Utah Department of Health & Human Services

Measles: Frequently asked questions

Updated 4/28/2025

People you can contact if you have questions:	**Helpful links**
• A doctor or medical provider • Your child's doctor or your family doctor • Your local health department • The Utah Department of Health and Human Services at 801-538-6191	• Healthy Children (American Academy of Pediatrics) • CDC measles webpage • Child immunization recommendations • American Academy of Pediatrics immunization recommendations • Older child and adolescent immunization recommendations • Adult immunization recommendations

The most important thing you can do to protect yourself and your family from measles is to make sure you're up-to-date with the MMR vaccine.

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About measles

What is measles?

Most Americans—including most doctors—have never seen a case of measles.

Most people don't know much about measles because the virus is not common in the U.S. We have a safe and effective vaccine that keeps us from getting sick if we come into contact with the measles virus. Measles usually starts with symptoms that seem like a cold or allergies, followed by a rash that spreads all over your body.

Outbreaks in the U.S. can often be traced to someone who wasn't vaccinated and was infected with the virus while traveling. This is one of the reasons it is so important to make sure you are up-to-date on your immunizations before you travel outside the U.S. or to areas where measles is spreading.

Measles is one of the most contagious diseases in the world. It **spreads easily** and can be dangerous, especially for babies and young children. Measles is often thought of as a

childhood disease because it is one of the leading causes of death in unvaccinated children worldwide. The virus spreads in the air when you cough, sneeze, speak, sing, or breathe. The virus can stay in the air for up to 2 hours after an infected person leaves the room. That means, if you are not protected, you could catch measles just by walking into a room where an infected person has been.

The measles vaccine is very effective because the virus doesn't mutate or change like other viruses. **Most doctors in the U.S. have never seen a case** because most people have been vaccinated and never get measles. The vaccine keeps people from getting sick, even if you are exposed to the virus.

However, more people are now choosing not to get vaccinated. As a result, there has been an increase in cases of measles in the U.S. Measles is **so contagious 9 out of 10 people who are not vaccinated** and come in contact with the virus will get sick.

Who is at risk for measles?

Anyone can get measles. However, you can almost always prevent it with the MMR vaccine. The vaccine works so well it would be **very rare** to get measles if you are vaccinated. Measles can be serious for anyone who has not had the MMR vaccine or had measles before.

There are 5 groups of people MOST at risk to get measles:

- Babies and children younger than 5 years old (because young children have not had a chance to get 2 doses of the MMR vaccine).
- People who are not vaccinated for measles.
- Adults who were vaccinated between 1963 and 1967 because the vaccine given in the U.S. during that time was not as effective.
- Children and adults who only had 1 dose of the measles-vaccine.
- People who were not born in the U.S. and have never been vaccinated and did not have measles as a child.

How does measles spread?

You can get measles if you are not vaccinated and are around someone who has the virus or if you touch surfaces with the virus on them.

- The measles virus stays in the air and on surfaces for up to 2 hours after an infected person leaves.
- That means you can walk into a room where someone with measles has been and still get infected.

Droplets spray into the air when you cough, sneeze, speak, sing, or breathe.

- Measles spreads when droplets that have the measles virus in them spray into the air and land on surfaces or when other people breathe them in.
- It can also spread if people get the droplets on their hands and touch their face or mouth.

Can pets or animals get measles?

No. Only humans carry and spread the measles virus.

What are the signs and symptoms of measles?

The reason measles spreads so easily is because of its long incubation period (how long it takes for you to get sick from the virus). You **don't get sick right away** from measles. Which means you can spread the disease to many people before you even know you're sick.

Early symptoms of measles

The first symptoms of measles start between 1 and 3 weeks after you are infected with the virus (this is called the incubation period). Most people have symptoms at about 2 weeks.

You **may not know** you have measles when you first get symptoms. The first symptoms of measles may seem like a cold or allergies.

- High fever (may get higher than 104°F or 40°C).
- Cough
- Runny nose
- Red, watery eyes

2 to 5 days after symptoms start:

- Some people with measles get tiny white spots inside their mouth (called Koplik spots). Koplik spots may appear before the measles rash.
- Measles rash usually begins as flat red spots that appear on the face at the hairline. The spots then spread down to the neck, belly, arms, legs, and feet.
- Measles rash looks similar in most people, but it doesn't always look the same for everyone. Many other things can cause a rash. It doesn't always mean you have measles if you have a rash.

What is a measles rash?

Almost everyone with measles gets a rash all over their body. Measles rash often starts as flat red spots on your face near your hairline. The rash then spreads to the rest of your body (your neck, chest, belly, arms, legs, and feet).

- The red spots may join together as they spread from your head to the rest of your body.
- The spots will often turn white (blanch) if you press on them with your finger for the first few days after you get them. They usually stop blanching (turning white) with pressure after about day 3 to 4 of the illness.
- Small raised bumps may appear on top of the red spots.
- The skin may flake or peel in areas with a heavy or severe rash.

- Your fever may get higher than 104°F or 40°C when you first get the measles rash.

Does measles rash go away?

Yes, as you start to get better. Measles rash fades first on your face and head. Then it will disappear from your body, arms, and legs.

Are all rashes caused by measles?

No, just because you have a rash does not mean you have measles. Many diseases can cause a rash that looks like measles. Your doctor may order a measles lab test if you have symptoms of measles. It probably **isn't** measles if you've had 2 doses of the MMR vaccine. That would be very rare.

Other common symptoms not everyone gets:

- Can't eat or don't feel hungry
- Bright lights hurts or irritates your eyes
- Diarrhea, especially in infants
- Swollen lymph nodes

How sick do you get from measles?

Most people with measles will only get a mild illness. However, measles can be severe for some people. The problem is, you don't know how measles will affect you or your children until you get sick. That's why it is much safer to get the MMR vaccine than to take a chance with measles.

- Data show 1 in 5 people in the U.S. who are not vaccinated and get measles are hospitalized.
- Measles is most dangerous for babies and children younger than 5 years old who are not vaccinated.
- One of the reasons it's so dangerous for kids is because about 1 in every 20 children who have measles ALSO get pneumonia (a serious lung infection).

- Pneumonia is very dangerous for kids and is the main cause of measles deaths in children.

What is the difference between symptoms of a disease and complications?

Symptoms help doctors recognize and diagnose a disease. Complications often require more medical attention and can lead to long-term health problems.

Symptoms of a disease	Complications of a disease
Symptoms are the early signs of an illness—they show up as your body reacts to an infection. These are common and what we expect to see with a disease. Example of measles symptoms: fever, cough, runny nose, red eyes, and a rash.	Complications are serious health problems that develop as a result of the illness. Complications don't always happen but can make the disease much worse. Example of measles complications: pneumonia, hearing loss, and brain swelling (encephalitis).

Severe illness and complications from measles

Certain people are more likely to have severe illness and complications if they are not vaccinated and get measles:

- Babies and children younger than 5 years old.
- Women who are pregnant and their unborn baby.
- People who have low levels of vitamin A or have poor nutrition.
- People with weakened immune systems (such as from cancer or HIV infection).

Measles is mild for most people.

Common symptoms are:

- Fever, cough, runny nose, red watery eyes
- Koplik spots (tiny white spots in your mouth)

- Rash that starts at your hairline and spreads all over your body

However, about 30% of people with measles get complications or have severe illness.

- Most complications are mild, such as ear infection (about 1 in 10 kids will get an ear infection).
- If you have complications, it means measles made you sicker than most people get from measles. About 1 in 20 kids with measles gets pneumonia (a serious lung infection). You don't know how measles will affect you or your child—**you only find out after you get sick.**

Severe complications from measles

- Pneumonia (a serious lung infection)
- Hospitalization
- Encephalitis or brain swelling (can cause cognitive disability, deafness, and seizures)
- Complications during pregnancy, such as the risk of premature labor (having your baby early), miscarriage, and your baby having a low birth weight
- Seizures
- Immune amnesia (your body can't fight other illnesses as well because the measles virus replaces immune cells you have built over the years with measles-specific lymphocytes)
- Death

> "One of the most unique—and most dangerous—features of measles pathogenesis is its ability to reset the immune systems of infected patients. The risk associated with measles infection is much greater than the sum of its observable symptoms. The immune memories that you have acquired are priceless, built over many years and from countless exposures to a menagerie of germs. Measles virus is especially dangerous because it has the ability to destroy what's been earned: immune memory from previous infections."
>
> — American Society for Microbiology

Studies show measles replaces old memory cells of its host with new measles-specific lymphocytes. Patients will have a strong immunity to measles, but are at an increased risk for other illnesses or diseases.

Source: American Society for Microbiology

Rare complications from measles

Hemorrhagic measles is a serious illness caused by measles, but is rare in the U.S.

- High fever (105°F and higher or 40.56°C and higher)
- Seizures
- Feel confused or "out of it" (delirium)
- Problems breathing (respiratory distress)
- Ruptured or burst blood vessels just below the surface of your skin, or in other parts of your body—like the inside of your nose, mouth, or lungs (hemorrhage into the skin and mucous membranes)

VERY RARE complications from measles

Measles can also cause an **extremely rare** illness called *subacute sclerosing panencephalitis*. This can happen if you were infected with the measles virus a long time ago. This usually happens 7 to 10 years after you get measles, but it can happen decades after.

This rare illness is most common if you get measles before the age of 2, and is more common in boys.

Complications from measles during pregnancy

It is very important to make sure you've had the MMR vaccine before you get pregnant. You **can't** get vaccinated while you are pregnant. Measles during pregnancy increases your risk of problems or complications during pregnancy:

- Premature labor
- Spontaneous abortion (also called miscarriage) which often happens in the first trimester
- Your baby having a low birth weight

Does it cause birth defects if mothers get measles during pregnancy?

No. It won't cause specific birth defects to your baby and you won't spread the disease to your baby if you get measles when you are pregnant (unless you are still contagious when you give birth). **However, it does** put you at risk for pregnancy problems or complications and puts your baby at risk for serious medical problems—**even after** you are not contagious.

Source: Epidemiology and Prevention of Vaccine-Preventable Diseases

Are there different types of measles?

No. There is only one type of measles infection.

However, doctors and **medical experts sometimes use different terms** to describe different strains of the virus or symptoms that aren't normal. These terms help medical experts treat patients quickly—but can sometimes be confusing to the rest of us.

Sometimes other diseases also get called measles because the diseases look a lot alike, or even use terms that include the word measles (like German measles, a term often used for rubella). However, these are different diseases and are not measles.

Different terms often used to describe measles:

Wild-type measles virus (the most common type)

Wild-type measles (typical measles) is the most common type of measles. This is the type of measles you get if you are not vaccinated.

Breakthrough measles virus (rare)

Breakthrough measles happens when someone is vaccinated (had the MMR vaccine) and still gets measles after being exposed to the virus. This is **rare** if you've had 2 doses of the MMR vaccine. Breakthrough measles is most common in areas where there is a measles outbreak. People who get breakthrough measles usually have mild illness (lower fever, lighter rash, and fewer complications) and are less likely to spread the disease.

Why do breakthrough infections happen?

- Someone's immune system may not fully respond to the vaccine in rare cases.
- You only got 1 dose of the MMR vaccine.
- The MMR vaccine is about 97% effective after 2 doses, but no vaccine is 100% effective.

Atypical measles (rare)

Atypical measles happens when the body quickly recognizes the measles virus but is not able to fight the infection. Some **people who were vaccinated between the years 1963 and 1967** got a less effective vaccine—which means they can still get measles. The vaccine they got was not as good as the one we have today. We stopped giving this vaccine when experts realized it didn't provide immunity that lasts very long and that people got a strange, worse version of the disease (atypical measles). **Anyone who got this vaccine is considered unvaccinated. We recommend you get revaccinated if you were vaccinated for measles between 1963 and 1967.**

Modified measles (rare)

Modified measles describes a milder form of the disease. This happens when people have some protection, but are not fully immune.

This includes people who:

- Are young infants who still have some immunity from their mother, but are too young to get vaccinated.
- Were given immune globulin after they were exposed to measles.
- Got the MMR vaccine, but their immune system didn't create enough antibodies to fully protect them.
- Only had one dose of the MMR vaccine.
- Had measles before.

How is modified measles different from regular measles?

- Longer incubation period: usually takes close to 3 weeks or longer before you get sick.
- Milder symptoms before the rash appears.
- Rash is lighter, lasts less time, and does not spread as much on your body.
- People with modified measles are less likely to spread the disease.

Why is it important to understand the incubation period of a disease?

An incubation period is the time it takes for you to have symptoms after you have been exposed to a virus.

Knowing the incubation period of **any** disease helps you know:

- When and where you picked up germs.
- How long you need to take steps to avoid spreading germs.
- If you should get treated or take medicine.

Are you contagious during the incubation period?

Incubation periods are just an estimate based on when most people first get symptoms. However, you may get sick sooner or later than other people. That is why you can often spread a disease before you know you're sick.

Is measles easy to catch?

Yes—if you are NOT vaccinated.

Measles is one of the most contagious diseases in the world. It spreads so easily 9 out of 10 people who are not vaccinated and go near an infected person will get it. Measles is especially dangerous for babies and young children **but** the MMR vaccine can almost always prevent it.

The MMR vaccine is highly effective. It would be very rare for you to get measles if you are vaccinated.

How long does it take to show symptoms of measles after you have been exposed to the measles virus?

The reason measles spreads so easily is because of its long incubation period (or how long it takes after you are infected with the virus for you to get sick).

The first symptoms of measles start between 1 and 3 weeks after you are infected with the virus. Most people have symptoms at about 2 weeks. That means you can spread it to many people before you even know you're sick.

How long are you contagious with measles?

You're contagious from 4 days **before** you get a measles rash until 4 days **after the rash starts**.

How long can the measles virus live in the air or on surfaces?

The measles virus can live in the air or on surfaces for a long time. It can survive for 2 hours in the air in a room or on surfaces **after** an infected person leaves the area. You could come into contact with the virus if you walk in a room where someone with measles has been.

How do you know if you have measles?

A doctor or public health worker will look at your symptoms and find out if you were exposed to someone who has measles. You may need a lab test to find out if you have measles. **However**, **you may not need to be tested** for measles just because you have symptoms. Many other illnesses have many of the same symptoms as measles. You are unlikely to have measles if you have not been exposed to someone who has measles or are vaccinated for measles—and may have a different type of illness.

Should you be tested for measles?

Your doctor may test for measles if you:

- Have symptoms of measles; **and**
- Are not vaccinated for measles; **and**
- Have a possible exposure to measles (such as recent travel to an area where measles is spreading or close contact with someone who has measles).

What are some other diseases that look like measles (called the differential diagnosis)?

Measles can look like many other illnesses, which is why lab tests are often needed to confirm it.

Measles can look like:

- Adenovirus
- Common cold
- Flu (influenza)
- Hand, foot, and mouth disease or other diseases caused by enterovirus
- Kawasaki disease
- Mono (mononucleosis)
- Parvovirus or fifth disease
- Reaction to an antibiotic or other type of medicine

- Rocky Mountain spotted fever (from ticks)
- Roseola
- RSV (respiratory syncytial virus)
- Rubella
- Scarlet fever

What to do if you think you have measles

- Call a doctor (don't just show up). Tell them you may have measles, so they can take extra steps to keep others safe.
- Take extra steps to keep you and your family safe (wear a mask, stay home, isolate or try to keep those who are sick away from those who aren't).
- Stay home. Measles spreads easily. Don't go to work, school, church, or anywhere else.
- Write down important information to tell the doctor (or put it in your phone), such as:
    - Your symptoms.
    - When your symptoms started.
    - Important information, such as recent travel (when, where) or if you were around someone who was sick with a rash.
    - **All medications**, vitamins, and supplements you or your child take. Make sure to tell the doctor if you took medicine before your rash started.
    - Questions to ask the doctor or healthcare provider.

Questions you may want to ask the doctor or healthcare provider:

- What's the most likely cause of the symptoms?
- Are there other possible causes?
- Is there anything I can do to make my child more comfortable, such as treatment or medicine?
- Do you have information I can take with me?
- What websites do you recommend to learn more about measles?

Questions the doctor or healthcare provider may ask you:

- Have you or your child been vaccinated against measles (got the MMR vaccine)?
- How many doses of the MMR vaccine did you or your child get?
- When did you or your child get the MMR vaccine?
- Did you or anyone you have been in close contact with travel recently? When and where did you or the other person travel?
- Has everyone who lives in your home had the MMR vaccine?

What to expect when you go to the doctor.

Call before you go to the doctor (don't just show up). Tell them you may have measles, so they can take extra steps to keep others safe. People being seen in a clinic are usually sick. That means most people in the clinic *already have* a weakened immune system. Anyone in the clinic with a weakened immune system is at higher risk of severe illness or complications if they get measles.

The clinic may take extra steps to keep other people safe, such as:

- Ask you to wear a mask.
- They may ask you to use a separate entrance.
- Take you to an exam room when you first get to the clinic.
- They may ask you to stay in your car and not enter the clinic, just to be safe. Healthcare workers may come outside to test you for measles.

Treatment for measles

There is **no** specific cure or treatment for measles. Most people recover with rest, fluids, and fever management.

Can Vitamin A prevent or cure measles?

No. Vitamin A does not prevent or cure measles. There is no amount of Vitamin A that will protect your child from getting measles. Vitamin A treatment **should only be used in the care of a doctor and only if a child is already sick with measles**.

- Vitamins **do not** prevent measles.
- Giving high doses of vitamins can be dangerous.
- Taking high doses of Vitamin A can cause serious health problems.

What about cod liver oil?

Cod liver oil does **not** prevent or cure measles. Cod liver oil has much higher amounts of vitamin A and vitamin D than kids should have each day. It can make kids sick if they take too much. Cod liver oil can also increase your child's chance of bleeding because it has fatty acids that can keep blood from clotting.

Source: American Academy of Pediatrics

Is too much vitamin A harmful?

Yes. Large doses of vitamin A can be toxic and make your child sick. Too much vitamin A can cause:

- Nausea (feeling sick to your stomach)
- Throwing up or puking
- Headache
- Feeling more tired than normal
- Joint and bone pain
- Blurry vision
- Skin and hair problems
- It can also lead to serious problems like high pressure inside the skull that pushes on the brain, liver damage, and coma.
- Large doses of Vitamin A during pregnancy can cause birth defects.

Most children get enough vitamin A from food they eat.

Foods that have vitamin A:

- Eggs
- Milk
- Cheese
- Cereal
- Leafy green vegetables
- Orange vegetables
- Fish and meat
- Babies get vitamin A from breast milk or infant formula

What to know before you give vitamins to your child:

- Talk to a doctor before you give vitamins to your child.
- Always choose vitamins that have been tested and approved safe for use in children.
- The dose of vitamin A in a children's multivitamin is much lower than the doses that are recommended for treating measles with vitamin A. Do not give your child extra vitamin A supplements to try to treat measles, it can be dangerous. Call a doctor if you are worried.

Source: American Academy of Pediatrics

Why is vitamin A treatment used for children who have measles?

Measles reduces the amount of vitamin A in your body. Your risk for serious illness and death from measles may increase if your body does not have enough Vitamin A. Vitamin A deficiency can also cause eye damage and blindness.

- Most doctors will give Vitamin A to children who are **hospitalized** for measles.
- A doctor can give 2 doses of vitamin A (24 hours apart) to children to treat **vitamin A deficiency caused by measles**.

- Vitamin A does not cure the infection, it may help to prevent the illness from getting worse.

Vitamin A for children who are hospitalized for measles

The CDC recommends vitamin A for **children who are hospitalized** with measles. Vitamin A should be given as soon as measles is diagnosed and repeated the next day. It helps reduce measles complications and improves recovery.

Amount of vitamin A	Age
50,000 IU	Infants younger than 6 months
100,000 IU	Infants 6 to 11 months
200,000 IU	Children 12 months and older

Ribavirin

Lab studies show the measles virus has shown some sensitivity to the drug ribavirin in lab studies, but it is not FDA-approved for measles treatment.

Post-exposure prophylaxis (PEP)

Decisions about prophylaxis depend on medical conditions and the time since exposure.

When to give post-exposure prophylaxis (PEP):

- MMR vaccine within 72 hours of exposure.
- Immune globulin within 6 days of exposure for those at high risk.

Who needs post-exposure prophylaxis (PEP)?

Those in close contact with a confirmed case, and are not vaccinated or have proof of immunity may benefit from prophylaxis. Give priority to those who were exposed in settings with intense or longer lasting close contact (such as those who live in the same home, childcare, and classrooms).

High-risk groups who need immune globulin:

- Infants younger than 12 months.
- Those who are pregnant and do not have immunity.
- People who are immunocompromised.

Immune globulin

Give priority for immune globulin to those at higher risk. It can also be given to those who did not get 1 dose of MMR at 12 months of age or older.

- Immune globulin within 6 days of exposure can help prevent illness or reduce how severe the illness is.
- The MMR vaccine can be used within 72 hours of exposure instead of immune globulin (if there is no medical reason not to give the MMR).
- Use a rapid measles IgG antibody test or measles immunity verification test to find out if people who were exposed have evidence of immunity (if it does not delay giving immune globulin).

Infants younger than 12 months

Infants are at higher risk for severe measles and complications.

- Give intramuscular immunoglobulin (IGIM) to all infants younger than 12 months of age who have been exposed to measles.

- The MMR can be given to infants ages 6 to 11 months instead of immune globulin. This vaccine dose will not count toward routine childhood immunizations, so the child will need **3 doses of MMR in total**.

Pregnant women who do not have evidence of immunity

Women who are pregnant may be at an increased risk for severe measles and complications. Women who are pregnant, do not have evidence of immunity, and are exposed to measles should get intravenous immune globulin (IGIV 400 mg/kg).

Measles vaccination

How can you prevent measles?

Get a measles vaccine

There are two types of vaccines that protect you from measles. Both types of vaccines almost always prevent measles. A doctor will help you know which type of vaccine is best for you or your child.

One type of vaccine is called the MMR vaccine (measles, mumps, and rubella). The MMR vaccine has been the single most effective and safe way to make sure people do not get measles **for more than 50 years**. It **works so well** it would be very rare to get measles if you are vaccinated.

The second type of vaccine is the MMRV (measles, mumps, rubella, and varicella). The MMRV vaccine is **only** approved for children ages 12 months to 12 years. It helps protect you from measles, mumps, rubella, and chicken pox (varicella).

Why are vaccines so important?

Millions of lives have been saved by vaccines. Vaccines prevent diseases that once killed thousands of people every year.

- It can take days or weeks for your body to fight off an infection without a vaccine.
- Vaccines are a safer way to get immunity than getting the disease.

You need 2 doses of a measles vaccine for the most protection against measles.

Medical experts recommend the MMR for people of all ages to protect themselves from measles, mumps, and rubella—with very few exceptions.

- It is a 2-dose vaccine usually given during early childhood when the immune system is weakest against disease.
- Doses must be given at least 28 days apart.
- It takes just a few days for your body to start making antibodies.
- Your immune system is fully prepared to fight infection within 2 to 3 weeks.

Who it applies to	Important information
People born after 1989	Recommend: 2 doses of the MMR vaccine. • 1st dose is usually given at about 1 year of age (12 to 15 months). • 2nd dose is usually given between 4 and 6 years of age.
People born between 1957 and 1989	Recommend: At least 1 dose of the MMR vaccine. • You may have only had 1 dose of the MMR vaccine if you were born before 1989. • 1 dose of the MMR vaccine provides 93% immunity against measles (97% immunity for 2 doses). • **Talk to a doctor to find out if you need another dose**.
People who were vaccinated for measles between 1963 and 1967	While most people vaccinated between 1963 and 1967 are protected, some received a less effective measles vaccine. • You are considered **unvaccinated** if

	you got vaccinated during this time frame. • Talk to a doctor to find out if you need to get revaccinated for measles.
People born before 1957	You probably had measles and don't need to be vaccinated. Talk to a doctor if you have questions.
Women who are pregnant	❌The MMR vaccine is one of the few vaccines you **can't** get while you are pregnant. • Talk to a doctor to find out what to do if you are pregnant and not vaccinated against measles. • Make sure you are up-to-date on your other vaccines.
Women who are trying to get pregnant	❌The MMR vaccine is one of the few vaccines you **can't** get while you are pregnant. • Wait at least 1 month after you have the MMR vaccine to get pregnant. • Make sure you are up-to-date on your other vaccines.
Women who are breastfeeding	It is **safe** for women who are breastfeeding to get the MMR vaccine. • Breastfeeding does not affect the response to the vaccine. • The MMR vaccine will not affect your baby through breast milk.
Children younger than 1 year of age who plan to travel	• Infants 6 to 11 months of age who will travel outside the U.S. should get 1 dose of MMR vaccine before travel. • Get the vaccine at least 2 weeks before travel to make sure you are

	protected.

Who should not get the MMR vaccine?

Some people should not get the MMR vaccine—or should wait to get it.

Tell your healthcare provider if you or the person getting the vaccine:

- Ever had an **allergic reaction** after a dose of MMR vaccine. Your doctor **may not** recommend you get another dose.
- Have a **severe allergy to any part of this vaccine**. Ask your health care provider if you want information about vaccine components.
- **Are pregnant or think you may be pregnant**. The MMR vaccine is one of the few vaccines you **can't** get while you are pregnant. Wait to get the MMR until you are no longer pregnant. Try not to get pregnant for at least 1 month after you get the MMR vaccine.
- Have a **weakened immune system** from a disease (such as cancer or HIV/AIDS) or medical treatments (such as radiation, immunotherapy, steroids, or chemotherapy).
- Have a parent, brother, or sister with a **history of immune system** problems.
- Have ever had a condition that makes you **bruise or bleed easily**.
- Recently had a **blood transfusion or were given other blood products**. You may be advised to wait to get the MMR vaccine for 3 months or more.
- Have **tuberculosis**.
- Got any **other vaccines** in the past 4 weeks. Live vaccines given too close together might not work as well.
- **Don't feel well**. A mild illness (such as a cold) is not usually a reason to wait to get vaccinated. But you should probably wait if you are moderately or severely ill. Your doctor will be able to tell you if you are too sick to get the MMR.

Source: Measles Vaccine Recommendations

How does the measles vaccine (MMR) work?

The MMR vaccine (measles, mumps, rubella) protects you **against 3 diseases**. The MMR vaccine uses weakened versions of measles, mumps, and rubella viruses to **create antibodies and trains your body** to recognize and fight these dangerous viruses **before** you get sick.

- The virus is too weak to make you sick, but your body **still** creates antibodies to fight it.
- These weakened viruses have the same shapes on their surfaces (called antigens) as the real viruses.
- Your body **creates antibodies** against these antigens and stores memory antibodies for the future.
- **Memory cells** stay in your system. Your immune system will recognize the virus right away and stop it before it spreads if you're ever exposed to the real virus.

You are at risk for measles if you:

- **Have not** been vaccinated and are exposed to the virus.
- Are **under-vaccinated** (have not had all the recommended doses of MMR vaccine).

How long does it take for the MMR vaccine to work?

Your body needs time to create antibodies. A blood test will detect some antibodies in your blood within a few days. But it usually takes **about 2 weeks** after you get the vaccine to be fully protected. You can still get sick if you are exposed to measles just before or right after you get vaccinated because your body hasn't had enough time to build protection.

Some people experience mild symptoms after vaccination (such as a fever). These side effects are **normal** and show your body is building immunity.

Make sure you and your family are **up-to-date** on all recommended vaccines.

How effective is the MMR vaccine?

The measles vaccine is very effective because the virus that causes measles doesn't mutate or change like other viruses. The MMR vaccine can almost always prevent illness. The **vaccine works so well it would be very rare** to get measles if you are vaccinated.

- Your body starts making antibodies to fight the measles virus a few days after you get the vaccine.
- It takes about 2 to 3 weeks for your body to make enough antibodies to fully protect you from measles.

The measles vaccine has been the single most effective and safe way to make sure people do not get measles—for more than 50 years.

- 1 dose is about 93% effective
- 2 doses are about 97% effective

How long does immunity to measles last?

Your immune system remembers some viruses—like measles—**for life**. You should be fully protected from measles if you have 2 doses of the MMR vaccine or had measles before.

Is the MMR vaccine safe?

Yes! The MMR vaccine is safe for most people. Researchers and medical experts have worked since the early 1950s to make sure measles vaccines are safe for those **6 months and older**.

The MMR vaccine is a routine part of childhood immunizations in the U.S., and most children **do not have serious side effects** after they get it.

How do medical experts know the MMR vaccine is safe?

We know the MMR vaccine is safe and effective because we have data from **decades of clinical trials** and have carefully monitored **tens of millions of people who have been**

vaccinated. Data show the benefits of getting vaccinated outweigh the small risk of side effects from vaccines.

Common side effects from the measles vaccine (MMR)?

It's normal to experience immune response after vaccination—this is how you know the vaccine is working. Side effects are usually mild and resolve on their own within a few days. The MMR vaccine can cause mild side effects, such as:

- Pain and redness at the injection site
- Headache
- Feeling tired (fatigue)
- A general feeling of discomfort
- Mild rash
- Swelling of salivary glands

Sometimes people faint after medical procedures, including vaccination. Tell your provider if you feel dizzy, or have changes in your vision or ringing in the ears. Serious side effects are rare, about one in a million. Serious side effects can include seizures (usually associated with fever) or low platelet count that can cause unusual bleeding or bruising.

Serious side effects are taken seriously and investigated when they are reported. However, there is an **extremely low risk** the MMR vaccine will cause severe harm or death. In fact, getting vaccinated is **much safer than getting measles, mumps, or rubella**—the diseases the vaccine protects against.

Do you really need the MMR vaccine?

Yes. Your decision to get vaccinated affects **everyone's risk**.

- The measles virus is so contagious that before the vaccine almost every child in the U.S. got measles by age 15.
- Measles **can't** spread if everyone is vaccinated.
- The vaccine is far safer than the disease, even if the odds of getting measles seem low. The benefits of vaccination are much greater than the risks.

What is herd immunity (also called community or population immunity)?

Herd immunity is a term we use to explain that it's unlikely for a disease to spread in a community when enough people are immune to it. This protects even those who are not immune because the disease cannot spread easily.

There are 2 ways to become immune to disease:

1. Your body creates antibodies to fight a virus or bacteria you are infected with (often called natural immunity); **or**
2. A vaccine safely trains your body to fight the disease without making you sick.

How many people need to be vaccinated to have herd immunity against measles?

The percentage of people with immunity needed for herd immunity is different for each disease. The more contagious a disease is, the more people who need to be immune to stop it from spreading.

About 95% of the community needs to be vaccinated to have herd immunity against measles.

Large outbreaks happen when not enough people in a community are protected. Many people could get sick with measles at the same time, which may overwhelm hospitals and healthcare systems.

Immunity varies from person to person. Not everyone gets the same amount of protection from a vaccine. Many factors can affect how well a vaccine works, such as:

- Your health when you get the vaccine.
- How the vaccine was stored or given.
- How old the vaccine dose is.
- Other medical conditions or factors.

People who are not able to be vaccinated are still safe when most of the community is immune. However, they may no longer be protected without herd immunity. This is why

it's so important to get the recommended vaccines—it protects both you and the people around you.

Can you get measles from the MMR vaccine?

No. You cannot get measles infection from the MMR vaccine The MMR is a live vaccine. The MMR is a live vaccine which means it has a weakened form of the virus to help your immune system learn to recognize and fight the virus. Your body's immune response to live vaccines prevents you from getting the disease. Live vaccines are not recommended for people who have a weakened immune system.

You may get mild side effects after you get the MMR vaccine. The side effects can be similar to the symptoms of measles: headache, feeling tired (fatigue), fever, swollen glands in the cheeks or neck, and even a mild rash. **If you get these side effects it does not mean you have measles.** These side effects are just caused by your immune system learning how to recognize and fight measles. The side effects usually go away on their own within a few days.

Source: MMR vaccine information statement and Healthychildren.org

Does the MMR vaccine cause autism?

No. The MMR vaccine **does not** cause autism. Autism is something people are born with. It is not caused by vaccines. The MMR vaccine is safe and protects against measles, mumps, and rubella, which can cause serious illness.

- Many **scientific studies involving millions of children** have found **no link** between the MMR vaccine and autism.
- The claim that MMR causes autism came from **a fraudulent study that was debunked and retracted**.

How are side effects from vaccines investigated?

The U.S. is seen as the gold standard for how we monitor the safety and effectiveness of vaccines and other medicines.

The Vaccine Adverse Event Reporting System (VAERS) is one of several different systems CDC uses to monitor the safety of vaccines.

- VAERS accepts and **analyzes reports of any side effect or health problem** after vaccination (called an adverse event) that concerns you, even if you are not sure if the vaccine caused it.
- **Anyone**—patients, family members, healthcare providers, and vaccine manufacturers—can submit a report to VAERS.
- Healthcare providers and vaccine manufacturers are required by law to report certain events after vaccination.

A report to VAERS **does not** mean that a vaccine caused an adverse event.

Where can you get a measles vaccine?

You can get the measles vaccine at a clinic or doctor's office, pediatrician, local health department, or community health center. Learn more about which vaccines you need at each age on our Up-to-Date website or locate a vaccine provider near you.

What if I don't have insurance or my insurance doesn't cover vaccines?

Most health insurance covers the cost of vaccines. The Vaccines for Children program may be able to help if you don't have insurance for your child or if your insurance does not cover vaccines.

Where can you find out if you are vaccinated?

There are many ways to find out if you're vaccinated.

Where to get your vaccination records	Important information
A doctor or healthcare provider is the best place to get your vaccine record.	Vaccination records must be written and dated. This is the only way for a doctor to know if you're up-to-date.

The Utah Statewide Immunization Information System (USIIS) on our immunization website. USIIS has records for vaccines given in Utah starting around 1995.	You must fill out the request completely and attach your photo ID.
The Docket web or mobile app if you were vaccinated in Utah since 1995.	Healthcare providers are not required to report vaccinations they give into the Utah Statewide Immunization Information System (USIIS). This means vaccine records in Docket may not be complete.
Your local health department.	You may need to get your vaccine records from a different health department if you were vaccinated in another state.

What should you do if you don't have medical records and are not sure if you've had a measles vaccine?

It's safe to get another vaccine if you don't have an MMR vaccination record. A doctor will be able to help you decide what's best for you and will know if there are other vaccines you need.

You have **2 options** if you don't have medical records and are not sure if you had measles or 2 doses of a measles vaccine:

- **Get an antibody test**
  - A blood test can tell if you're immune to measles.
  - You may have to pay for an antibody test. Check with your health insurance first to find out if the test is covered.

- **Get the MMR vaccine**
    - The MMR vaccine is safe, even if you've already had measles or were vaccinated before.
    - Most health insurance plans cover vaccines.
    - Some people without insurance choose to get the vaccine because it costs less than the antibody test.

What if you were vaccinated in another country?

You are considered vaccinated if your doses given outside the U.S. follow the schedules and doses listed in the ACIP recommendations. Some vaccines given outside of the U.S. may not follow ACIP recommendations (such as getting a measles vaccine before 1 year of age, or getting a vaccine other than the MMR). A healthcare provider can help you decide if the vaccines you got follow the recommendations.

A healthcare provider can do a blood test to check for antibodies in your blood to see if you are immune to measles or you can get another dose of the MMR vaccine if you don't have vaccine records. It is safe to have another dose, even if you may have already been vaccinated.

Learn more about vaccine recommendations for refugees.

Can you be near someone with measles if you've had the measles vaccine?

Most people with 2 doses of the MMR vaccine are protected.

- It's rare—but sometimes people who are fully vaccinated (have had 2 doses of the MMR vaccine) can still get infected if they are exposed—so avoid contact if possible.
- Adults with only 1 dose are still at risk for a mild case of measles.

How do you protect yourself from measles while traveling?

You should protect yourself from measles, no matter where you plan to go.

Before you travel outside the U.S. or to areas with measles outbreaks:

- Infants (6 to 11 months old) should get 1 dose of MMR vaccine. Your baby will still need to get the recommended doses of measles vaccines later. This means your child will need 3 doses total of a measles vaccine instead of 2.
- Children (12 months and older) should have 2 doses of MMR vaccine. The 2nd dose must be given at least 28 days after the first.
- Anyone born after 1957 should have proof of 2 doses of MMR vaccine or a blood test that shows immunity to measles.

What happens if there is a measles outbreak?

Those with an immunization exemption who are not vaccinated with MMR vaccine may not be able to go to school or childcare during a measles outbreak. They may only return after they get the required measles vaccinations or when the outbreak is over.

Measles spreads so quickly that **only 1 case** is considered an outbreak in Utah. Students who are not up to date on MMR vaccination **may not be allowed to go to school or childcare** during a measles outbreak.

Number of doses of the MMR	What happens
Had 2 doses of MMR	☑️ Can go to school, childcare, or work as normal.
Had 1 dose of MMR **before** outbreak	☑️ Can go to school, childcare, or work as normal.
Had 1 dose of MMR **after** outbreak	☑️ Can return to school, childcare, or work 72 hours after their 1st dose of the MMR vaccine.

Unvaccinated (no doses of MMR)	❌ May not be able to return to school or childcare until 21 days after the last known case of measles rash starts (not the date of exposure) if they choose not to get vaccinated, **OR** ☑️ Can return to school or childcare 72 hours after their 1st dose of the MMR vaccine.

⚠️ Local public health officials create outbreak policies for their local schools and childcare facilities. This means there may be different policies depending on where you live. Call your local health department or school for details.

⚠️ People who work in healthcare may be asked to follow different guidance during an outbreak. Call your local health department for details.

Which documents are accepted as proof of immunization for measles?

Accepted
☑️ Immunization records form a healthcare provider. ☑️ Immunization records from a health department. ☑️ Electronic records from the Utah Statewide Immunization Information System (USIIS). ☑️ A blood test (serology). Talk to a doctor about how to get tested.

School vaccine requirements

Is the MMR vaccine required for school and childcare?

Yes, the MMR vaccine is required for all Utah children who go to school or childcare. Utah allows parents to claim an exemption to immunization for medical, religious, or personal reasons.

Kindergarten through grade 12 students	Children in childcare facilities
Must have 2 doses of MMR vaccine, given: • After 12 months of age. • At least 28 days apart.	Must have all vaccines required for their age. The number of MMR doses depends on age: • 12 to 15 months old must have at least 1 dose of MMR. • 4 to 6 years old must have 2 doses of MMR.

Can children go to school or childcare if they are not vaccinated for measles?

Utah law allows children in schools and childcare facilities to claim an exemption to vaccines for personal, medical, or religious reasons. However, children in schools and childcare facilities who claimed an immunization exemption may be asked to stay home from school during an outbreak because they could get sick or spread the disease to others.

Call your local health department for specific information.

What are the measles vaccination rates in Utah?

Most states look at how many kindergarten students have an exemption for the measles vaccine to measure measles vaccination rates.

During the 2024/2025 school year:

- About 10% of in-person kindergarten students in Utah had an exemption for the **MMR vaccine** or were missing documentation to show they are vaccinated against measles.

- 9.0% of in-person kindergarten students in Utah had an exemption to **any** school-required vaccine.
- 10.1% of all students in Utah had an exemption to **any** school-required vaccine, including students in online schools.

You can look up the immunization coverage rates for children in Utah on the Utah Statistics page of the immunization program website. The immunization dashboard school vaccine exemption tab contains statewide and school-specific immunization data. You can also find reports that show trends in school vaccine exemptions for the past 10 years.