

# Measles, Mumps, and Rubella (MMR) Vaccination: What Everyone Should Know

CDC recommends that people get MMR vaccine to protect against measles, mumps, and rubella. Children should get two doses of MMR vaccine, starting with the first dose at 12 to 15 months of age, and the second dose at 4 through 6 years of age. Teens and adults should also be up to date on their MMR vaccination. Children may also get [MMRV vaccine](#), which protects against measles, mumps, rubella, and varicella (chickenpox). This vaccine is only licensed for use in children who are 12 months through 12 years of age.

## Who Should Get MMR Vaccine?

### Children

CDC recommends all children get two doses of MMR (measles-mumps-rubella) vaccine, starting with the first dose at 12 through 15 months of age, and the second dose at 4 through 6 years of age. Children can receive the second dose earlier as long as it is at least 28 days after the first dose.

MMR vaccine is given later than some other childhood vaccines because antibodies transferred from the mother to the baby can provide some protection from disease and make the MMR vaccine less effective until about 1 year of age.

Learn about [MMRV vaccine](#), which protects against measles, mumps, rubella, and varicella (chickenpox). This vaccine is only licensed for use in children who are 12 months through 12 years of age.

### Students at post-high school educational institutions

Students at post-high school educational institutions who do not have presumptive [evidence of immunity](#) need two doses of MMR vaccine, separated by at least 28 days.

### Adults

Adults who do not have presumptive [evidence of immunity](#) should get at least one dose of MMR vaccine.

Certain adults may need 2 doses. Adults who are going to be in a setting that poses a high risk for measles or mumps transmission should make sure they have had two doses separated by at least 28 days. These adults include

- students at post-high school education institutions
- healthcare personnel
- international travelers
- people who public health authorities determine are at increased risk during an outbreak

## International travelers

People 6 months of age and older who will be traveling internationally should be protected against measles. Before any international travel—

- Infants 6 through 11 months of age should receive one dose of MMR vaccine. Infants who get one dose of MMR vaccine before their first birthday should get two more doses (one dose at 12 through 15 months of age and another dose separated by at least 28 days).
- Children 12 months of age and older should receive two doses of MMR vaccine, separated by at least 28 days.
- Teenagers and adults who do not have presumptive [evidence of immunity](#) against measles should get two doses of MMR vaccine separated by at least 28 days.

See also, Travel Information ([Measles](#) | [Mumps](#) | [Rubella](#))

## Healthcare personnel

Healthcare personnel should have documented presumptive [evidence of immunity](#), according to the [recommendations of the Advisory Committee on Immunization Practices pdf icon\[48 pages\]](#). Healthcare personnel without evidence of immunity should get two doses of MMR vaccine, separated by at least 28 days.

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### **Planning a trip outside the U.S.?**

[Find out if you need measles vaccine](#)

### **Women of Childbearing Age**

Women of childbearing age should check with their doctor to make sure they are vaccinated before they get pregnant. Women of childbearing age who are not pregnant and do not have presumptive evidence of immunity should get at least one dose of MMR vaccine.

It is safe for breastfeeding women to receive MMR vaccination. Breastfeeding does not interfere with the response to MMR vaccine, and the baby will not be affected by the vaccine through breast milk.

### **Groups at increased risk for mumps because of a mumps outbreak**

During a mumps outbreak, public health authorities might recommend an additional dose of MMR vaccine for people who belong to groups at increased risk for getting mumps. These groups are usually those who are likely to have close contact, such as sharing sport equipment or drinks, kissing, or living in close quarters, with a person who has mumps. Your local public health authorities or institution will communicate to the groups at increased risk that they should receive this dose. If you already have two doses of MMR, it is not necessary to seek out vaccination unless you are part of this group.

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## Who Should Not Get MMR Vaccine?

### Measles, Mumps, and Rubella (MMR) vaccine

Some people should not get MMR vaccine or should wait.

Tell your vaccine provider if the person getting the vaccine:

- Has any severe, life-threatening allergies. A person who has ever had a life-threatening allergic reaction after a dose of MMR vaccine, or has a severe allergy to any part of this vaccine, may be advised not to be vaccinated. Ask your health care provider if you want information about vaccine components.
- Is pregnant, or thinks she might be pregnant. Pregnant women should wait to get MMR vaccine until after they are no longer pregnant. Women should avoid getting pregnant for at least 1 month after getting MMR vaccine.
- Has a weakened immune system due to disease (such as cancer or HIV/AIDS) or medical treatments (such as radiation, immunotherapy, steroids, or chemotherapy).
- Has a parent, brother, or sister with a history of immune system problems.
- Has ever had a condition that makes them bruise or bleed easily.
- Has recently had a blood transfusion or received other blood products. You might be advised to postpone MMR vaccination for 3 months or more.
- Has tuberculosis.
- Has gotten any other vaccines in the past 4 weeks. Live vaccines given too close together might not work as well.
- Is not feeling well. A mild illness, such as a cold, is usually not a reason to postpone a vaccination. Someone who is moderately or severely ill should probably wait. Your doctor can advise you.

This information was taken directly from the [MMR \(Measles, Mumps & Rubella\) Vaccine information Statement \(VIS\)](#) dated 2/12/2018.

Learn who should not get [MMRV vaccine](#), which protects against measles, mumps, rubella, and varicella (chickenpox). This vaccine is only licensed for use in children who are 12 months through 12 years of age.

## Who Does Not Need MMR Vaccine?

You do not need measles, mumps, and rubella (MMR) vaccine if you meet any of these criteria for presumptive evidence of immunity:

- You have written documentation of adequate vaccination:

- at least one dose of a measles, mumps, and rubella virus-containing vaccine administered on or after the first birthday for preschool-age children and adults not at high risk for exposure and transmission
- two doses of measles and mumps virus-containing vaccine for school-age children and adults at high risk for exposure and transmission, including college students, healthcare personnel, international travelers, and groups at increased risk during outbreaks
- You have laboratory confirmation of past infection or had blood tests that show you are immune to measles, mumps, and rubella.
- You were born before 1957.\*

If you do not have presumptive evidence of immunity against measles, mumps, and rubella, talk with your doctor about getting vaccinated. If you're unsure whether you've been vaccinated, you should first try to find your [vaccination records](#). If you do not have written documentation of MMR vaccine, you should get vaccinated. The MMR vaccine is safe, and there is no harm in getting another dose if you may already be immune to measles, mumps, or rubella.

If you received a measles vaccine in the 1960s, you may not need to be revaccinated. People who have documentation of receiving LIVE measles vaccine in the 1960s do not need to be revaccinated. People who were vaccinated prior to 1968 with either inactivated (killed) measles vaccine or measles vaccine of unknown type should be revaccinated with at least one dose of live attenuated measles vaccine. This recommendation is intended to protect those who may have received killed measles vaccine, which was available in 1963-1967 and was not effective.

\* Birth before 1957 provides only presumptive evidence for measles, mumps, and rubella. Before vaccines were available, nearly everyone was infected with measles, mumps, and rubella viruses during childhood. The majority of people born before 1957 are likely to have been infected naturally and therefore are presumed to be protected against measles, mumps, and rubella. Healthcare personnel born before 1957 without laboratory evidence of immunity or disease should consider getting two doses of MMR vaccine.

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## How Well Does the MMR Vaccine Work?

MMR vaccine is very effective at protecting people against measles, mumps, and rubella, and preventing the complications caused by these diseases. People who received two doses of MMR vaccine as children according to the [U.S. vaccination schedule](#) are usually considered protected for life and don't need a booster dose. An additional dose may be needed if you are at risk because of a mumps outbreak.

**One dose of MMR vaccine is 93% effective against measles, 78% effective against mumps, and 97% effective against rubella.**

**Two doses of MMR vaccine are 97% effective against measles and 88% effective against mumps.**

MMR is an attenuated (weakened) live virus vaccine. This means that after injection, the viruses cause a harmless infection in the vaccinated person with very few, if any, symptoms before they are eliminated from the body. The person's immune system fights the infection caused by these weakened viruses, and immunity (the body's protection from the virus) develops.

Some people who get two doses of MMR vaccine may still get measles, mumps, or rubella if they are exposed to the viruses that cause these diseases. Experts aren't sure why; it could be that their immune systems didn't respond as well as they should have to the vaccine or their immune system's ability to fight the infection decreased over time. However, disease symptoms are generally milder in vaccinated people.

- About 3 out of 100 people who get two doses of MMR vaccine will get measles if exposed to the virus. However, they are more likely to have a milder illness, and are also less likely to spread the disease to other people.
- Two doses of MMR vaccine are 88% (range 31% to 95%) effective at preventing mumps. Mumps outbreaks can still occur in highly vaccinated U.S. communities, particularly in settings where people have close, prolonged contact, such as universities and close-knit communities. During an outbreak, public health authorities may recommend an additional dose of MMR for people who belong to groups at increased risk for mumps. An additional dose can help improve protection against mumps disease and related complications.
- While there are not many studies available, most people who do not respond to the rubella component of the first MMR dose would be expected to respond to the second dose.

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## What is MMRV Vaccine?

MMRV vaccine protects against four diseases: measles, mumps, rubella, and varicella (chickenpox). This vaccine is only licensed for use in children 12 months through 12 years of age.

CDC recommends that children get one dose of MMRV vaccine at 12 through 15 months of age, and the second dose at 4 through 6 years of age. Children can receive the second dose of MMRV vaccine earlier than 4 through 6 years. This second dose of MMRV vaccine can be given 3 months after the first dose. A doctor can help parents decide whether to use this vaccine or MMR vaccine.

MMRV is given by shot and may be given at the same time as other vaccines.

Please see the [MMRV Vaccine Information Statement \(VIS\)](#) for more information about who should not get MMRV vaccine or should wait.

For more information, see

- [Factsheet: Two Options for Protecting Your Child Against Measles, Mumps, Rubella, and Varicella \(MMRV\)](#)
- Vaccine Safety
  - [Measles, Mumps, Rubella, and Varicella \(MMRV\) Vaccine](#)
  - [Frequently Asked Questions about Multiple Vaccinations and the Immune System](#)
- [Varicella \(Chickenpox\) Vaccination](#)

## Should You Get Vaccinated After Being Exposed to Measles, Mumps, or Rubella?

If you do not have immunity against [measles](#), [mumps](#), and [rubella](#) and are exposed to someone with one of these diseases, talk with your doctor about getting MMR vaccine. It is not harmful to get MMR vaccine after being exposed to measles, mumps, or rubella, and doing so may possibly prevent later disease.

If you get MMR vaccine within 72 hours of initially being exposed to measles, you may get some protection against the disease, or have milder illness. In other cases, you may be given a medicine called immunoglobulin (IG) within six days of being exposed to measles, to provide some protection against the disease, or have milder illness.

Unlike with measles, MMR has not been shown to be effective at preventing mumps or rubella in people already infected with the virus (i.e., post-exposure vaccination is not recommended).

During outbreaks of measles or mumps, everyone without presumptive [evidence of immunity](#) should be brought up to date on their MMR vaccination. And some people who are already up to date on their MMR vaccination may be recommended to get an additional dose of MMR for added protection against disease .

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## What are the Childcare and School Requirements for MMR Vaccine?

All 50 states and the District of Columbia (DC) have state laws that require children entering childcare or public schools to have certain vaccinations. There is no federal law that requires this.

The [Advisory Committee on Immunization Practices](#) recommends that all states require children entering childcare, and students starting school, college, and other postsecondary educational institutions to be up to date on MMR vaccination:

- 1 dose is recommended for preschool-aged children 12 months or older
- 2 doses are recommended for school-aged children in kindergarten through grade 12 as well as students attending colleges or other post-high school educational institutions

For more information, see [State Vaccination Requirements](#).

## How Can Parents Pay For MMR Vaccine?

Most health insurance plans cover the cost of vaccines. But you may want to check with your health insurance provider before going to the doctor. [Learn how to pay for vaccines](#).

If you don't have insurance or if your insurance does not cover vaccines for your child, the [Vaccines for Children \(VFC\) Program](#) may be able to help. This program helps families of eligible children who might not otherwise have access to vaccines. To find out if your child is eligible, visit the [VFC website](#) or ask your child's doctor. You can also contact your [state VFC coordinator](#).

## Educational Materials

- CDC Fact Sheets for Parents
  - Measles ([In English](#) | [En Español](#))
  - Mumps ([In English](#) | [En Español](#))
  - Rubella ([In English](#) | [En Español](#))
- Information on vaccines.gov ([Measlesexternal icon](#) | [Mumpsexternal icon](#) | [Rubellaexternal icon](#) | [Varicellaexternal icon](#))
- CDC Feature Stories
  - [Measles: Make Sure Your Child Is Fully Immunized](#)
  - [Mumps: Be Sure Your Child Is Fully Immunized](#)
  - [Rubella: Make Sure Your Child Gets Vaccinated](#)
  - [What Would Happen If We Stopped Vaccinations?](#)
- Questions and Answers, Immunization Action Coalition ([Measles pdf icon\[4 pages\]external icon](#) | [Mumps pdf icon\[4 pages\]external icon](#) | [Rubella pdf icon\[4 pages\]external icon](#))
- Measles, mumps, and rubella are serious diseases...Make sure your child is protected!, Immunization Action Coalition ([In English pdf icon\[1 page\]external icon](#) | [En Español pdf icon\[1 page\]external icon](#) | [но-русски pdf icon\[1 page\]external icon](#))