	The Johns Hopkins Hospital Interdisciplinary Clinical Practice Manual Infection Control	<i>Policy Number</i>	IFC022	
		<i>Effective Date</i>	09/01/2011	
		<i>Approval Date</i>	08/30/2011	
	<i>Subject</i>	Respiratory Viruses, Prevention and Control of	<i>Page</i>	1 of 5
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Keywords: Respiratory viruses, influenza, respiratory syncytial virus (RSV), parainfluenza, adenovirus, human metapneumovirus (hMPV), isolation, droplet precautions

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I. OBJECTIVES


The following guidelines are established to facilitate the identification, prevention and control of viral respiratory infections including influenza, respiratory syncytial virus (RSV), parainfluenza, adenovirus, human metapneumovirus (hMPV), and rhinovirus.

II. INDICATIONS FOR USE

Respiratory viruses circulate and cause disease year round. However, influenza and RSV usually cause annual community outbreaks during late fall, winter, and early spring. This policy describes respiratory virus prevention and control activities that shall occur all year and specifies additional activities that shall be required during periods of increased respiratory virus transmission.

III. DEFINITIONS

Droplet Precautions	Droplet precautions are used for a patient known or suspected to be infected with a respiratory virus. This isolation requires gown and gloves to enter the room and a mask with eye protection if within 6 feet of the patient. In addition, for aerosol generating procedures (e.g., bronchoscopy, sputum inductions, intubation and extubation, open suctioning, cardiopulmonary resuscitation and autopsies) a fit-tested N-95 with eye protection or PAPR is required for all influenza positive patients and until influenza has been ruled out.
Stage 1	Stage 1 refers to enhanced respiratory virus prevention and control measures that begin in the fall when there are 2 consecutive weeks with at least one influenza positive patient OR at least one RSV positive patient per week. As activity declines in the spring, the transition from stage 2 back to stage 1 shall occur when there are fewer than 5 influenza positives per week AND fewer than 5 RSV positives per week. Stage 1 and the respiratory virus season shall end after 2 consecutive weeks with one or fewer influenza positives per week AND one or fewer RSV positives per week. The positives can occur in any age patient in an outpatient or inpatient setting at the Johns Hopkins Hospital.

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Stage 2	Stage 2 refers to additional respiratory virus prevention and control measures that are to be put in place when there are at least five influenza positives OR five RSV positives in a week. Stage 2 ends when there are fewer than 5 influenza positives in a week AND fewer than 5 RSV positives a week. The positives can occur in any age patient in an outpatient or inpatient setting at the Johns Hopkins Hospital.
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IV. RESPONSIBILITY


- A. Clinical and Support Personnel: Follow the requirements of this policy.
- B. Supervisor/Managers of all Departments: Ensure employee and visitor compliance with this policy.
- C. Occupational Health Services (OHS): Make influenza vaccine easily accessible to healthcare workers annually and calculate vaccination rates. Report any employee hospitalized with pneumonia to Department of Hospital Epidemiology and Infection Control.
- D. Microbiology Laboratory: Performs respiratory virus testing as described in this policy. Report data rapidly to facilitate care.
- E. Physicians: Order respiratory virus tests as specified in this policy. Ensure that they and their patients are in compliance with this policy.
- F. Department of Hospital Epidemiology and Infection Control (HEIC): Provide education and training. Assist with questions concerning the policy and measures to initiate or discontinue required isolation. Conduct surveillance for respiratory viruses, evaluate potential nosocomial cases, and announce the beginning and ending of Stage 1 and Stage 2. Report surveillance and influenza vaccination compliance data. Report any employee hospitalized with pneumonia to the Health Department.

V. PROCEDURE

- A. RESPIRATORY VIRUS TESTING
 1. Any patient admitted to the Johns Hopkins Hospital for whom there is clinical suspicion of respiratory virus infection will have a specimen sent to the laboratory for respiratory virus testing. For patients with respiratory symptoms who are admitted through the adult or pediatric Emergency Department (ED), the specimen shall be obtained while in the ED. During periods of increased respiratory virus activity, symptoms and conditions that warrant testing are broadened. (See Appendix A for details.)
 2. Nasopharyngeal swabs are the preferred specimens for respiratory virus testing. Instructions on how to obtain an NP swab are posted on the HEIC website (<http://www.hopkinsmedicine.org/heic>). Nasopharyngeal washes and bronchoalveolar lavage specimens are also acceptable for all test types (DFA, shell vial and PCR). Nasopharyngeal aspirates and endotracheal aspirates are acceptable for DFA and shell vial culture but not PCR. Specimens shall be delivered to the microbiology laboratory within one hour of collection.
 3. The microbiology laboratory tests for a panel of respiratory viruses including influenza A and B, RSV, parainfluenza 1-3, adenovirus, hMPV and Rhinovirus (when PCR is run). (See Appendix B for more information about these viruses.)
- B. ISOLATION PRECAUTIONS
 1. Droplet precautions are used for all hospitalized patients known or suspected to be infected with a respiratory virus. In addition, during periods of increased influenza and RSV activity, droplet precautions are required for any patient who has a specimen sent for viral testing. Everyone (including visitors) must don gloves and a gown to enter the patient's room and wear a mask with eye protection when within six feet of the patient. All protective attire must be removed prior to leaving the room and hands must be cleaned.

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2. For aerosol generating procedures (e.g., bronchoscopy, sputum inductions, intubation and extubation, open suctioning, cardiopulmonary resuscitation and autopsies), a fit tested N-95 with eye protection or a PAPR is required for all influenza positive patients and until influenza has been ruled out.
 3. The duration of droplet precautions for laboratory confirmed cases of respiratory virus infection is dependent on the age and immune status of the patient. For persons suspected of having a respiratory virus infection but with a negative laboratory test, the duration of precautions is dependent on the extent of respiratory virus activity in the community. Appendix A contains specific information on the duration of isolation precautions.
 4. Visitors shall be educated about droplet precautions, the importance of hand hygiene upon entry and exiting the room and avoidance of contact with other patients.
 5. Patients with suspected or confirmed respiratory virus infection seen in outpatient settings shall be handled using Standard Precautions (use of gloves, gown, mask, eye protection, or face shield, depending on the anticipated exposure) and hand hygiene between patient contacts. Healthcare providers shall offer a mask to patients with respiratory symptoms and shall encourage them to wear it if they can tolerate it.
- C. **BED PLACEMENT**
1. A private room is preferable for patients on droplet precautions.
 2. If sharing a room is unavoidable, patients may be cohorted. Appropriate cohorts are described in Appendix A, patient placement section.
 3. If an infected patient must share a room with a non-infected patient, the beds must be greater than 6 feet apart, the curtains shall be drawn between the beds and the infected patient shall be placed in the bed closest to the window. This prevents staff and visitors from entering the isolation space en-route to visit/care for the uninfected patient. Uninfected roommates must never be patients with congenital heart disease, chronic lung disease, or immune suppression. The infected patient shall be moved to a private room or cohorted as soon as possible. (See Appendix A)
 4. Upon patient discharge or transfer to another room, the room shall be cleaned including changing the curtains.
- D. **PATIENT TRANSPORT**
1. Limit the movement or transport of patients on precautions for respiratory viruses (suspect or laboratory confirmed). Ensure that such patients leave their rooms for essential purposes only. If patients must leave their room, they shall wear a mask.
 2. See Infection Control and Prevention: Standard and Isolation Precautions policy (IFC 023) for the protocol when transport is necessary.
- E. **VISITATION**
1. Visitors with upper respiratory symptoms and fever may not visit a patient until symptoms subside. Exceptions will be granted only with permission from the attending physician and nurse manager after consultation with HEIC and the visitor shall wear a mask.
 2. Visitors with respiratory symptoms but no fever shall be discouraged from visiting a patient but if they must enter the hospital they shall put on a mask as soon as they arrive.
 3. Additional restrictions apply during periods of increased respiratory virus circulation (see Appendix A).
- F. **PERSONNEL**
1. All persons with direct patient contact or working in clinical areas shall receive the influenza vaccine or complete a declination annually. Occupational Health Services provides the vaccine free of charge to all staff, students, volunteers, and personnel who work in the hospital. Any person with direct patient contact or working in clinical areas who has not been vaccinated with the current influenza vaccine shall be required to wear a mask when within 6 feet of a patient. The dates of the mask requirement shall be determined by HEIC, based on influenza activity in the local community.
 2. Both the inactivated virus vaccine (the injection) and live virus vaccine (the nasal spray) are acceptable for most personnel.

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3. Personnel who are febrile greater than 100.0°F (38.0°C) with respiratory symptoms must stay home. If an individual becomes ill at work they must call or report to their supervisor and shall call or go to Occupational Health Services 7:30am to 4:00pm, Monday-Friday, 410-614-1620. At all other times, the individual shall call 410-955-5000 and ask for the OHS nurse on-call. Before returning to work all persons must be cleared by Occupational Health Services.
 4. Personnel who are afebrile but have respiratory symptoms can work but must wear a mask when within 6 feet of a patient and must perform hand hygiene.
- G. PERIODS OF INCREASED ACTIVITY
1. During periods of increased influenza and RSV activity, a multi-stage prevention and control plan will be implemented (See Appendix A).
 1. For data analysis purposes, a reporting week is defined as Sunday – Saturday. Test results from specimens collected during a given week will be analyzed and reported out the following Tuesday.
 2. HEIC will coordinate an informational campaign to announce that the respiratory virus season has begun and to give stage † specific instructions. Instructions will be distributed to the Weinberg Oncology Center, IPOP/HIPOP, Medicine, Surgery, Emergency Department, Adult and Pediatric and Newborn Nursery, Security, Front Desk and Hospital Phone Operators.
 - HEIC shall communicate with nursing through the nurse managers.
 - The Pediatric and Obstetrics Chief Residents, and Medicine and Surgery ACSs shall disseminate information to the house staff.
 - The responsible Chief Resident in the Weinberg Oncology Center shall disseminate information throughout the Center.

VI. REPORTABLE CONDITIONS

- A. PEDIATRIC INFLUENZA ASSOCIATED DEATHS
The physician responsible for the patient must report influenza-associated deaths in pediatric patients to the Health Department.
- B. EMPLOYEE HOSPITALIZED WITH PNEUMONIA
Any employee hospitalized with pneumonia shall be reported to Occupational Health Services who will report to HEIC. HEIC shall notify the Health Department.
- C. HEALTHCARE PERSONNEL INFLUENZA VACCINATION RATES
Occupational Health Services will report rates of healthcare worker influenza vaccination rates by nursing unit and category of healthcare worker to the HEIC Committee monthly during the respiratory virus season. These rates shall also be publicly reported as required by law beginning in the fall of 2008.


VII. EDUCATION AND COMMUNICATION

This policy will be communicated to the appropriate JHHS personnel via the following channels:

1. Updates and revisions will be communicated via Medical Staff and Nursing publications.
2. Nurse Managers, Physician Advisors, Residency Coordinators, Department Chiefs and Department Management shall be responsible for the training of new employees regarding the policy and to communicate updates to the protocol.
3. This policy will be placed in the Interdisciplinary Clinical Practice Manual on the JHH Intranet site <http://www.insidehopkinsmedicine.org/icpm>. Paper distributions will be made to the Functional Unit Nursing offices in the event of web access difficulty.

VIII. SUPPORTIVE INFORMATION

SEE ALSO:

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- [IFC023 - Infection Control and Prevention: Standard and Isolation Precautions](#)

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