

# Key Measures to Prevent Measles Transmission in Healthcare Settings

## General Overview

- Measles is primarily spread within households and communities but can also be transmitted in healthcare settings.
- The **most effective prevention** is **getting vaccinated** which helps to ensure **high community immunization rates**.
- Healthcare settings require a **multi-layered approach**, including:
  - Ensuring healthcare personnel (HCP) have **presumptive immunity** to measles through proof of vaccination or titers.
  - Quickly **identifying and isolating** suspected measles cases.
  - Following **Standard, Airborne, and Droplet Precautions** for infected patients.
  - Encouraging **respiratory hygiene and cough etiquette**.
  - Properly managing **exposed and infected HCP, patients, and visitors**.

## Definitions

- **Healthcare Personnel (HCP):** Anyone working in a healthcare setting (paid or unpaid) who may be exposed to infectious materials.
- **Healthcare Settings:** Any location where healthcare services are provided, including, but not limited to, hospitals, clinics, long-term care facilities, and home healthcare.
- **Exposure in Healthcare:**
  - Being in the same airspace as an infectious measles patient without proper PPE.
  - Entering an airspace where an infected person was present **within the past 2 hours without proper PPE and/or sanitation**.

- Touching contaminated surfaces and then touching their eyes, nose, or mouth..

## Recommendations for Healthcare Settings

### 1. Ensure HCP Immunity to Measles

- HCP should have **documented immunity**, which includes:
  - Written proof of **two doses of measles vaccine**.
  - **Laboratory evidence** of immunity (IgG antibodies) through titer.
  - Birth **before 1957** (although vaccination is still recommended).

### 2. Minimize Potential Exposures

- **Before Arrival**
  - When scheduling appointments, instruct patients with symptoms to **wear a facemask and use designated entrances**.
  - Emergency services should **alert hospitals** before transporting a suspected case.
- **Upon Arrival**
  - Rapidly **identify and isolate** suspected cases at triage stations.
  - Ensure **respiratory hygiene, cough etiquette, and hand hygiene** are followed.
  - Post **clear signage** and provide necessary supplies (N95 or PAPR, gowns, and standard PPE).

### 3. Adhere to Standard, Airborne, and Droplet Precautions

- **Patient Placement**
  - Instruct patients who want to come to your facility for measles testing not to enter the facility without calling first and setting up an appointment.

- Isolate patients in an **Airborne Infection Isolation Room (AIIR)** when available. Click here for more information on AIIR: <https://www.setra.com/blog/what-are-airborne-infection-isolation-rooms>.
- If an AIIR is unavailable, keep patient in private room and use a HEPA filter. Lastly, if AIIR and a HEPA filter is unavailable, transfer to an accepting facility that has these resources.
  - If none of these options are possible, please isolate patient to private room away from high risk patients.
- After the patient leaves, the room should **remain vacant for 2 hours** to allow airborne virus clearance.
  - To disinfect a room after a measles case, allow the room to remain vacant for 2 hours, then clean and disinfect surfaces with an EPA-registered disinfectant suitable for healthcare settings, following the manufacturer's instructions. Link: <https://www.epa.gov/pesticide-registration/disinfectants-emerging-viral-pathogens-evps-list-g>
- **HCP Precautions**
  - HCP **without immunity** should avoid entering rooms of measles patients or use proper PPE.
  - **Use respiratory protection:**
    - A fitted **N95 respirator or PAPR** is required, even for HCP with immunity.
    - Fit-testing and training on proper respirator use are necessary.
  - Require workers to discard gloves immediately after use and to wash their hands, preferably with soap and water, rather than use an alcohol-based hand sanitizer. [OSHA's Personal Protective Equipment \(PPE\) Safety and Health Topics page](#) provides information on PPE selection and use.

#### 4. Managing Patient Transport

- **Limit patient movement** to essential medical procedures.
- **Within the facility**
  - The patient should **wear a facemask** during transport.
  - Use **a designated route** to minimize contact with others.
- **Between facilities**
  - Notify the **receiving facility and transport staff** in advance.

#### 5. Duration of Precautions

- **Standard cases:** Continue **Airborne Precautions for 4 days after rash onset** or medically cleared.
- **Immunocompromised patients:** Require **Standard, Airborne, and Droplet Precautions for the full duration of illness** due to prolonged virus shedding.

#### 6. Visitor Restrictions

- **Limit visitors to only those essential for patient care**
- Screen visitors for **measles symptoms** before entry.
- Visitors **without immunity** should **not enter** measles patient rooms.

#### 7. Environmental Infection Control

- Use **standard cleaning and disinfection** procedures.
- Apply **EPA-registered disinfectants** for healthcare settings.
- Dispose of **contaminated PPE and medical waste** per regulations.

#### 8. Managing Measles Exposures

- **Evaluate all exposed HCP, patients, and visitors** for immunity.

- **Exposed HCP: Follow CDC's updated recommendations** for infection control. Link: <https://www.cdc.gov/infection-control/hcp/healthcare-personnel-epidemiology-control/measles.html>
- **Exposed patients without immunity:**
  - Keep in **Airborne Precautions for 21 days** after the last exposure.
  - Provide **post-exposure prophylaxis** per CDC guidelines.
  - Notify **LDCPH or KDHE** for follow-up.

## 9. Measles Outbreak Management

- **During large outbreaks**, isolate measles patients in designated areas.
- Use **temporary solutions** like HEPA filters to create negative pressure rooms.

## 10. Training and Education for HCP

- Provide **job-specific training** on measles prevention.
- Ensure **proper PPE use**, including respirator training and fit-testing.

## 11. Reporting to Public Health Authorities

- Implement **rapid notification systems** within hospitals.
- Designate staff responsible for:
  - **Communicating with public health (LDCPH or KDHE) officials within 4 hours.**
  - **Disseminating information to HCP.**

This guidance is part of a **comprehensive infection prevention program** to protect **patients, HCP, and visitors** from measles and other infectious diseases.

## Measles Testing

The Kansas Health and Environment Laboratories (KHEL) can perform free RT-PCR testing for measles from nasopharyngeal swab (preferred), throat swab, or urine specimens. Failure to adhere to specimen collection and shipping recommendations will result in specimens that are unsatisfactory for testing.

- Specimen: nasopharyngeal (NP) swab in leak-proof container with viral transport media (VTM) or M4 universal transport media (UTM).
- Collection: Collect NP swab using standard techniques. Place swab into VTM. Ensure the VTM tube is capped tightly to avoid leakage.
- Storage/Transport: Specimen must be maintained and received between 2-8°C. Store in refrigerator after collection and ship specimen with cold packs to ensure temperature stability during transport.
- Specimen Stability: Specimen must be received at KHEL within 72 hours of specimen collection with cold packs to ensure temperature stability at 2-8°C during transport.
- Report Turnaround: 1-2 business days
- Shipping: Send via overnight commercial delivery or courier to Kansas Health and Environment Laboratories new address at 1115 SW Harrison Topeka, KS 66612. Ensure weekend delivery is specified if not using courier.
- Common Rejection Reasons: The following are common reasons specimens may be rejected or unsatisfactory for testing at KHEL:

1. Received at KHEL outside of 2-8°C,
2. Specimen received greater than 72 hours post collection,
3. specimen and universal form not completed/missing information,  
or
4. No transport media in specimen tube or expired media.

## Lab questions?

For any questions on type of swabs, transport media, supplies, shipping, etc. contact KHEL Customer Service during business hours by emailing [kdhe.khel\\_help@ks.gov](mailto:kdhe.khel_help@ks.gov) or call 785-296-1620. General Questions? For any questions or further clarification on measles, please reach out to the KDHE Epidemiology Hotline at [kdhe.epihotline@ks.gov](mailto:kdhe.epihotline@ks.gov) or your regional epidemiologist.