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KEY WORDS: isolation, precautions, spread, exposure

PATIENT CARE OBJECTIVES

- To prevent the spread of hospital or community acquired organisms and/or infections through sound, evidence-based research and practice.
- To prevent the exposure of patients, visitors and healthcare workers to communicable or infectious diseases.

POLICY

It is the policy of the Johns Hopkins Hospital (JHH) to isolate patients assessed to have communicable diseases whether diagnosed or being considered. The attached alphabetized table lists isolation/precautions guidelines for infectious diseases likely to be encountered at the JHH.

In 1996, the Centers for Disease Control and Prevention (CDC) published the most widely used isolation/precautions guidelines for hospitals in the United States. Although many components of the JHH isolation/precautions guidelines have been adapted from these CDC guidelines, some changes have been made that reflect current information on communicable diseases transmission. In addition, the JHH guidelines are tailored to the local prevalence of some diseases (e.g. tuberculosis) and existing, effective infection control practices of the Hospital.

Isolation/precautions for patients with specific diseases are used in addition to *Standard Precautions*. *Standard Precautions* requires that blood, all body fluids (except sweat), secretions and excretions, mucous membranes and non-intact skin of all patients be treated as potentially infectious (see *Standard Precautions & Infection Control and Prevention Requirements*). Therefore, **ALL PATIENTS REQUIRE STANDARD PRECAUTIONS**, but may also have an additional category of isolation/precautions dependent upon the patient's clinical situation (see Appendix I).


In addition, Hospital Epidemiology and Infection Control (HEIC) personnel may make changes in isolation/precautions practice from what is specified in the following guidelines in order to maintain operations. The Hospital Epidemiology and Infection Control Committee may modify the appendices as necessary without additional oversight committee approval.

HEIC does not support the use of Protective Isolation. Studies reviewing the efficacy of Protective Isolation vs. routine ward care have shown no benefits in reducing the acquisition of new organisms.

Reportable Diseases: The physician responsible for the patient MUST report "Reportable Diseases" to the local health department [Baltimore City Health Department (BCHD)]. Some diseases require notification by mail; others by phone (410) 396-4454 (see Reportable Diseases and Conditions policy <http://www.insidehopkinsmedicine.org/icpm/ifc003reportable.pdf>). HEIC staff will report known clusters of disease and cases infected with agents potentially associated with bioterrorism.

RESPONSIBILITIES

- | | |
|--|---|
| JHH/JHU Staff | <ul style="list-style-type: none"> ▪ Must follow Standard Precautions and the requirements of each category of isolation precautions and ensure patient confidentiality. |
| Authorized Prescriber/
Registered Nurse | <ul style="list-style-type: none"> ▪ Shall write an order in the medical record to initiate isolation precautions based on known or suspected diseases as detailed in Appendix II. Shall notify HEIC as indicated for known or |

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suspected organisms listed in Appendix II. Shall educate the patient/designated representative regarding isolation/precaution specifics. After consultation with HEIC or the appropriate criteria are met (see Appendix II) a written order shall be placed in the patient's medical record to remove/discontinue isolation.

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|---|---|
| Registered Nurse | ▪ Shall report isolation based information at change of shift or transfer report to receiving nurse. |
| Supervisor/ Managers - all Departments | ▪ Shall ensure employee compliance with this policy. |
| Department of Hospital Epidemiology Infection Control | ▪ Will consult with nursing, medical and other staff to initiate isolation/precautions and assist with measures to discontinue isolation. Shall discontinue isolation status as deemed appropriate. |
| Health, Safety and Environment | ▪ Maintain portable HEPA units and PAPR's and assist with questions concerning their use, operation, and repair. |
| Central Supply Department | ▪ Distribute PAPRs and HEPA units and maintain adequate supplies. |


ISOLATION PRECAUTIONS SPECIFICS

JHH currently has six categories of isolation precautions (*Airborne Precautions, Contact Precautions, Droplet Precautions, Pediatric Droplet Precautions, Special Precautions and Maximum Precautions*), defined below. These are also summarized on the HEIC website at <http://www.hopkins-heic.org>. The major elements of these isolation policies are presented in table format (see Appendix I: *Standard Precautions & Required Elements of JHH Isolation/Precautions Categories*).

Maximum Precautions (RED sign): Maximum Precautions are used to prevent the transmission of organisms that are highly drug resistant. Organisms that require this category of precautions will be defined by HEIC on an ongoing basis. These patients require a single nurse or a nurse cohorted with patients with the same organism. These patients require a private room or may be cohorted with patients' infected/colonized with the same resistant organisms. If in any given case this requirement (for one-on-one nursing and private room or cohorting) cannot be met, Nursing and Admitting will notify HEIC immediately. In turn, HEIC will provide assistance and an exemption to the immediacy of the requirement will be made. Nursing shall work to meet the staffing requirements at the earliest possible time frame, following the guidelines in Appendix III (Nurse Staffing Guidelines for Patients Requiring Maximum Precautions). This category of precautions requires that health care workers wear a gown and gloves to enter the room. Mask and eye protection is required to enter the room if the patient has the resistant organism in their respiratory tract. Pulsatile Lavage therapy requires the healthcare workers present to wear gown, mask, face shield/eye protection, hair and shoe covers. Terminal cleaning must be done after the patient leaves any procedure area or room change.

Special Precautions (MAGENTA Sign): Special Precautions are used for patients who are suspected or known to be infected with organisms that can be transmitted by methods similar to those described in contact precautions above, however, the organisms can survive for longer periods of time on environmental surfaces. This isolation category requires the use of gloves and gown to enter the room regardless of patient contact.

Contact Precautions (GREEN Sign): Contact Precautions are used for patients known or suspected to be infected or colonized with epidemiologically important microorganisms that can be transmitted by direct


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contact with the patient (hand or skin-to-skin contact that occurs when performing patient-care activities that require touching the patient's dry skin) or indirect contact (touching) with environmental surfaces or patient-care items in the patient's environment. Placing the patient in a private room is **preferred**. When a private room is not available, place the patient in a room with a patient(s) who has active infection with the same microorganism but with no other infection (cohorting). This isolation category requires the use of gloves for contact with environmental surfaces and gloves and gown for patient contact.

Droplet Precautions (ORANGE Sign): Droplet Precautions are used for a patient known or suspected to be infected with microorganisms transmitted by droplets (large-particle droplets [larger than 5 µm in size] that can be generated by the patient during coughing, sneezing, talking, or the performance of procedures involving the respiratory tract. Microorganisms can be acquired by direct contact, by contact with droplets over distances of 3-6 feet, as well as by contact with articles recently contaminated with respiratory secretions. Place the patient in a private room. When a private room is not available, place the patient in a room with a patient(s) who has active infection with the same microorganism but with no other infection (cohorting). When a private room is not available and cohorting is not achievable, maintain spatial separation of at least 3 ft between the infected patient and other patients and visitors. Special air handling and ventilation are not necessary, and the door may remain open. In addition to wearing a mask as outlined under Standard Precautions, wear a mask when working within 3 ft of the patient and a gown for contact with patient. Gloves will be worn when handling infectious secretions and any other patient blood and/or body fluids.

Pediatric Droplet Precautions (LIGHT PINK SIGN): Pediatric Droplet Precautions are used exclusively in the Children's Center for control of suspected or known respiratory illnesses during Respiratory Syncytial Virus (RSV) and influenza season. Microorganisms can be acquired by direct contact, by contact with droplets over distances of 3-6 feet, as well as by contact with articles recently contaminated with respiratory secretions. Place the patient in a private room. When a private room is not available, place the patient in a room with a patient(s) who has active infection with the same microorganism but with no other infection (cohorting). When a private room is not available and cohorting is not achievable, maintain spatial separation of at least 3 ft between the infected patient and other patients and visitors. Special air handling and ventilation are not necessary, and the door may remain open. In addition to wearing a mask as outlined under Standard Precautions, wear a mask when working within 3 ft of the patient and a gown for contact with patient. Gloves will be worn when handling infectious secretions and any other patient blood and /or body fluids.

Airborne Precautions (BLUE Sign): Airborne Precautions are used for patients known or suspected to be infected with microorganisms transmitted by airborne droplet nuclei [small-particle residue (5 µm or smaller in size) of evaporated droplets containing microorganisms that remain suspended in the air and that can be dispersed widely by air currents within a room or over a long distance]. Place the patient in a private room that has 1) monitored negative air pressure in relation to the surrounding areas, 2) a minimum of 6 - 12 air changes per hour, and 3) appropriate discharge of air outdoors or monitored high-efficiency filtration of room air before the air is circulated to other areas in the hospital. Portable Hepa Filter Units should remain in use in the room for 30-40 minutes after patient discharge before admitting another patient (CDC TB Guideline, 1994; Table S3-1). **Keep the room door closed and the patient in the room.** This isolation category requires the use of a Positive Air Purifying Respirator (PAPR) that is obtained by calling Central Supply Distribution (5-8357). In the case of varicella or measles, the individual does not require a PAPR if documented immunity to either is obtained.

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PROCEDURES FOR ISOLATION (see Appendix I)

1. Patient Placement

- a. Appropriate patient placement is a significant component of isolation precautions.
- b. A private room is always preferred because it is important to prevent direct or indirect contact transmission when the source patient has poor hygienic habits, contaminates the environment, or cannot be expected to assist in maintaining infection control precautions to limit transmission of microorganisms (i.e., infants, children, and patients with altered mental status).
- c. When possible, a patient with highly transmissible or epidemiologically important microorganisms is placed in a private room with hand washing and toilet facilities, to reduce opportunities for transmission of microorganisms.
- d. A private room is required for certain organisms (see Appendix I).
- e. Patients infected with the same organism may share a room.

2. Sign, Chart Tape, and Isolation Cart


- a. Place appropriate Precautions sign on the door to the patient's room. More than one sign may be indicated.
- b. Place Precautions tape on the front of the patient's chart.
- c. An isolation cart outside the room is required (one cart per room) unless appropriate storage is available in the anteroom.

3. Gloves and Hand hygiene

- a. Washing hands or using an alcohol based gel as promptly and thoroughly as possible between patient contacts and after contact with blood, body fluids, secretions, excretions, and equipment or articles contaminated by them is an important component of infection control and isolation precautions. In addition to hand washing, gloves play an important role in reducing the risks of transmission of microorganisms.
- b. Wear gloves (clean, non sterile) for contact with potentially infective material, surfaces or the patient.
- c. Change gloves and perform hand hygiene after having contact with infective material e.g., fecal material or wound drainage.
- d. Change gloves and perform hand hygiene between contaminated sites on the same patient.
- e. Wearing gloves does not replace the need for hand washing, because gloves may have small, inapparent defects or may be torn during use, and hands can become contaminated during removal of gloves.
- f. Before leaving room remove gloves and discard in biohazard trash receptacle.
- g. Wash hands immediately or use an alcohol-based gel.
- h. After glove removal, ensure that hands do not touch potentially contaminated surfaces or items in the room.
- i. Failure to change gloves between patient contacts is an infection control hazard.

4. Gown

- a. Gowns are worn to prevent contamination of clothing and to protect the skin of personnel from blood and body fluid exposures.
- b. Gowns are also worn by personnel during the care of patients infected with epidemiologically important microorganisms to reduce the opportunity for transmission of pathogens from patients or items in their environment to other patients or environments; when gowns are worn for this

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purpose, they are removed before leaving the patient's environment and hands are washed or alcohol gel is used.

- c. Gowns should be discarded into the biohazard trash or the linen hamper as appropriate.
- d. Gowns should be single use. Do not reuse gowns.

5. Mask & Eye Protection (visor/face shield/goggles)

- a. The wearing of masks, eye protection, and face shields in specified circumstances to reduce the risk of exposures to bloodborne pathogens is mandated by the OSHA bloodborne pathogens final rule.
- b. A surgical mask generally is worn by hospital personnel to provide protection against spread of infectious large-particle droplets that are transmitted by close contact and generally travel only short distances (up to 3 ft) from infected patients who are coughing or sneezing.
- c. When you are required to wear a mask (see Appendix I), to provide appropriate protection for yourself, you should always wear eye protection.
- d. PAPR's are required for patients in Airborne Precautions.

6. Equipment/Supplies

- a. When possible, dedicate the use of non-critical patient care equipment to a single patient.
- b. Handle all other equipment according to Standard Precautions.
- c. All disposable supplies or items that cannot be cleaned, left in the room must be discarded when patient is discharged from the room.
- d. All equipment should be thoroughly cleaned and disinfected.

7. Linen


- a. Although soiled linen may be contaminated with pathogenic microorganisms, the risk of disease transmission is negligible if it is handled, transported, and laundered in a manner that avoids transfer of microorganisms to patients, personnel, and environments.
- b. Linen should be placed in a single bag in the room.

8. Dishes, Glasses, Cups, Eating Utensils, and Medication

- a. No special precautions are needed for dishes, glasses, cups, or eating utensils. The combination of hot water and detergents used in hospital dishwashers is sufficient to decontaminate dishes, glasses, cups, and eating utensils.
- b. Any medications/IV solutions, tube feedings or baby formula taken into an isolation room that are not used must be discarded when patient is discharged (**do not** return to pharmacy).

9. Transportation of Patients

- a. Limiting the movement and transport of patients infected with virulent or epidemiologically important microorganisms and ensuring that such patients leave their rooms only for essential purposes reduces opportunities for transmission of microorganisms in hospitals.
- b. When patient transport is necessary, it is important that:
 - Appropriate barriers (e.g., masks, impervious dressings) are worn or used by the patient to reduce the opportunity for transmission of pertinent microorganisms to other patients, personnel, and visitors and to reduce contamination of the environment.
 - Any patient with a draining wound or skin lesions should be dressed with a clean hospital gown before leaving the room.

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- Personnel in the area to which the patient is to be taken must be notified of the impending arrival of the patient and of the precautions to be used to reduce the risk of transmission of infectious microorganisms.
- Patients must be informed of ways by which they can assist in preventing the transmission of their infectious microorganisms to others.
- c. Stretchers and wheelchairs must be protected with linens or disposable underpads.
- d. As a rule, health care workers should not wear Isolation Attire to transport a patient. Using appropriate barriers on the patient is sufficient to protect the health care worker. For those instances when direct patient contact is needed during the transport (example: bagging patient on ventilator, emergency transport performing CPR, etc) or when using barriers on the patient is not appropriate, then two or more health care workers will be required to perform the transport.
 - One health care worker will remain “clean” and will walk ahead to push elevator buttons and open doors etc.
 - One or more health care workers will be garbed appropriately (according to type of precautions) and will push the bed and perform the necessary patient contact activities.
- e. Children on precautions are not allowed in the playroom.

10. Visitors


- a. Visitors are expected to wear the same PPE that a health care worker would wear performing the same activity.
- b. Exceptions can be made on a case-by-case basis after consultation with HEIC.

11. Cleaning

- a. See Cleaning and Disinfection policy <http://www.insidehopkinsmedicine.org/icpm/ifc014cleaning.pdf> for appropriate cleaning products.
- b. Isolation rooms are to be cleaned daily.
- c. In addition to thorough cleaning, adequate disinfection of bedside equipment and environmental surfaces (e.g., bedrails, bedside tables, carts, commodes, doorknobs, faucet handles) is indicated.
- d. Upon d/c of the patient, isolation rooms will receive terminal cleaning.

12. Readmission to the facility (Flagging system)

- a. Patients with multi-drug resistant organisms defined below will be isolated on admission or re-admission to JHH.
- b. Multi-drug resistant organisms are multi-drug resistant TB (at least resistant to rifampin and INH), vancomycin-resistant enterococci (VRE), methicillin resistant *staphylococcus aureus* (MRSA) and epidemiologically important organisms as identified by HEIC.
- c. Addressograph cards are utilized to inform HCWs of the need for isolation on readmission to JHH based on the following code system:
 - ICO 1 - Vancomycin Resistant Enterococcus (VRE)
 - ICO 2 - Methicillin Resistant *Staphylococcus aureus* (MRSA)
 - ICO 3 - Vancomycin Resistant *Staphylococcus aureus* (VRSA) or Vancomycin Intermediate *Staphylococcus aureus* (VISA)
 - ICO 4 - Chickenpox (Exposure for readmission)
 - ICO 5 - Tuberculosis, Multi-drug resistant
 - ICO 6 - Infection Control use only
 - ICO 7 - Both VRE and MRSA
 - ICO 8 - CF with *Burkholderia cepacia*
 - ICO 9 - MDR Acinetobacter

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- ICO 10 - MDR Gram (-) rods

13. Isolation in special procedure areas/outpatient departments

- a. Special procedure areas (e.g. PACU, Endoscopy, etc) will utilize isolation requirements in the patient's immediate environment.
- b. Operating Rooms (OR)
 - All ORs will notify recovery areas of isolation status to allow for appropriate placement.
 - OR cleaning is not different for patients on isolation precautions, except as indicated in Precautions for Patients with Prion Associated Diseases policy <http://www.insidehopkinsmedicine.org/icpm/ifc032prions.pdf> and patients in Maximum Precautions.
- c. Outpatient clinics who require isolation for specific agents are:
 - Transplant clinic (e.g. VRE, MRSA).
 - Cystic Fibrosis clinic (e.g. *Burkholderia cepacia*, MRSA and pseudomonas with multiple drug resistance).
 - Oncology clinics (e.g. respiratory symptoms during cold/influenza season).
- d. Isolation for communicable respiratory organisms (i.e. TB, chickenpox, RSV, etc) is required for all outpatient clinics. Isolation procedures in these cases shall follow the procedures outlined above.

14. Discontinuing Isolation

- a. Isolation of patients with known or suspected organisms with durations delineated in Appendix II may be discontinued after meeting specified requirements without specific approval from HEIC.
- b. Isolation shall not be removed for organisms with multiple drug resistance (e.g. VRE, MRSA, ESBL & MDR Acinetobacter) until consultation with and approval from HEIC is obtained.
- c. Authorized prescriber or registered nurse may remove isolation on patients related to a **suspected** organism, if that organism is not found on microbiology results, without discussion with HEIC unless it is otherwise delineated in Appendix II.
- d. Call HEIC (5-8384) with questions regarding the removal of isolation precautions.

SEE ALSO


Interdisciplinary Clinical Practice Manual

- Precautions For Patients With Prion Associated Diseases, IFC032
<http://www.insidehopkinsmedicine.org/icpm/ifc032prions.pdf>
- Reportable Diseases and Conditions, IFC003
<http://www.insidehopkinsmedicine.org/icpm/ifc003reportable.pdf>
- Tuberculosis Control, IFC013
<http://www.insidehopkinsmedicine.org/icpm/ifc013TB.pdf>
- Standard Precautions & Infection Control and Prevention Requirements, IFC006
- Vancomycin Resistant Staphylococcus aureus, Staphylococcus aureus with Intermediate Level Resistance to Vancomycin (VRSA-VISA), IFC018
<http://www.insidehopkinsmedicine.org/icpm/IFC018-VRSA.pdf>

Corporate and Administrative Manual

- Bioterrorism, IFC038
http://www.insidehopkinsmedicine.org/operations_integration/operation_orange.cfm

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DEVELOPER

- Hospital Epidemiology and Infection Control

SPONSOR

- Medical Care Evaluation Committee

COMMUNICATION & EDUCATION

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

1. Information within this policy will also be included in general hospital orientation materials.
2. Nursing education will be provided through nursing orientation materials and annual updates.
3. Medical staff news updates and new employee orientation for physicians.
4. 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.
5. Placement of policy online at www.hopkins-HEIC.org.

REVIEW CYCLE	▪ Three (3) years	MEDICAL BOARD	Approval Date: 6/29/04 Effective Date: 10/1/04
VICE PRESIDENT FOR MEDICAL AFFAIRS			

Date:			