

Assessment Tool for Healthcare Personnel Exposed to Measles

The purpose of this assessment tool is to assist public health, infection control practitioners, and doctor's office/ clinic staff in evaluating the exposure of healthcare personnel (HCP) in a healthcare setting. These are general rules and may be updated as additional information becomes available.

Infectious Period

Patients with measles are considered **infectious** from 4 days before to 4 days after rash onset.

Exposure Definition

In healthcare settings, persons potentially exposed to measles include patients, visitors, and HCP who are not wearing recommended respiratory protection (regardless of presumptive evidence of measles immunity status) who are:

- In a shared air space with an infectious measles patient at the same time, or
- In a shared air space vacated by an infectious measles patient within the prior 2 hours

Presumptive Evidence of Measles Immunity for Healthcare Personnel

All persons who work in healthcare facilities should have presumptive evidence of immunity to measles. Presumptive evidence of immunity to measles for HCP includes any of the following:

- Written documentation of vaccination with 2 doses of live measles or MMR vaccine administered at least 28 days apart
 - The first dose of measles-containing vaccine should be administered on or after the first birthday; the second dose should be administered no earlier than 28 days after the first dose
- Laboratory evidence of immunity
 - Positive measles immunoglobulin (IgG) titer in the serum; equivocal results should be considered negative
- Laboratory confirmation of disease

Postexposure Prophylaxis Recommendations

Refer to [VDH's Postexposure Prophylaxis Recommendations for Asymptomatic Persons Exposed to Measles](#).

HCP who do not have evidence of presumptive immunity should be offered the MMR vaccine if they are not pregnant or severely immunocompromised. Serologic screening of HCP during an outbreak to determine measles immunity before vaccination is not recommended. The reason is that preventing measles transmission requires the rapid vaccination of HCP without presumptive evidence of immunity, which can be impeded by the need to screen, wait for results, and then contact and vaccinate susceptible persons. Results from serologic testing, if performed, can inform on the need for the second MMR vaccine dose.

Infection Prevention and Control Recommendations

HCP should adhere to Standard and Airborne Precautions as recommended by [CDC guidance](#) when caring for patients with known or suspected measles.

Regardless of their immune status, all exposed HCP should immediately report [any signs or symptoms of measles](#) (e.g., fever, rash, cough, runny nose, red/watery eyes) during the incubation period from 5 to 21 days after exposure to a possible measles case. Reports should be made to the occupational health program (if available) or the [local health department](#). Personnel who develop measles should be immediately relieved from all patient contact and excluded from work until four days after the rash onset. The date of rash onset is considered Day 0.

Exclusion Assessment

Use Table 1 to determine monitoring, self-quarantine, and exclusion from work recommendations for exposed HCP.

Table 1. Assessment of Healthcare Personnel Exposed to Measles

| Immunity Status | PEP Received | Monitoring | Self-Quarantine | Exclusion from Work |
|-------------------------------------|---|--|---|--|
| Presumptive Evidence of Immunity | N/A | Monitor for signs and symptoms for 21 days after last exposure | Not recommended | Not recommended |
| No Presumptive Evidence of Immunity | Received 1 dose of MMR vaccine prior to Exposure. They should receive their 2 nd dose as soon as possible (at least 28 days from their 1 st dose) | Monitor for signs and symptoms for 21 days after last exposure | Not recommended | Not recommended |
| | Received 0 doses of MMR vaccine prior to exposure with 1st dose within 72 hours of exposure | Monitor for signs and symptoms for 21 days after last exposure | Not recommended | <ul style="list-style-type: none"> Relieve from patient contact immediately Exclude from work from the 5th day after the first exposure through the 21st day after the last exposure |
| | Received 0 doses of MMR vaccine prior to exposure AND did NOT receive MMR vaccine within 72 hours of exposure | Monitor for signs and symptoms for 21 days after last exposure | Quarantine for 21 days after last exposure | <ul style="list-style-type: none"> Relieve from patient contact immediately Exclude from work from through the 21st day after the last exposure |
| | Received IG within 6 days of exposure | Monitor for signs and symptoms for 28 days after last exposure | Quarantine for 28 days (preferable) or 21 days (acceptable minimum) | <ul style="list-style-type: none"> Relieve from patient contact immediately Exclude from work through the 28th day (preferred) after the last exposure |

Additional Notes

- Patients who have been exposed in a healthcare setting should be informed of their exposure, educated on the signs and symptoms of measles (including prodromal presentation), and asked to contact a healthcare professional if symptoms of measles develop prior to seeking treatment. VDH has a [measles fact sheet](#) that may be used as part of the notification.
- One dose of MMR vaccine is about 93% effective in preventing measles and two doses is about 97% effective; therefore, a small number of vaccinated people, including healthcare personnel, remain at risk for infection.

References

- CDC (personal communication with VDH, October 2021).
- CDC. [Interim Infection Prevention and Control Recommendations for Measles in Healthcare Settings](#)
- CDC. [Manual for the Surveillance of Vaccine-Preventable Diseases. Chapter 7: Measles](#)