



RECOMMENDATIONS FOR

- ✓ Measles Diagnosis and Reporting
- ✓ Immunizations
- ✓ Infection Prevention and Control
- ✓ Post-Exposure Prophylaxis and Exclusion

Measles is **highly contagious** and has a
>90%
secondary attack rate
in susceptible contacts.

The **virus can live** for up to
2 HOURS
on a surface or **in an airspace**
where the infected person
coughed or sneezed.

People with measles can
spread the disease
4 DAYS
before symptoms
even show.

Source: CDC

This is a joint Texas Medical Association (TMA) and Texas Hospital Association (THA) notice to increase awareness of measles among physicians, hospitals, and health care professionals, and to summarize clinical recommendations. Information provided in this document is adapted from the [All Facilities Letter \(AFL\) Summary](#) from the California Department of Public Health.

MEASLES IS ON THE RISE

As of July 29, 2019, the Texas Department of State Health Services (DSHS) has confirmed 21 measles cases in Texas. Texas had nine confirmed cases in 2018 and one in 2017.

REPORTED CASES OF MEASLES IN TEXAS



**Provisional data, as of July 29, 2019, Source: DSHS*

See more history and incidence by age group on the DSHS [Measles Data page](#).

In the U.S., [1,164 cases of measles have been confirmed](#) in 30 states as of July 25, 2019. This is the greatest number of measles cases in the past 25 years.

Worldwide, [widespread measles outbreaks](#) are occurring in places like Israel, Madagascar, Ukraine, India, the Philippines, several countries in central Africa, and eastern Europe. The international measles outbreaks have led to imported cases and outbreaks in the U.S. For example, the 10th reported Texas case was an adult traveler visiting Guadalupe County from the Philippines.

HOW TO IDENTIFY MEASLES

Measles is an acute viral respiratory illness characterized by a prodrome of fever (as high as 105°F) and malaise; cough, coryza, and conjunctivitis – the “three C’s”; and a pathognomonic enanthema (Koplik spots), followed by a [maculopapular rash](#). In some immunocompromised patients the rash is not evident.

PRODROMAL SYMPTOMS OF MEASLES

BEGIN
7-21 DAYS
AFTER EXPOSURE

RASH ONSET
14 DAYS
AFTER EXPOSURE

4
DAYS Contagious the first four days prior, during, and four days after the onset of the rash

MEASLES IS A NOTIFIABLE CONDITION IN TEXAS

Physicians, health care providers, hospitals, and health care facilities **MUST** report ALL confirmed and suspected measles cases **IMMEDIATELY** to this 24/7 number: **(800) 705-8868**, or [contact their local and regional health department](#).

VACCINE RECOMMENDATIONS

Follow the Centers for Disease Control and Prevention (CDC) [recommendations](#) for measles, mumps, and rubella (MMR) vaccination.

Who should get vaccinated?

- Children should receive **two doses** of MMR vaccine – at age 12 through 15 months, and at age 4 through 6 years, or at least 28 days after the first dose.
- Students at post-high school educational institutions who do not have evidence of immunity* need **two doses** of MMR vaccine, separated by at least 28 days.
- Adults born in 1957 or later who do not have evidence of immunity* should get at least **one dose** of MMR vaccine.

CHILDREN

2 doses of MMR vaccine

- Age 12 through 15 months,
- Age 4 through 6 years or 28 days after the first dose



STUDENTS

2 doses of MMR vaccine

- Separated by at least 28 days



ADULTS

born in 1957 or later who do not have evidence of immunity*

1 dose of MMR vaccine

For international travelers:

- Infants – Those aged 6-11 months should receive one dose of MMR vaccine before departure, then be vaccinated with MMR or MMRV (measles-mumps-rubella-varicella) vaccine at 12-15 months (\geq 28 days after the initial dose) and again at 4-6 years, according to the routinely recommended schedule.
- All others – If born in 1957 or later with no presumptive evidence of immunity,* these individuals should receive two doses of MMR vaccine prior to departure, separated by at least 28 days.

For health care personnel:

- Health care personnel who do not have presumptive evidence of immunity* should get two doses of MMR vaccine, separated by at least 28 days.
- Post-exposure prophylaxis for health care personnel – Health care personnel without evidence of immunity* exposed to measles should be given the MMR vaccine within 72 hours, or immune globulin (IG) should be given within six days when available. Exclude health care personnel without evidence of immunity from duty from day five after first exposure to day 21 after last exposure, regardless of post-exposure administration.

* Acceptable presumptive evidence of immunity against measles includes at least one of the following:

- ✓ Written documentation of adequate vaccination:
 - One or more doses of a measles-containing vaccine administered on or after the first birthday for preschool-age children and adults not at high risk; and
 - Two doses of measles-containing vaccine for school-age children, adolescents, and adults at high risk, including college students, healthcare personnel, and international travelers;
- ✓ Laboratory evidence of immunity;
- ✓ Laboratory confirmation of measles (verbal history of measles does not count); or
- ✓ Birth before 1957 (although birth before 1957 is considered acceptable evidence of measles immunity, healthcare facilities should consider vaccinating unvaccinated personnel born before 1957 who do not have other evidence of immunity with two doses of MMR vaccine, with a minimum interval of 28 days).

During an outbreak of measles, healthcare facilities should recommend 2 doses of MMR vaccine at the appropriate interval for unvaccinated healthcare personnel regardless of birth year if they lack laboratory evidence of measles immunity.

For people who previously received a dose of measles vaccine in 1963–1967 and are unsure which type of vaccine it was, or are sure it was inactivated measles vaccine, that dose should be considered invalid and the patient revaccinated as age- and risk-appropriate with MMR vaccine.

INFECTION PREVENTION AND CONTROL

Measles is highly communicable and is spread by airborne and contact methods. Hence, promptly identifying measles cases and implementing control measures immediately can reduce the risk of measles transmission and avoid the need for epidemiological investigations of potential health care contacts.

Recognize and report suspected measles patients.

- Consider measles in patients of any age who have a fever and a rash, regardless of their immunization history. Measles rashes are red, blotchy, and maculopapular and typically start on the hairline and face, then spread downwards to the rest of the body.
- Collect a comprehensive history on suspected measles patients, including:
 - ▶ Travel in the past three weeks, either domestically or internationally (including travel through domestic or international airports or visits to tourist attractions); and
 - ▶ Prior measles immunization or history of measles disease; although documentation of two doses of MMR vaccine or a prior positive measles immunoglobulin G test result makes the diagnosis of measles less likely, measles can still occur in these individuals.

**Isolate suspected measles patients immediately and call
your local or regional health department or (800) 705-8868.**

Post-exposure prophylaxis (MMR vaccine within 72 hours of exposure or IG within six days of exposure) can be administered to susceptible contacts but should be prioritized for certain populations (infants less than 1 year old, pregnant women, and those who are immunocompromised).

Follow appropriate infection prevention and control protocols for suspected measles patients.

- ✓ If the patient calls the facility before arrival with suspected measles and an airborne infection isolation (negative pressure) room is NOT available:
 - ▶ Refer the patient to a facility with an **airborne** isolation room, if possible.
 - ▶ If referral elsewhere is not possible and medical evaluation is necessary but not urgent, try to schedule the patient at the end of the day.
 - ▶ If measles testing is indicated, but the patient doesn't require full medical evaluation, consider collecting a throat swab for polymerase chain reaction testing while the patient is in the car or otherwise outside the facility.
 - ▶ Ask the patient to alert you before entering the facility and provide him or her a surgical mask before entry. If the patient can't wear a surgical mask, use other practical means of source containment such as a blanket placed loosely over the head of an infant or young child during transit through common areas.
 - ▶ Bypass the waiting room if possible, and do not allow the patient to remain in the waiting area or other common areas.
 - ▶ Immediately place the patient in a private room, and keep the door closed.
 - ▶ Have health care workers wear N-95 respirators and cleanse hands thoroughly.
 - ▶ Evaluate the patient as quickly as possible and discharge the patient home or transfer the patient to a facility with an airborne infection isolation room as soon as possible.
 - ▶ Don't use the examination room for at least two hours after the suspected infectious measles patient leaves.

- ✓ If the patient does NOT call ahead before entering your facility with suspected measles and an airborne infection isolation room is NOT available:
 - ▶ Mask the patient immediately. If the patient cannot wear a surgical mask, use other practical means of source containment such as a blanket placed loosely over the head of an infant or young child suspected to have measles during transit through common areas.
 - ▶ Bypass the waiting room if possible, and do not allow the patient to remain in the waiting area or other common areas.
 - ▶ Immediately place the patient in a private room, and keep the door closed.
 - ▶ Allow only health care personnel with documentation of two doses of live measles vaccine or laboratory evidence of immunity (measles immunoglobulin G positive) to enter the patient's room, if possible.
 - ▶ Have health care workers wear N-95 respirators and cleanse hands thoroughly.
 - ▶ Evaluate the patient as quickly as possible and discharge the patient home or transfer the patient to a facility with an airborne infection isolation room as soon as feasible.
 - ▶ Depending on the number of air changes per hour, do not use the examination room for at least two hours after the possibly infectious patient leaves.

- ✓ If measles is suspected and the facility has an airborne isolation room:
 - ▶ Mask the patient immediately. If the patient cannot wear a surgical mask, use other practical means of source containment such as a blanket placed loosely over the head of an infant or young child suspected to have measles during transit through common areas.
 - ▶ Bypass the waiting room if possible, and do not allow the patient to remain in the waiting area or other common areas.
 - ▶ Immediately place the patient in airborne isolation room.
 - ▶ Allow only health care personnel with documentation of two doses of live measles vaccine or laboratory evidence of immunity (measles immunoglobulin G positive) to enter the patient's room, if possible.
 - ▶ Have health care workers wear N-95 respirators and cleanse hands thoroughly.
 - ▶ The patient may remove the mask when in the airborne isolation room but should put the mask back on again before leaving the room when exiting the facility or during transit to another part of the facility.

- ✓ For all suspected measles cases:
 - ▶ Allow only health care personnel with documentation of two doses of live measles vaccine or laboratory evidence of immunity (measles immunoglobulin G positive) to enter the patient's room, if possible.
 - ▶ Regardless of immune status, all health care personnel entering the patient room should use respiratory protection at least as effective as an N-95 respirator.
 - ▶ Do not allow susceptible people into the patient room, if possible.
 - ▶ Notify local public health authorities.
 - ▶ Notify any location where the patient is being referred for additional clinical evaluation or laboratory testing about the patient's suspected measles status, and do not refer suspected measles patients to other locations unless appropriate infection control measures can be implemented at those locations.
 - ▶ Instruct suspected measles patients and exposed persons to inform all physicians and providers of the possibility of measles before entering a health care facility so it can take appropriate infection control precautions.

- ▶ If the patient was not immediately placed in an airborne isolation room, make note of the staff and other patients who were in the area during the time the suspected measles patient was in the facility and for at least two hours after the suspected measles patient left. If measles is confirmed in the suspected measles patient, potentially exposed people will need to be assessed for measles immunity.

The CDC [Guideline for Isolation Precautions](#) has more information on infection control and preventing transmission of infectious agents in health care settings.

DIAGNOSTIC TESTING

Contact your [local or regional health department](#) while the patient is present in the clinical setting to facilitate testing and follow-up of potential exposure. A blood specimen for serology and throat swab for measles PCR should be collected at the first contact with a suspected measles case.

- Throat swabs are preferred, but nasopharyngeal swabs are also accepted. Use a synthetic swab and place it into liquid viral or universal transport media.
- For details about storage and shipping to the state laboratory for testing, please visit the [DSHS measles laboratory page](#).

Consult and share information with your local or regional health department in contact investigations for confirmed measles cases.

- If a patient who was seen in your facility is confirmed as a measles case, the local health department will follow up with you regarding a contact investigation.
- Patients, visitors, and staff who were in the same area as the measles patient during the time the patient was in your facility and for at least two hours after the patient left the area are considered possibly exposed unless the patient was immediately placed in an airborne infection isolation room, even if the measles patient was masked.
- Health care facilities are expected to:
 - ▶ Identify potentially exposed patients and staff (including reception and other nonclinical staff), and
 - ▶ Provide a line list of exposed patients who are not currently hospitalized to the local or regional health department.
 - Include name, most recent contact information (phone number[s], home address, email address), sex, date of birth, occupation (if known), and name of any primary care physician or obstetrician-gynecologist on file for the patient; and
 - Determine if any of the exposed patients are at high risk (pregnant women, immunocompromised persons, infants less than 15 month old, and health care workers) and notify the local health jurisdiction about them immediately; and
 - Assess measles immunity in health care personnel (see table on next page) and immunity and high-risk status in exposed patients who are still hospitalized.

Recommended Measles Post-Exposure Follow-up

Category	Immunoglobulin G testing	Post-exposure prophylaxis	Health care worker work exclusion
Two documented doses of MMR vaccine (~1% will be susceptible)	No	No	No
Measles immunoglobulin G positive (<1% will be susceptible)	No	No	No
Have 1 documented dose of MMR vaccine (5% will be susceptible) or no documented doses of MMR	Yes	If found to be susceptible	Yes
Measles immunoglobulin G negative or known to be unvaccinated	–	Yes	Yes
Received MMR vaccine <72 hours of exposure	–	–	Yes
Received immune globulin ≤6 days of exposure	–	–	Yes

For additional information on follow-up of persons exposed to measles, including immunity assessment and post-exposure prophylaxis, please contact your [local or regional health department](#).

Additional Resources

[DSHS Measles Information](#)

[Local Public Health Organization Contact Information](#)

[Public Health Department Contact Information, by County](#)

[Guidance from CDC for Healthcare Professionals](#)

[Practice Advisory: Management of Pregnant and Reproductive-Aged Women during a Measles Outbreak](#)

[WHO Measles and Rubella Surveillance Data](#)