Appendix A: Considerations when Evaluating a Person for Exposure to Measles in a Healthcare Setting

Interim Infection Prevention and Control Recommendations for Measles in Healthcare Settings

AT A GLANCE

Appendix A: Considerations when Evaluating a Person for Exposure to Measles in a Healthcare Setting from the Interim Infection Prevention and Control Recommendations for Measles in Healthcare Settings guideline.

Considerations when Evaluating a Person for Exposure to Measles in a Healthcare Setting

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

Based on frequently asked questions to CDC and State and local health departments, the following additional considerations are provided for determining follow-up needs for measles exposures in healthcare settings:

- Effectiveness of source control measures for measles have not been formally studied in healthcare settings. However, known measles transmission has not been reported in scenarios in which exposure risk could be considered low, but is technically not zero, such as in a triage area and transport route within a facility when a suspect measles patient is appropriately identified at entry, masked, and quickly transported to an airborne infection isolation room (AIIR).
- Examples of higher risk exposures to measles include, but are not limited to:
  - Susceptible HCP who are unprotected (i.e., not wearing recommended respiratory protection) and are providing face-to-face care to an unmasked patient
  - Persons in the waiting room with an unmasked measles patient for an extended period of time
- While masking patients does not eliminate the possibility of exposing others, it reduces respiratory aerosol generation [1] [2] [3]
- Defining what constitutes a shared air space:
  - Smaller spaces, such as the patient compartment of an ambulance, a single patient room, or a clinic waiting area, are shared air spaces
  - Different areas in a larger space or rooms that share a common air handling system, such as a large emergency department with patient waiting, triage, HCP work areas, or multiple individual patient rooms that share a common unfiltered air source, are also shared airspaces.
- Other factors in the shared air space also likely have an impact on the efficiency of measles transmission, including humidity and air flow dynamics between rooms.
- However, distances farther from the source patient may pose decreased risk of transmission to others. HCP responsible for maintaining the building's air handling system(s) should be consulted when assessing exposure risk between different rooms or areas of a facility, e.g., to

identify where ventilation return air is recirculated (without passing through HEPA filtration).

- Persons who are considered to be in a high-risk group for severe illness and complications from measles include severely immunocompromised persons, infants too young to be vaccinated, and pregnant women who do not have presumptive evidence of measles immunity. See Measles (Rubeola) For Healthcare Professionals.
- To better inform future guidance, health departments and facilities are encouraged to record and report details about the circumstances associated with healthcare-associated cases of measles, including adherence to recommended precautions and facility location(s) of index and secondary cases.

Footnotes

1. John DF, Druce JD, Birch C, Grayson ML. A quantitative assessment of the efficacy of surgical and N95 masks to filter influenza virus in patients with acute influenza infection. *Clin Infect Dis.* 2009 Jul 15;49(2):275-7.
2. Milton DK, Fabian MP, Cowling BJ, Grantham ML, McDevitt JJ. Influenza virus aerosols in human exhaled breath: particle size, culturability, and effect of surgical masks. *PLoS Pathog.* 2013 Mar;9(3):e1003205.
3. Diaz KT, Smaldone GC. Quantifying exposure risk: Surgical masks and respirators. *Am J Infect Control.* 2010;38:501-8.

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SOURCES

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National Center for Emerging and Zoonotic Infectious Diseases (NCEZID)

REFERENCES

1. John DF, Druce JD, Birch C, Grayson ML. A quantitative assessment of the efficacy of surgical and N95 masks to filter influenza virus in patients with acute influenza infection. *Clin Infect Dis.* 2009 Jul 15;49(2):275-7.
2. Milton DK, Fabian MP, Cowling BJ, Grantham ML, McDevitt JJ. Influenza virus aerosols in human exhaled breath: particle size, culturability, and effect of surgical masks. *PLoS Pathog.* 2013 Mar;9(3):e1003205.
3. Diaz KT, Smaldone GC. Quantifying exposure risk: Surgical masks and respirators. *Am J Infect Control.* 2010;38:501-8.

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Appendix B

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