

# Mumps

## Mumps Symptoms

Mumps is an infectious disease caused by a virus. The most common symptom is painful swelling of the salivary glands, located between the ear and jaw. Along with swollen glands, people with mumps often have fever, muscle aches, tiredness, abdominal pain, and loss of appetite. About 1 out of 3 people with mumps may have no symptoms, or symptoms may be very mild. Symptoms usually appear about 16 to 18 days after being exposed to someone who was contagious.

## Complications from Mumps

Serious complications from mumps are rare. Complications can depend on how old people are when they get mumps. It is possible for a vaccinated person to get mumps, but if this happens, serious complications are less likely.

In young children, mumps can cause permanent deafness in about 1 out of 20,000 infected children. Mumps related encephalitis (swelling of the brain) occurs in about 2 out of 100,000 infected children.

Male and female teens and adults have different complications than children. Up to 4 out of 10 adolescent and adult males infected with mumps may have swelling of the testicles, which rarely results in decreased fertility. About 1 out of 20 women who get mumps may have swelling of the ovaries, but this does not affect fertility.

Mumps can be the most severe in adulthood, causing complications such as meningitis (infection of the covering around the brain and spinal cord). About 15 out of 100 adults with mumps develop meningitis. This can include headache and stiff neck, but most infected adults get well within 3 to 10 days. Pancreatitis, swelling of the pancreas (an organ with many functions including helping to digest food), is usually mild and can occur in 5 out of 100 adults with mumps. Mumps infection during the early months of pregnancy has been linked to miscarriage. Death from mumps is rare, but when it happens, it occurs most often in adults.

## How Mumps Spreads

Like the common cold or flu, the mumps virus spreads in the air from an infected person's cough or sneeze. A child also can get infected with mumps by coming in contact with an object, like a toy, that has mumps virus on it. An infected person is most likely to spread mumps 1 to 2 days before symptoms of swollen glands appear. Infected people can spread mumps for up to 5 days after symptoms appear.

## Measles, Mumps, and Rubella Vaccine

The measles, mumps, and rubella vaccine (MMR) is the best way to protect against getting mumps, as well as measles and rubella.

Experts have learned from recent outbreaks that despite having received the MMR vaccine, people can still get infected with mumps. During these outbreaks, spread of mumps usually happened in very crowded conditions, such as in schools. It appears that people who get mumps vaccine and later get mumps are less likely to have serious complications than unvaccinated people.

The risk of MMR vaccine causing a serious side effect is rare. Getting MMR vaccine is safer than getting mumps. In the United States, the first dose of MMR vaccine is recommended at age 12 through 15 months old in order to protect children as early as possible. A second dose is recommended at age 4 through 6 years.

"Thanks to widespread use of two doses of the MMR vaccine, the number of mumps cases in the United States is significantly lower than we saw in the years before mumps vaccine was available—even taking into account the recent outbreaks," said Dr. Doug Campos-Outcalt of the American Academy of Family Physicians. "The vaccine is very safe and provides important protection against disease and serious complications, so we must continue to be vigilant, and that means making sure that all children receive both recommended doses of MMR vaccine—on time." ►



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# 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, director of the immunization program at the Centers for Disease Control and Prevention (CDC), "As you sort out 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' web site at [www.cdc.gov/autism/actearly](http://www.cdc.gov/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."

## Recent Mumps Outbreak in the United States

Starting in the early 1990s, when a second dose of MMR vaccine was recommended for all children in the United States, mumps fell to historically low rates. Using two doses of the mumps vaccine lowered the number of cases to a few hundred each year. Before a mumps vaccine was available in the United States, tens of thousands of mumps cases occurred, almost all among children 5 through 14 years old.

### Benefits of MMR Vaccine

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

- Saves lives.
- Prevents hospitalizations.
- Reduces the spread of mumps, including during outbreaks.
- Reduces the risk of serious complications from mumps, especially later in life when the disease can cause the most serious complications.

### 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.

However, beginning in 2006, a few large outbreaks of mumps have occurred in the United States. Outbreaks in this country start when people who have traveled internationally come into the United States infected with the virus, which is much more common in many other countries.

These outbreaks happen in settings like schools, where many people share close quarters. As with any virus or bacteria, it is easier for mumps to spread in such settings.

This was the case in 2006 in an outbreak that happened among college students in Midwestern states. More than 6,500 people got mumps.

From 2009 through 2010, another outbreak occurred, this time in the Northeast involving more than 3,500 people, most of them male students. This outbreak involved younger children, mostly in grades 6 through 12. After some boys got mumps at a summer camp, the disease continued to circulate in their close-knit community. When school started, mumps quickly spread in the all-boys school. Conditions at the school were unique, including study halls with a great deal of student interaction. It also was recognized that some people got mumps in both the Midwest and the Northeast outbreaks despite the fact they had received one or two doses of mumps vaccine.

"There are several very important things to understand about the recent mumps outbreaks," explained CDC's Dr. Greg Wallace. "First, although many of the people who got mumps had received two doses of the MMR vaccine, the outbreaks were much smaller than they could have been if people were not vaccinated. Only about 6 out of 100 vaccinated people got mumps in the 2006 college outbreak. Without vaccination, we would expect to see many more cases—and this would increase the chances of seeing serious complications too. CDC continues to do research to improve our understanding of why mumps outbreaks happen and how we can prevent them,"

If people get two doses of mumps vaccine, most of them are not likely to get mumps, even in an outbreak.

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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.*

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**<http://www.cdc.gov/vaccines>**