related to vaccine hesitancy are in fact occurring worldwide, leading the World Health Organization (WHO) to name vaccine hesitancy as one of the top 10 threats to global health.<sup>3</sup>

**The Infectious Diseases Society of America** (IDSA) is committed to helping parents understand that the vaccine that prevents measles, mumps and rubella, or MMR, is safe and effective and vital to public health. (The MMR vaccine typically is given to children in two doses, one between 12 and 15 months old and the second between 4 and 6 years old.) To help you feel confident about vaccinating your child, the IDSA explains why the following myths are false:

### MYTH

The measles, mumps and rubella (MMR) vaccine causes autism.

### FACT

There is no evidence that MMR causes autism, but a great deal of evidence that shows it **does not** cause autism. Many studies have found there is no connection between the two, including recent research that tracked more than 650,000 Danish children and found the MMR vaccine “does not increase the risk for autism, does not trigger autism in susceptible children, and is not associated with clustering of autism cases after vaccination.”<sup>4</sup>

### MYTH

The spread of measles can be controlled with proper sanitation.

### FACT

While better sanitation (clean water, for example) has decreased the rates of diseases spread through food or water (such as cholera and typhoid), it has a minimal effect on measles, which is spread person to person and through the air.<sup>7,8</sup>

### MYTH

There is no measles outbreak.

### FACT

An outbreak is defined as three or more cases in a community. There have been seven regional or local measles outbreaks so far in 2019 (and 555 cases of measles total through April 11) and there were 17 outbreaks in 2018 (and 372 measles cases total).<sup>5</sup> That means we’ve experienced more measles cases in the first four months of this year than all of last year. While it’s true that there is no nationwide measles outbreak, that’s because more than 90 percent of Americans are vaccinated, which decreases the likelihood of measles spreading among those who aren’t vaccinated. This is called herd immunity, and it’s important. It provides protection for people who can’t get the vaccine, such as infants who aren’t old enough and people with a weakened immune system, for example if they have HIV/AIDS or cancer. When local vaccination rates are lower than needed for herd immunity, those areas can experience outbreaks if measles is introduced to the community, most often when someone gets measles in a country where the disease is more common and travels to the United States. That’s what we’ve been seeing in recent years. And considering measles is highly contagious, these outbreaks spell trouble. In fact, up to 9 out of 10 people who aren’t immune and are exposed will get it, making it much more contagious than the flu.<sup>6</sup>

## MYTH

The MMR vaccine does not prevent serious illness and death – the number of measles deaths dropped long before the vaccine was introduced and it is no longer deadly.

## FACT

The measles vaccine prevents thousands of deaths each year worldwide. The number of measles deaths began decreasing before the vaccine was introduced thanks to advances in health care that improved treatment after people got sick (such as treating pneumonia that occurred because of measles infection).

But serious illness and death from measles still happened regularly.<sup>9</sup> In fact, in the 10 years before the vaccine was available in 1963, about 500 U.S. measles-related deaths were reported to the CDC every year.<sup>2</sup> Since the vaccine, U.S. measles-related deaths have been increasingly rare – because the vaccine has prevented people from getting measles in the first place. The most recent U. S. death occurred in 2015.<sup>10</sup> Worldwide, there was an 84 percent decrease in measles deaths between 2000 and 2016 as the vaccine became more widely available – meaning more than 20 million deaths were prevented.<sup>11</sup>

Other than death, measles causes serious illness and leads to hospitalization for 1 in 4 who become sick.<sup>12</sup> That's why it's important to look at the reduction in measles illness overall, which plummeted after the vaccine was introduced – from about 600,000 reported cases yearly in the mid-1950s (most weren't reported, so the actual number is likely much higher) to 63 reported cases in 2010.<sup>5,13</sup> Recently those numbers have been increasing due to local outbreaks.<sup>5</sup>

## MYTH

The measles vaccine can be deadly.

## FACT

There have been no deaths shown to be related to the vaccine in healthy people. There have been rare cases of deaths from vaccine side effects among children who are immune compromised, which is why it is recommended that they don't get the vaccine.<sup>14</sup> That's why it is so important that everyone who can get vaccinated does so, to protect those who can't. There are possible side effects from the vaccine, including sore arm (from the shot), fever, mild rash, temporary pain/stiffness in the joints, and a very small risk of febrile seizures or allergic reaction.<sup>15</sup> Vaccines undergo a scientifically rigorous research and vetting process before they are approved. Getting the vaccine is much safer than getting measles.<sup>15</sup>

## MYTH

The MMR vaccine can cause the measles.

## FACT

The vaccine does not cause measles. While the vaccine is made from a live virus, it is weakened so that it doesn't cause the disease, but rather causes your immune system to recognize the virus and develop immunity to it.<sup>16</sup> Because their immune system is working hard after vaccination, some children who get the vaccine can have mild symptoms such as a fever or rash, but it's not measles, just the body building immunity to the measles virus so that they don't get sick if they're ever exposed.

For more information, visit [idsociety.org/measles](https://idsociety.org/measles)



## References

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