What doctors want patients to know about measles

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News Editor

Editor's note: *The U.S. and other nations have lost their "measles elimination status," meaning the same measles virus lineage has circulated uninterrupted for at least a year, the Pan American Health Organization announced Nov. 17, 2026. In response, AMA President Willie Underwood, III, MD, MSc, MPH, said the U.S. "must act urgently to confront this growing public health threat."*

"Two doses of the MMR vaccine are about 97% effective against measles and 88% effective against mumps, while providing strong, long-lasting protection against rubella," Dr. Underwood added in an AMA statement. "Now is the time to get vaccinated. If you have questions about the MMR vaccine, we encourage you to talk to your doctor."

There has been a recent resurgence of measles in the U.S. This has prompted concerns from both physicians and the general public. And with vaccination rates faltering in some areas, physicians and public health agencies stress the importance of immunization and vigilance. Knowing how to prevent measles and keep communities safe is key.

As of this article's deadline, the Centers for Disease Control and Prevention (CDC) has reported 164 measles cases in nine states. That is more than the number of measles cases reported in all of 2023. Meanwhile, there were 285 measles cases reported in 33 states in 2024.

There have also been three outbreaks—defined by the CDC as three or more related cases—reported in 2025 with 93% of cases being outbreak-associated. This is compared with 16 outbreaks reported in 2024 with 69% of cases being linked to outbreaks. In 2023, there were four outbreaks with less than half of cases being linked to outbreaks.

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The AMA's What Doctors Want Patients to Know™ series gives physicians a platform to share what they want patients to understand about today's health care headlines.

In this installment, two physicians took time to discuss what patients need to know about measles. They are:

- Erica Kaufman West, MD, director of infectious diseases in the department of science, medicine and public health at the AMA.
- Kate Land, MD, a pediatrician in Vacaville, California, at The Permanente Medical Group, which is a member of the AMA Health System Program that provides enterprise solutions to equip leadership, physicians and care teams with resources to help drive the future of medicine. Dr. Land is also lead author of the Permanente Medicine parenting blog "KP Thriving Families."

Measles is highly contagious

"The bad news about measles is that it is one of the most contagious infectious diseases of all time," Dr. Kaufman West said. For example, "if you have a room of 10 people who are unvaccinated and you have them all standing around with a person with measles, nine of them will get measles.

"As opposed to influenza, where it might be one person gets the flu. So, the attack rate of measles is quite high," she added.

"It spreads mostly through airborne transmission of droplets that are spread by a patient who coughs or sneezes," said Dr. Land. "And because measles is infecting the nose and the mouth—the oropharynx and the nasopharynx—when a person coughs and sneezes, it aerosolizes these droplets."

"This is where measles is so effective in causing disease," she said, noting "those droplets remain airborne for up to two hours in the air where a patient has coughed or sneezed and then it's transmitted to other people who come into that same airspace and breathe or touch surfaces that the droplets have landed on."

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Get vaccinated against measles

“The measles vaccine is given as part of the measles, mumps and rubella vaccine, so we call it MMR. It’s also given as part of MMRV, which adds in varicella for chickenpox,” Dr. Land said, noting “It’s typically given to child at age 1.”

“We give it at 12 months, but it can be given at 12 or 15 months—it can be given as either MMR or MMRV—and then again at 4 to 5 years old,” she said, emphasizing “the measles vaccine is probably the most successful vaccine that we have.”

“If you’ve had both of your vaccinations, you are 97% immune for life,” Dr. Land said. “If you have just one dose, you’re 93% and that is incredible protection.”

For adults who do not have immunity or have not received vaccination, “one dose is typically enough,” Dr. Kaufman West said. “But depending on your medical history and what’s going on with you, it’s a good idea to talk to your physician and see if there would be any changes to that.”

The MMR vaccine is safe and effective

There are “very few side effects—sometimes we see soreness and redness at the injection site, some fever and sometimes we see a rash about 10 days after getting the vaccine,” Dr. Land said. “But that rash is self-resolving and goes away. Even one of my kids got that rash and I went ahead and gave him his second vaccine dose.

“And he is a healthy, robust 28-year-old who I know is protected against measles,” she added. “So, it’s a very safe vaccination with a very strong efficacy. There are very few people who shouldn’t receive a vaccine such as people who are pregnant or have a weakened immune system due to disease.”

Vaccinations needed for community immunity

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“Once you get exposed to measles, the incubation period can be up to 21 days,” said Dr. Kaufman West. “It’s three weeks where you have to wait, watch and wonder if you’re going to develop symptoms if you don’t have immunity.”

“Once you have no cases for 21 days, then you can say this outbreak is over because we would have expected anybody who would have gotten measles should have already gotten it,” she said, noting “we will inevitably see outbreaks of measles in this country because we have fallen under what they used to call herd immunity but now CDC calls it community immunity, which is 95%.”

“If your population around you has a measles vaccination rate of 95% or greater, that keeps the risk of an outbreak pretty low because even if one person had it, everybody else around that person is going to be vaccinated,” Dr. Kaufman West said. “Once it drops under 95% though, that’s where you start to see these pockets of outbreaks.”

Be aware of first symptoms

“Measles starts slow with mild illness in the beginning. Symptoms usually start seven to 14 days after initial exposure,” Dr. Land said, noting at first “it’s like other viral infections.”

“It typically starts with a few days of fever and that fever is typically quite high—104º F, 105º F—fatigue, body aches, cough, runny nose and then conjunctivitis or swelling and irritation of the inner eyelids,” Dr. Kaufman West said. That means “the eyes might look red and a little bit puffy.”

“You can also—not always, but sometimes—see on the inside of the cheek these little white spots and those are called Kolpik spots,” she said, noting “they’re not painful. They’re not sores. They’re just little white spots and if that is there, then that’s the sure tip off that this is measles.”

The rash is very prominent

“Three to five days after initial symptoms, things become more difficult for the patient because they develop the later stage of the infection with a red rash that starts from the

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face and moves down the body," Dr. Land said.

"And that rash is pretty dramatic. It starts at the hairline behind the ears and the neck, so it's not always super visible at first," Dr. Kaufman West said. "Then it covers the face and the trunk and then spreads outwards on the arms and legs, and it disappears in that same order as well—from the head to the body to the limbs."

"That rash can last a week or two weeks," she said, noting "there's no typical time frame, but it's typically not itchy or painful."

This is different than the rash that children experience with chickenpox, which "lasts about seven to 10 days," Dr. Kaufman West said. "Chickenpox looks more like little pustules or blisters and that will just pop up randomly. It's not a top-down rash like measles, but the time frame that it stays is similar."

You're not contagious before symptoms

"The good thing about measles is that it's not contagious until you have symptoms," Dr. Kaufman West said. "That is unlike the flu where you're contagious for a day or so before symptoms or COVID-19 where we know that you're contagious before symptoms."

As soon as a patient presents with a rash, they are "contagious from four days before to four days after," she said. "After the four days of that rash starting, then you're not considered contagious anymore."

Testing for measles is important

"We typically do a blood test to look for acute antibodies or IgM antibodies, but you also do a swab. It can either be a throat swab—similar to strep throat—or you can do that deep nasopharyngeal swab that we do with COVID-19," Dr. Kaufman West said. "The swab is a PCR test, so it's usually pretty accurate about catching the virus."

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Physicians can also test for measles with “urine samples, but they’re collected locally by the physician and then they’re sent to the department of public health and the CDC,” Dr. Land said. But “there’s no home testing for measles.”

There are no treatments for measles

“The problem is there isn’t a treatment for measles. There’s no specific antiviral medication, so there’s nothing like Tamiflu for influenza, or Paxlovid for COVID,” Dr. Land said.

“For children who come down with severe measles and are hospitalized, they give vitamin A. You don’t have to be malnourished or have a deficiency to get the vitamin A,” said Dr. Kaufman West. “But for post exposure prophylaxis, that’s where things like vaccination are important if they’re unvaccinated, or giving someone antibodies to fight off a potential measles exposure so they don’t get measles.”

“We treat kids or adults who have measles symptomatically and supportively. We take care of their symptoms to help them feel better and watch them closely for the possible development of a complication,” said Dr. Land.

Complications can develop

Measles is “a viral respiratory illness, so it can progress from just a cough and runny nose to ear infections, pneumonia and bronchitis,” Dr. Kaufman West said, noting “it depends on the age of the patient, but a fair amount of people—especially young children—will require hospitalization because of it.”

That’s because “the fever can get very high and the pneumonia can be really difficult,” she said. “The most terrifying complications is about one in 1,000 cases will develop acute encephalitis, which is swelling and inflammation of the brain. That can lead to permanent brain damage.

“And about three out of every 1,000 children who get measles will die from either respiratory or neurologic complications,” Dr. Kaufman West added. “The weirdest

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complication with measles is something called subacute sclerosing panencephalitis and it's very rare. It happens about seven or 10 years after you have measles."

"If you have a child who has measles, they get over it and you think everything's fine. Then seven to 10 years later, they develop these neurologic changes where, at first, it's personality changes and then it comes seizures," she said, noting "it's a fatal neurodegenerative disease that there's no treatment for."

Some have presumptive immunity

The first live, attenuated vaccine was licensed for use in the U.S. in 1963 with the MMR vaccine released in 1971.

With that, "anybody born before 1957 probably had been exposed to measles because it was all around us prior to the vaccine," Dr. Kaufman West said. "So, if you were born before 1957, we say you have presumptive immunity because of your age and because of how much measles was around."

"You can talk to your physician about having your antibodies checked—also called your titers—and they can check and make sure that you have detectable antibody to prevent infection," she explained.

Talk to your doctor before traveling

"If you have children who are under 5 and you're planning to travel internationally—it doesn't even matter where you're going—talk to your pediatrician to see if you can get an early dose of that MMR vaccine," Dr. Land said.

"That extra dose doesn't negate what they need at 5 years old, but if you've got a 2-year-old or a 3-year-old, they need that extra dose of MMR to have a better immunity going into the foreign country and then they'll get back on schedule after that," Dr. Kaufman West added. "Now, even though we say the first dose should be at 1 year old, you can give it as low as 6 months old."

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“If you’re traveling and you’ve got a little tiny one at home, talk to your pediatrician about getting that first dose early and then they’ll get you back on schedule after that,” she said, adding “the CDC has a great travel website and there’s a section where you put in where you’re going and it tells you what you need, what you should know.”

Separate from others in your home

“While it is rare to have breakthrough vaccine cases with measles where you’re fully vaccinated and you still get it, it tends to be in households where people are with each other 24/7 breathing the same air,” Dr. Kaufman West said. “If you have the ability to separate the person who has measles or at least take many of the people who are not infected as possible and move them out to the other side of the house, that would be best.

“And minimize the number of people who have to come in contact with the patient who is sick,” she added.

Clean commonly touched surfaces

“As far as cleaning, measles is an airborne and droplet virus, so cleaning up bathrooms because you’re touching surfaces a lot is very important,” Dr. Kaufman West said. “And then trying to air out the house.

“Open windows and those kinds of things to increase circulation in the house,” she added.

Practice proper hand hygiene

“A few years ago, there was an outbreak at Disneyland and a handful of kids went there, got exposed and got measles,” Dr. Land said. “That’s an example where teaching your kids really great handwashing is important.

“And considering masking in crowds where people might have a cough and might be exposing your children is reasonable too,” she added. But “your main defense line against measles isn’t handwashing or masking. It’s vaccination because if you vaccinate, 97% of

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people are going to be immune."

Call first before coming in

"If you think you or your child has measles because of an exposure and vaccination status, call your doctor's office first," Dr. Kaufman West said. That is "so that they can protect the staff and the rest of the patients in that clinic or facility."

"Your doctor or a member of their team will tell you when to come in and how to do so safely and carefully to make sure you get the test that you need," she said. "And make sure that you get the care that you need and then hopefully be able to go back home."

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