


Infection Control Manual		
	Policy Name	Isolation Precautions
	Policy Number	IC 0031
	Date this Version Effective	June 2017
	Responsible for Content	Hospital Epidemiology

I. Description

Describes the CDC-based isolation guidelines used to reduce the transmission of communicable diseases in the health care setting.

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II. Rationale

The spread of communicable disease can be prevented by instituting control measures based upon the route of transmission.

III. Policy

A. Principles of Infection Transmission

Transmission of infection within a hospital requires 3 elements: a source of infecting microorganisms, a susceptible host, and a means of transmission for the microorganism.

1. Source

Human sources of the infecting microorganisms in hospitals may be patients, Healthcare personnel, or on occasion, visitors, and may include persons with acute disease, persons in the incubation period of a disease, persons who are colonized by an infectious agent but have no apparent disease, or persons who are chronic carriers of an infectious agent. Other sources of infecting microorganisms can be the patient's own endogenous flora (major source for healthcare-associated infections), which may be difficult to control, and inanimate environmental objects that have become contaminated, including equipment and medications.

2. Host

Resistance among persons to pathogenic microorganisms varies greatly. Some persons may be immune to infection or may be able to resist colonization by an infectious agent; others exposed to the same agent may establish a commensal relationship with the infecting microorganism and become asymptomatic carriers; still others may develop clinical disease. Host factors such as age; underlying disease; treatments with antimicrobials, corticosteroids, or other immunosuppressive agents; irradiation; and breaks in the first line of defense mechanisms caused by such factors as surgical operations, anesthesia, and indwelling catheters may render patients more susceptible to infection.

3. Transmission

Microorganisms are transmitted in hospitals by several routes, and the same microorganism may be transmitted by more than one route. There are five main routes of transmission: contact, droplet, airborne, common vehicle, and vector-borne. However, common vehicle and vector-borne transmission do not play a significant role in typical healthcare associated infections.

B. General Guidelines for Isolation Precautions

Maintaining uniform standards of isolation practice within UNC Health Care facilities is essential to protect patients and those responsible for their care from acquiring communicable diseases.

1. There are three tiers of Isolation Precautions.

- a. Standard Precautions: designed for the care of all patients, regardless of their diagnosis or presumed infection status and it is the primary strategy for successful healthcare associated infection control.
- b. Transmission-based Precautions (Contact, Enteric Contact, Droplet, Airborne, and Special Airborne): designed for patients known or suspected to be infected by epidemiologically important pathogens spread by airborne or droplet transmission or by contact with skin or contaminated surfaces. They may be combined for diseases that have multiple routes of transmission. When used either singularly, or in combination, they are used in addition to Standard Precautions.

- c. Protective Precautions: Designed for the protection of the immunosuppressed patient whose resistance to infection is impaired due to treatment or disease.

2. Components of Isolations Precautions

- a. Hand Hygiene: Hand hygiene is frequently considered the single most important measure to reduce the risks of transmitting microorganisms from one person to another or from one site to another on the same patient. Performing hand hygiene 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. See Infection Control Policy 0024: Hand Hygiene and Use of Antiseptics for Skin Preparation for additional details regarding Hand Hygiene.

- b. Personal Protective Equipment(PPE):

- i. Gloves: In addition to hand hygiene, gloves play an important role in reducing the risks of transmission of microorganisms. Wearing gloves does not replace the need for hand hygiene, because gloves may have small, unapparent defects or may be torn during use, and hands can become contaminated during removal of gloves. Failure to change gloves and perform hand hygiene between patient contacts is an infection control hazard. Gloves are worn for three important reasons in hospitals.

First, gloves are worn to provide a protective barrier and to prevent gross contamination of the hands when touching blood, body fluids, secretions, excretions, mucous membranes, and non-intact skin. The wearing of gloves in specified circumstances to reduce the risk of exposures to bloodborne pathogens is mandated by the OSHA Bloodborne Pathogens final rule.

Second, gloves are worn to reduce the likelihood that microorganisms present on the hands of personnel will be transmitted to patients during invasive or other patient-care procedures that involve touching a patient's mucous membranes and non-intact skin.

Third, gloves are worn to reduce the likelihood that hands of personnel contaminated with microorganisms from a patient or a fomite can transmit these microorganisms to another patient. In this situation, gloves must be changed between patient contacts and hand hygiene performed after gloves are removed.

- ii. Gowns and Protective Apparel: Gowns are worn to prevent contamination of clothing and to protect the skin of personnel from blood and body fluid exposures. Gowns that are treated to make them impermeable to liquids, leg coverings, boots, or shoe covers provide greater protection to the skin when splashes or large quantities of infective material are present or anticipated. The wearing of gowns and protective apparel under specified circumstances to reduce the risk of exposures to bloodborne pathogens is mandated by the OSHA Bloodborne Pathogens final rule. 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 purpose, they are removed before leaving the patient's environment, and hand hygiene performed.
- iii. Masks, Respiratory Protection, Eye Protection, and Face Shields: Various types of masks, goggles, and face shields are worn alone or in combination to provide barrier protection. A mask that covers both the nose and the mouth, and goggles or a face shield are worn by hospital personnel during procedures and patient-care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, or

excretions to provide protection of the mucous membranes of the eyes, nose, and mouth from contact transmission of pathogens. 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. 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. An N-95 respirator (prior fit-testing required) is worn by personnel to provide protection against infectious small-particle droplets (< 5 µm) that can remain suspended in the air for long periods of time (e.g., droplet nuclei of *Mycobacterium tuberculosis*).

- c. **Patient Placement:** Appropriate patient placement is a significant component of isolation precautions. A private room is important to prevent direct- or indirect-contact transmission. A patient with highly transmissible or epidemiologically important microorganisms is placed in a private room with hand hygiene and toilet facilities, to reduce opportunities for transmission of microorganisms. A private room with appropriate air handling and ventilation is particularly important for reducing the risk of transmission of microorganisms from a source patient to susceptible patients and other persons in hospitals when the microorganism is spread by airborne transmission. Refer to the Infection Control Policy IC0033: Women's Hospital Maternal Units: Recommendations from Infection Prevention Appendix 8 for common newborn infectious diseases and placement options.
- d. **Education:** Patient education is essential to control the transmission of infections. The patient should be instructed to cover all coughs and practice good handwashing. They should not share drinks or food. Every member of the direct healthcare team has the responsibility to observe proper procedures and to teach them to those individuals coming in contact with the patient who are not familiar with isolation techniques. The patient and their family should also be instructed regarding the need for isolation precautions to promote compliance.
- e. **Transport of Infected Patients:** 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. When patient transport is necessary, it is important that (1) appropriate barriers (e.g., masks, impervious dressings) are worn or used by the patient to reduce the opportunity for transmission of infectious microorganisms to other patients, personnel, and visitors and to reduce contamination of the environment; (2) personnel in the area to which the patient is to be taken are notified of the impending arrival of the patient and of the precautions to be used to reduce the risk of transmission of infectious microorganisms; and, (3) patients are informed of ways by which they can assist in preventing the transmission of their infectious microorganisms to others.
- f. **Patient Care Equipment:** Contaminated, reusable critical medical devices or patient-care equipment (i.e., equipment that enters normally sterile tissue or through which blood flows) or semi-critical medical devices or patient-care equipment (i.e., equipment that touches mucous membranes) are sterilized or disinfected (reprocessed) after each use to reduce the risk of transmission of microorganisms to other patients; the type of reprocessing is determined by the article, its intended use, and the manufacturer's recommendations. Noncritical equipment (i.e., equipment that touches intact skin) contaminated with blood, body fluids, secretions, or excretions is cleaned and disinfected using an EPA-registered hospital disinfectant (i.e. Metriguard, SaniCloth)

after each patient use. The Infection Control Policy IC0008: Cleaning, Disinfection, and Sterilization of Patient-Care Items provides detailed guidelines to ensure appropriate disinfection/sterilization of equipment and devices. Only those supplies essential for a patient's care should be kept in the patient's room.

- g. Linen and Laundry: 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. All linen should be considered potentially contaminated and handled with Standard Precautions. Isolation linen does not require special bagging. Fluid-resistant bags are used for linen to prevent potential leaking of body fluids through the bags.
- h. Dishes, Glasses, Cups, and Eating Utensils: No special precautions are needed for dishes, glasses, cups, or eating utensils.
- i. Visitors: Visitors may not eat or drink in rooms of patients on Enteric Contact, Airborne or Droplet Precautions. All visitors must be instructed to use proper hand hygiene after leaving an isolation room. They must adhere to all precautions as indicated by the isolation sign on the patient door. Visitors of patients on Contact or Enteric Contact Precautions should be discouraged from visiting in multiple patient rooms. Encourage the family members or visitors to ask personnel for assistance in determining necessary precautions. For Newborn Nursery and NCCC, when primary caregiver is colonized with MRSA, refer to Appendix 9 of the Infection Control Policy IC0033: Women's Hospital Maternal Units: Recommendations from Infection Prevention.
- j. Patients visiting Patients: Patients who wish to visit other patients in the hospital must have approval from their attending physician and the attending physician of the other patient prior to visitation
- k. Volunteers: Volunteers of any age may not work with patients on Droplet, Airborne or Enteric Precautions (only one exception – trained volunteers for Play Atrium). Volunteers 18 and older may work with patients on Contact Precautions if they have been trained (hospital volunteer orientation or trained by volunteers educated on Contact Precautions e.g., cuddlers). Volunteers under 18 may not work with patients on any isolation precautions including Contact Precautions.

C. Initiating Isolation Precautions (Ordering and Signage)

1. Patients with a known or suspected communicable disease (e.g., Influenza, TB, pertussis, invasive meningococcal disease, and *Clostridium difficile*) should be placed on the appropriate isolation precautions until either disease is ruled out or when diseases is confirmed for the duration as described in Appendix 2.
2. It is the responsibility of the physician to recognize the need for isolation and to order in CPOE the appropriate type of isolation precautions to be followed. The physician may consult with an Infection Preventionist (IP) if desired.
3. When the need is demonstrated, as standard of care, the registered nurse should initiate the indicated isolation precautions and reflect this appropriately in the electronic health record. This documentation ensures all health care professionals and departments providing care or services with the patient are aware of those precautions.
4. The Infection Preventionists in Hospital Epidemiology may enter isolation orders in CPOE without a physician's co-signature. In such cases, the Infection Preventionist will notify the patient's physician and/or nurse of the reason for isolation.

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5. Termination of isolation requires a physician's order or the recommendation of Hospital Epidemiology. Hospital Epidemiology should be notified before discontinuing isolation on a patient flagged for a Multi-Drug Resistant Organism (MDRO) in the electronic medical record, even with a physician order.
6. The appropriate Isolation Precaution sign (Special Airborne, Airborne, Droplet, Contact, Enteric-Contact, and Protective) should be placed in a readily visible location outside of the patient's room. The signs should be readily available in all areas where patients requiring isolation are seen. Special Airborne Precaution signs are stored in Hospital Epidemiology. No sign is necessary for Standard Precautions.
7. Personal protective equipment (PPE) (e.g. gowns, gloves, masks) should be readily available outside the patient room either in a cart outside the patient's room door or in a designated cabinet outside the room door.

D. Standard Precautions

1. Use Standard Precautions for the care of all patients.
2. Standard Precautions apply to (1) blood; (2) all body fluids, secretions, and excretions except sweat, regardless of whether or not they contain visible blood; (3) non-intact skin; and (4) mucous membranes. Standard Precautions are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection in hospitals.
3. Principles of Standard Precautions:
 - a. Patient Placement:
 - i. Place a patient who contaminates the environment or who does not (or cannot be expected to) assist in maintaining appropriate hygiene or environmental control in a private room.
 - b. Hand Hygiene:
 - i. Perform hand hygiene after touching blood, body fluids, secretions, excretions, and contaminated items, whether or not gloves are worn.
 - ii. Perform hand hygiene immediately after gloves are removed, between patient contacts, and when otherwise indicated to avoid transfer of microorganisms to other patients or environments.
 - iii. It may be necessary to perform hand hygiene between tasks and procedures on the same patient to prevent cross-contamination of different body sites.
 - c. Personal Protective Equipment:
 - i. Gloves:

Wear nitrile gloves when touching blood, body fluids, secretions, excretions, non-intact skin, rashes and contaminated items.

Put on clean gloves just before touching mucous membranes and nonintact skin.

Change gloves between tasks and procedures on the same patient after contact with material that may contain a high concentration of microorganisms.

Remove gloves promptly after use and perform hand hygiene before touching non-contaminated items and environmental surfaces and before going to another

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patient to avoid transfer of microorganisms to other patients or environmental surfaces.

ii. Mask, Eye Protection, Face Shield:

Wear a mask and eye protection or a face shield to protect mucous membranes of the eyes, nose, and mouth during procedures and patient-care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, and excretions.

iii. Gowns:

Wear a gown to protect skin and to prevent soiling of clothing during procedures and patient-care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, or excretions.

Select a gown that is appropriate for the activity and amount of fluid likely to be encountered. Waterproof gowns are available for use (e.g., Sage blue gown). A non-fluid resistant gown (i.e., isolation gown) may be worn in all other procedures not requiring a sterile gown.

Carefully remove a soiled gown so clothes are not contaminated. Gowns should be removed promptly when no longer needed and should be properly disposed of. Disposable gowns may not be used more than once.

d. Patient Care Equipment:

- i. Handle used patient-care equipment soiled with blood, body fluids, secretions, and excretions in a manner that prevents skin and mucous membrane exposures, contamination of clothing, and transfer of microorganisms to other patients and environments.
- ii. Ensure that reusable equipment is not used for the care of another patient until it has been cleaned and reprocessed appropriately.
- iii. Ensure that single use items are discarded properly.

e. Linen:

- i. Handle, transport, and process used linen soiled with blood, body fluids, secretions, and excretions in a manner that prevents skin and mucous membrane exposures and contamination of clothing and that avoids transfer of microorganisms to other patients and environments.

f. Respiratory Hygiene / Cough Etiquette:

- i. Provide surgical masks to all patients with symptoms of a respiratory illness. Provide instructions on the proper use and disposal of masks.
- ii. For patients who cannot wear a surgical mask, provide tissues and instructions on when to use them (i.e., when coughing, sneezing, or controlling nasal secretions), how and where to dispose of them, and the importance of hand hygiene after handling this material.
- iii. Provide hand hygiene materials in waiting room areas, and encourage patients with respiratory symptoms to perform hand hygiene.
- iv. Designate an area in the waiting room where patients with respiratory symptoms can be segregated (ideally by at least 3 feet) from other patients who do not have respiratory symptoms.

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- v. Place patients with respiratory symptoms in a private room (preferred) or cubicle as soon as possible for further evaluation.
- vi. Implement use of surgical or procedure masks by health care personnel during the evaluation for patients with respiratory symptoms.
- vii. Consider the installation of plexiglass barriers at the point of triage or registration to protect health care personnel from contact with respiratory droplets.
- viii. If no barriers are present, instruct registration and triage staff to remain at least 3 feet from unmasked patients and to consider wearing surgical masks during respiratory infection season.
- ix. Continue to use Droplet Precautions to manage patients with respiratory symptoms until it is determined that the cause of symptoms is not an infectious agent that requires precautions beyond Standard Precautions.

E. Contact Precautions

1. Use Contact Precautions, in addition to Standard Precautions, for specified patients known or suspected to be infected or colonized with epidemiologically important microorganisms (e.g. MRSA, VRE) that can be transmitted by direct 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. For guidelines regarding care of patients with MDROs in the ambulatory setting refer to Appendix 15: Management of Patients with Multidrug-Resistant Organisms (MDROs) or Epidemiologically-Important Pathogens in Ambulatory Settings.
2. Principles of Contact Precautions:
 - a. Patient Placement:
 - i. Place patient in a private room.
 - ii. For patients requiring Contact Precautions on 4 West and GNSH the following must be implemented:

Bed space dividing curtains must remained closed at all times

Patient may not leave the curtained area except for therapeutic purposes (e.g. procedures or tests) and follow Patient Transport guidelines below

Ideally the patient will have a bedside commode (if the unit shared bathroom is used, the bathroom must be cleaned/disinfected prior to use by another patient or staff)

Staff should follow contact precautions when in the curtained bed space (i.e. contact precaution sign visible, gown and gloves per policy).

Manager or charge nurse should work with Nursing House Supervisor to expedite patient placement into a private inpatient room
 - b. Hand Hygiene:
 - i. All staff will perform strict hand hygiene using an antibacterial product (chlorhexidine gluconate 2%) or an alcohol based hand rub (e.g. Purell) immediately after patient contact and after touching contaminated articles. An alcohol based hand rub is acceptable for use unless the hands are contaminated with proteinaceous material or visibly soiled.

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- c. Personal Protective Equipment:
 - i. Wear gloves when entering the room.
 - ii. Wear an isolation gown for direct patient care or whenever clothing may contact surfaces in the room.
 - iii. Phones/pagers should either be left outside of the isolation room, or HCP should remove PPE/perform HH and leave the room before answering the phone or pager (unless phone can be used hands-free under the isolation gown [e.g., Vocera phones]).
 - iv. Before leaving the patient's environment, carefully remove and properly dispose of the gown.
 - v. Yellow isolation gowns are not to be reused.
 - vi. All staff will wear a surgical mask when performing procedures that may generate droplets or aerosolization of infective material (e.g., suctioning, tracheal care, wound irrigation).
 - vii. Perform hand hygiene after removal of PPE.
- d. Patient Transport
 - i. Limit the movement and transport of the patient from the room to essential purposes only.
 - ii. If the patient is transported out of the room, ensure that precautions are maintained to minimize the risk of transmission of microorganisms to other patients and contamination of environmental surfaces or equipment.
 - iii. When the patient must be transported to another department the receiving department should be notified that the patient is on Contact Precautions.
 - iv. The receiving department must manage the patient in a manner to prevent the transmission of the resistant organisms to other patients or personnel. Ideally, patients on Contact Precautions will be seen at the end of the day or in a separate area.
 - v. The stretcher, wheelchair or other equipment used by the patient must be cleaned with an approved disinfectant prior to reuse.
 - vi. For further explanation of transporting patients on isolation precautions see Appendix 16: Transport of Patients on Isolation.
- e. Patient Care Equipment:
 - i. When possible, dedicate the use of noncritical patient-care equipment to a single patient to avoid sharing between patients.
 - ii. If use of common equipment or items is unavoidable, then adequately clean and disinfect them before use for another patient. Refer to Infection Control Policy IC0030: Infection Control Guidelines for Adult and Pediatric Inpatient Care for guidelines for cleaning commonly shared patient care equipment.
- f. Patient Medications
 - i. Medications taken into a patient room that cannot be left at the bedside and must be returned to the medication storage area (i.e. the Pyxis) should be wiped with an EPA-registered hospital disinfectant prior to returning it to the medication storage area. Alternatively, if the disinfectant interferes with the labeling of the medication,

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the medication may be placed in a clean bag prior to placement in the medication storage area. For a list of medication that can be left at the bedside refer to Nursing Policy 0010: Medication Administration.

- g. Disposable Patient Care Items
 - i. Rooms should be stocked with limited amounts of disposable items such that they will be used within a short period of time.
 - ii. Tape rolls used in a patient room should not be returned to clean supply areas (including drawers in patients' rooms) and should be discarded upon discharge.
 - iii. Supplies should be handled only with clean hands or clean gloves and should be stored in a drawer/cabinet.
 - iv. When a patient on Contact Precautions is transferred from the room or discharged, unused supplies must be discarded and not used if: 1) the item is visibly soiled, wet, or damaged 2) if a packaged item has been opened or the integrity of the package has been compromised.
- h. Guidelines for Therapeutic Activities with Patients on Contact Precautions (For activity guidelines for patients with Cystic Fibrosis, refer to the Infection Control Policy IC 0012: Patients with Cystic Fibrosis):
 - i. Patients on Contact Precautions should remain in their rooms for all but essential purposes. As part of their rehabilitation, some patients need to exercise outside of their rooms.
 - ii. Patients on Contact Precautions may ambulate outside their rooms only in the unit in which they are housed provided they:
 - Don a clean hospital gown, clean clothes, or a clean hospital gown over their clothing prior to leaving the room.
 - Perform hand hygiene before leaving their room.
 - Are instructed on infection prevention principles, including not touching objects in the environment, environmental surfaces, or other patients.
 - Patients must remain only within the unit corridors on the unit in which they are housed and may not enter other common areas, including but not limited to: visitor waiting rooms, nutrition areas, nursing stations, and other patient rooms.
 - Patient must not have an active infectious process where secretions/drainage are uncontrolled (i.e., not contained under a clean, occlusive dressing or on an exposed area of the body like the face).
 - If the patient leaves the unit, they must be accompanied by healthcare personnel.
 - Patients who cannot or will not follow these requirements must be accompanied by trained healthcare personnel when ambulating in the hallway. Pediatric patients unable to follow requirements may be accompanied by a HCP or a family member who is instructed on infection prevention and compliant with requirements. During outbreak situations, Hospital Epidemiology may temporarily suspend these privileges.
 - iii. If a healthcare provider is accompanying a patient on Contact Precautions:
 - The healthcare provider will don gloves, and an isolation gown if anticipating contact with the patient or their environment to enter the Contact Precautions room and prepare the patient for therapy.

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- The patient should don a clean hospital gown, clean clothes, or a clean hospital gown over their clothing prior to leaving the room.
 - Prior to leaving the room, the patient will perform hand hygiene independently or with assistance.
 - The healthcare provider will remove their contaminated gloves, and gown if applicable, and perform hand hygiene.
 - The healthcare provider should then don a clean isolation gown and gloves prior to leaving the room.
- iv. Dressings should be clean and should contain any wound drainage.
- v. The patient should be instructed not to handle any items in the environment. The accompanying healthcare provider should avoid touching items in the environment. If it is necessary for the patient or healthcare personnel to handle items, such as stair rails when walking down stairs, then the caregiver should thoroughly clean these items with an EPA-registered hospital disinfectant as soon as possible. Ideally, cleaning should be done prior to leaving the area; however, if this is not possible, then cleaning will be done after the patient has been returned to their room.
- vi. After returning the patient to the room, the healthcare worker must remove gown and gloves and perform hand hygiene upon leaving the patient room.
- vii. When the infected site is the respiratory tract, instruct the patient to cough and expectorate into paper tissues. An appropriate receptacle for disposing of tissues must be provided to the patient. When the patient leaves their room, they must be able to manage their respiratory secretions in a manner to prevent droplet spread of organisms. A mask is not required unless necessary to control secretions, or unless a CF patient is on Contact Precautions.
- viii. Patients colonized/infected in the respiratory tract with multiply-antibiotic resistant organisms (e.g., patient with *B. cepacia* or *P. aeruginosa*) will not undergo PT/OT at the same time/room with severely immunocompromised patients (e.g., leukemia or bone marrow transplant).
- ix. Small children are sometimes allowed to sit in a chair or wagon or be held by the nurse outside of their rooms for socialization purposes. This practice is acceptable for children on Contact Precautions, as long as they are accompanied by a therapist or nurse and remain just inside or just outside the doorway to their room, in a location where the Contact Precautions sign is visible. Children on Contact Precautions should not sit in the Nurses' Station.
- x. Adult patients, especially older adults and long term patients are sometimes allowed to sit outside of their rooms for socialization purposes. This is acceptable for patients on Contact Precautions, as long as they remain confined to their chair and remain just inside or just outside the doorway to their room, in a location where the Contact Precautions sign is visible. Patients on Contact Precautions should not sit in the Nurses' Station.
- xi. The patient participating in the Pulmonary Rehabilitation Program in Physical Therapy must be managed utilizing Contact Precautions if indicated. Ideally this patient will be seen at the end of the day or in a separate area
- xii. The patient participating in the Recreation Therapy Program must be managed utilizing the following additional guidelines. You may also refer to the Infection Control Policy IC0053: Pediatric Play Facilities and Child Life for more details.

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The physician should identify the need for Contact Precautions, if indicated, when ordering recreational therapy.

The patient may go to the recreation therapy areas (i.e., pediatric playroom) when no other patients are present.

The patient may contact only those materials that can be disinfected. These items must be cleaned with an approved disinfectant after use. Additional guidelines for cleaning of toys are provided in the [Infection Control Policy IC0053: Pediatric Play Facilities and Child Life](#).

- xiii. Patients requiring Contact Precautions may also participate in the Hospital School Program.

The patient should be instructed to prevent contamination of school materials that are to be reused by other patients (e.g., covers cough, performs hand hygiene prior to using school materials).

Materials from text books may be used by following one of the infection control measures:

- Photo copy the materials needed and give the papers to the patient to keep

- Discard materials after use if unable to disinfect; or

- Store contaminated textbooks for 6 months after use to allow time for organisms to die.

Items such as books and computer keyboards must be cleaned with an EPA-registered hospital disinfectant prior to reuse by other patients.

When possible, these items should be assigned to the patient on Contact Precautions as long as they require the items and then cleaned prior to reuse.

These patients should not be instructed in the school room while other patients are present.

- xiv. For guidelines regarding patients housed on the Psychiatric units who require Contact Precautions refer to the [Infection Control Policy IC 0048: Psychiatric Units](#).

- i. Volunteers

- i. Volunteers, who have been trained, may work with or visit patients who are on Contact Precautions if they choose to. They must adhere to Contact Precautions and wear a gown and gloves when having contact with the patient or their environment.

- j. Visitors

- i. Visitors do not have to wear gown and gloves but are expected to perform hand hygiene as per standard precautions.

3. Discontinuing Contact Precautions

- a. To discontinue Contact Precautions, specific criteria for MRSA, VRE, MDR Gram-negative bacilli, MDR-*Acinetobacter* and Carbapenem-resistant *Enterobacteriaceae* must be met as outlined below.

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i. MRSA:

Patients who had a positive MRSA culture or MRSA screen **within the past 1 year** must remain on Contact Precautions or contact Infection Prevention for clearance criteria (off antibiotics 72 hours, 3 negative sets).

Patients with a positive MRSA culture or MRSA screen **1-2 years ago** should be placed on Contact Precautions until they meet **ALL** the following criteria:

- Patient must be off antibiotics active against MRSA for at least 72 hrs.
- All signs of active infection at the original site of infection have resolved or the original site (except blood or healed wound) of infection or colonization is culture negative.
- One MRSA screen set (nares, axillae, wound) taken at least 72 hours off antibiotics active against MRSA is negative.

Patients who have not had a positive MRSA culture or MRSA screen **in the past 2 years** can be removed from Contact Precautions.

Also, refer to Appendix 12-13: Policy for removal of Contact Isolation for Patients with MRSA

ii. VRE: Refer to Appendix 14: Discontinuing Isolation for Patients with VRE.

iii. MDR-Acinetobacter:

Patients who were culture positive for MDR- *Acinetobacter* **within the past 1 year** must remain on Contact Precautions.

Contact precautions may be discontinued when **ALL** the following criteria are met:

- **At least 1 year** since a positive culture for a MDR-Acinetobacter
- All signs of active infection at the original site of infection have resolved and the original site of infection or colonization is culture negative for MDR-Acinetobacter.

iv. Multidrug-Resistant Gram-negative Bacilli

Inpatients with a culture positive for a Multidrug-Resistant Gram-negative Bacilli on the current admission will remain on contact precautions for the duration of admission. For outpatients and readmissions, Contact Precautions may be discontinued when the patient has completed antibiotic therapy, is off antibiotics for 7 days, and a post-treatment culture from the original site of infection is negative for the resistant organism.

v. Carbapenem Resistant *Enterobacteriaceae*

Patients who were culture positive for Carbapenem Resistant *Enterobacteriaceae* **within the past 1 year** must remain on Contact Precautions.

Contact precautions may be discontinued when **ALL** the following criteria are met:

- **At least 1 year** since a positive culture for a Carbapenem Resistant *Enterobacteriaceae*.
- All signs of active infection at the original site of infection have resolved and the original site (except blood and healed wounds) of infection or colonization is culture negative for Carbapenem Resistant *Enterobacteriaceae*.

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4. Additional Information

- a. Surveillance culturing of patients and Healthcare Personnel may be conducted as directed by Hospital Epidemiology.
- b. For any patient colonized or infected with vancomycin-resistant *S. aureus* (VRSA) contact Infection Prevention for additional guidelines.

F. Enteric Contact Precautions

1. In addition to Standard Precautions, use Enteric-Contact Precautions for patients known or suspected to have gastroenteritis caused by *C. difficile*, norovirus, or rotavirus.
2. Principles of Enteric-Contact Precautions
 - a. Patient Placement
 - i. Place the patient in a private room with a private bathroom
 - b. Hand Hygiene
 - i. Enteric Contact Precautions require the use of soap (e.g. 2%CHG) and water for hand hygiene since alcohol is ineffective against these microorganisms.
 - c. Personal Protective Equipment (PPE)
 - i. Wear gloves when entering the room.
 - ii. Wear an isolation gown for direct patient care or whenever clothing may contact surfaces in the room.
 - iii. Phones/pagers should either be left outside of the isolation room, or HCP should remove PPE/perform HH and leave the room before answering the phone or pager (unless phone can be used hands-free under the isolation gown [e.g., Vocera phones]).
 - iv. Before leaving the patient's environment, carefully remove and properly dispose of the gown.
 - v. Yellow isolation gowns are not to be reused.
 - vi. Perform Hand Hygiene with soap and water after removing PPE.
 - d. Patient Transport
 - i. Limit the movement and transport of the patient from the room to essential purposes only.
 - ii. If the patient is transported out of the room, ensure that precautions are maintained to minimize the risk of transmission of microorganisms to other patients and contamination of environmental surfaces or equipment.
 - iii. When the patient must be transported to another department, notify the receiving department that the patient is on Contact Precautions.
 - iv. The receiving department must manage the patient in a manner to prevent the transmission of the resistant organisms to other patients or personnel. Ideally, patients on Enteric-Contact Precautions will be seen at the end of the day or in a separate area.
 - v. The stretcher, wheelchair or other equipment used by the patient must be cleaned with an EPA-registered hospital disinfectant prior to reuse (preferably a bleach wipe).

Isolation Precautions

- vi. For further explanation of transporting patients on isolation precautions see Appendix 16: Transport of Patients on Isolation.
- e. Patient Care Equipment
 - i. When possible, dedicate the use of noncritical patient-care equipment to a single patient to avoid sharing between patients.
 - ii. If use of common equipment or items is unavoidable, then adequately clean and disinfect them before use for another patient. Refer to Infection Control Policy IC0030: Infection Control Guidelines for Adult and Pediatric Inpatient Care for guidelines for cleaning commonly shared patient care equipment.
 - iii. For Enteric-Contact Precautions a 1:10 bleach and water solution or Bleach wipe is the preferred cleaning agent for shared equipment.
- f. Patient Medications
 - i. Medications taken into a patient room that cannot be left at the bedside and must be returned to the medication storage area (i.e. the Pyxis) should be wiped with an EPA-registered hospital disinfectant prior to returning it to the medication storage area. Alternatively, if the disinfectant interferes with the labeling of the medication, the medication may be placed in a clean bag prior to placement in the medication storage area. For a list of medication that can be left at the bedside refer to Nursing Policy 0010: Medication Administration.
- g. Disposable Patient Care Items
 - i. Rooms should be stocked with limited amounts of disposable items such that they will be used within a short period of time.
 - ii. Tape rolls used in a patient room should not be returned to clean supply areas (including drawers in patients' rooms) and should be discarded upon discharge.
 - iii. Supplies should be handled only with clean hands or clean gloves and should be stored in a drawer/cabinet.
 - iv. When a patient on Enteric-Contact Precautions is transferred from the room or discharged, unused supplies not stored in a drawer/cabinet must be sent with the patient or discarded.
- h. Guidelines for Therapeutic Activities with Patients on Enteric Contact Precautions
 - i. Patients on Enteric-Contact Precautions should remain in their rooms for all but essential purposes. As part of their rehabilitation, some patients need to exercise outside of their rooms.
 - ii. Patients with *C. difficile* on Enteric Contact Precautions may leave their room for therapeutic purposes, including ambulating outside their rooms on the unit in which they are housed provided they:
 - Have completed *C. difficile* treatment and are asymptomatic and continent of stool. Diapered infants or children are not considered continent of stool.
 - Don a clean hospital gown, clean clothes, or a clean hospital gown over their clothing prior to leaving the room.
 - Perform hand hygiene with soap and water before leaving their room.
 - Are instructed on infection prevention principles, including not touching objects in the environment, environmental surfaces, or other patients.

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- Patients must remain only within the unit corridors on the unit in which they are housed and may not enter other common areas, including but not limited to: visitor waiting rooms, nutrition areas, nursing stations, and other patient rooms. If the patient leaves the unit, they must be accompanied by healthcare personnel.
 - Patients who cannot or will not follow these requirements must be accompanied by healthcare personnel when ambulating in the hallway. Pediatric patients unable to follow requirements may be accompanied by a HCP or a family member who is instructed on infection prevention and compliant with requirements. During outbreak situations, Hospital Epidemiology may temporarily suspend these privileges.
- iii. If a healthcare provider is accompanying the patient:
- The healthcare provider will don gloves, and an isolation gown if anticipating contact with the patient or their environment to enter the patient room and prepare the patient for therapy. Prior to leaving the room, the patient will wash or have hands washed with assistance using soap and water.
 - The patient should don a clean hospital gown, clean clothing, or a clean hospital gown over their clothing prior to leaving the room. The healthcare provider will remove their contaminated gloves, and gown if applicable, and perform hand hygiene with soap and water. The healthcare provider should then don a clean isolation gown and gloves prior to leaving the room.
 - The patient should be instructed not to handle any items in the environment. The accompanying healthcare provider should avoid touching items in the environment. If it is necessary for the patient or healthcare personnel to handle items, such as stair rails when walking down stairs, then the caregiver should thoroughly clean these items with an EPA-registered hospital disinfectant (preferably a bleach solution or wipe) as soon as possible. Ideally, cleaning should be done prior to leaving the area; however, if this is not possible, then cleaning will be done after the patient has been returned to their room.
 - After returning the patient to the room, the healthcare worker must remove gown and gloves and perform hand hygiene with soap and water upon exiting the patient room.
- i. Visitors
- i. Visitors must comply with all Enteric Contact Precautions including the use of gloves when entering the room, use of an isolation gown when they have direct contact with the patient or patient's environment (anything in the patient room, including chairs and sofas), and hand hygiene with soap and water upon exiting the room.
 - ii. Visitors may not eat in the rooms of patients on Enteric Contact Precautions
3. Discontinuing Enteric Contact Precautions:
- a. Enteric Contact Precautions for *Clostridium difficile* gastroenteritis can be discontinued 30 days after antibiotic therapy for *C. difficile* is complete.
 - b. Enteric Contact Precautions for Norovirus can be discontinued when the patient has been symptom free for >48hrs.
 - c. Enteric Contact Precautions for Rotavirus can be discontinued when the patient is no longer symptomatic and remains asymptomatic for 48 hours.

G. Droplet Precautions

1. In addition to Standard Precautions, use Droplet Precautions 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 such as suctioning or bronchoscopy).
2. Droplet transmission involves contact of the conjunctivae or the mucous membranes of the nose or mouth of a susceptible person with large-particle droplets (larger than 5 µm in size) containing microorganisms generated from a person who has a clinical disease or who is a carrier of the microorganism. Transmission via large-particle droplets requires close contact between source and recipient persons, because droplets do not remain suspended in the air and generally travel only short distances, usually 3 ft. or less, through the air.
3. Principles of Droplet Precautions
 - a. Patient Placement
 - i. Place the patient in a private room. Because droplets do not remain suspended in the air, special air handling and ventilation are not required to prevent droplet transmission.
 - ii. For patients requiring Droplet Precautions on 4 West and GNSH the following must be implemented:

Patient must be a minimum of 6 feet from other patients (ideally wearing a surgical mask)

Curtain must remained closed at all times

Patient may not leave the curtained area except for therapeutic purposes (e.g. procedures or tests) and follow Patient Transport guidelines below

Ideally the patient will have a bedside commode (if the unit shared bathroom is used, the bathroom must be cleaned/disinfected prior to use by another patient)

Staff should follow droplet precautions (i.e. droplet precaution sign visible, surgical masks worn when in the patients curtained bed space, hand hygiene before and after contact with the patient or patient's environment)

Manager or charge nurse should work with Nursing House Supervisor to expedite patient placement into a private inpatient room
 - b. Hand Hygiene
 - i. Per Standard Precautions
 - c. Personal Protective Equipment
 - ii. Wear a surgical mask each time you enter the room. Surgical masks are single use and must be discarded upon exiting the patient room.
 - d. Patient Transport:
 - i. Limit the movement and transport of the patient from the room to essential purposes only.
 - ii. If transport or movement is necessary, minimize patient dispersal of droplets by masking the patient, if possible.
 - e. Visitors
 - i. Visitors must wear a surgical mask in the room.

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- ii. Visitors may not eat in the room of patients on Droplet Precautions
 - iii. If a pediatric patient's primary caregiver(s) desires to "room in" with the patient, they should wear a surgical mask and if indicated, an isolation gown in the patient's room and perform hand hygiene when leaving the room. If the primary caregiver(s) chooses not to conform to the indicated precautions all risks should be explained and documented by a member of the primary physician team (e.g. acquiring infection, spreading infection to other family members). They must be excluded from the hospital if they develop a symptomatic respiratory infection and will be prohibited from having direct contact with other patients (e.g., using pediatric playroom, visiting patients in other hospital rooms).
4. Additional Information:
 - a. Patients on Droplet Precautions should not ambulate in the hallways or be in public spaces, even with a mask on.
 5. Discontinuing Droplet Precautions
 - a. Refer to Appendix 3: Quick Glance for Respiratory Viral Panel Isolation Precautions for guidelines regarding what type of isolation is needed for each respiratory virus on the panel and when precautions can be discontinued.

H. Airborne Precautions

1. In addition to Standard Precautions, use Airborne Precautions for patient known or suspected to be infected with microorganisms transmitted by airborne droplet nuclei (small-particle residue 5 μm or smaller in size)(i.e. tuberculosis, chickenpox).
2. Airborne transmission occurs by dissemination of either airborne droplet nuclei (small-particle residue [5 μm or smaller in size] of evaporated droplets that may remain suspended in the air for long periods of time) or dust particles containing the infectious agent. Microorganisms carried in this manner can be dispersed widely by air currents and may become inhaled by or deposited on a susceptible host within the same room or over a longer distance from the source patient depending on environmental factors.
3. Principles of Airborne Precautions
 - a. Patient Placement
 - i. Place the patient in a specially ventilated (negative pressure) private room. Keep the room door closed and the patient in the room. A complete listing of airborne isolation rooms is available on Infection Control's website (click on "Frequently Requested Information") on the Intranet@Work.
 - ii. Prior to transferring a patient needing airborne precautions, call ahead to confirm the room is ready and negative pressure has been established with a tissue check. Note: When the room is changed from positive to negative pressure, the room may take about 10 minutes to reach negative pressure.
 - iii. Perform a tissue test to assess negative pressure at least daily and document results on the patient record.
 - iv. To perform the tissue test: Hold a thin single-ply strip of tissue along the bottom of the door at the corridor. The tissue should be drawn under the door towards the room. If the tissue is blown away from the door or falls straight to the floor, the room is not negative pressure and Maintenance should be notified to correct the problem

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as soon as possible. While waiting, a HEPA unit should be ordered from Patient Equipment and placed inside the patient's room at the door.

- b. Hand Hygiene
 - i. Per Standard Precautions
 - c. Personal Protective Equipment
 - i. Wear respiratory protection (N-95 respirator for personnel; surgical mask for visitors) when entering the room of a patient with a known or suspected airborne infectious disease. Susceptible persons should not enter the room of patients known or suspected to have measles (rubeola) or varicella (chickenpox). Immune persons should still wear respiratory protection per policy when entering these rooms.
 - ii. Respirators should not be removed until after exiting the patient room.
 - iii. Disposable respirators may be used as long as the respirator continues to pass the fit check and the exterior surface has not become contaminated. Damaged or visibly soiled respirators should be immediately disposed of in a regular waste receptacle. Respirators should be immediately disposed of following each use when the patient is on Contact Precautions.
 - d. Patient Transport
 - i. Limit the movement and transport of the patient from the room to essential purposes only.
 - ii. Patients with known or suspected TB must wear a tight-fitting surgical mask. The only exception would be a sedated patient who is being transported on a closed system ventilator or manual ventilation bag with a HEPA filter.
 - iii. Patients with known or suspected varicella/chicken pox should wear a tight-fitting surgical mask and be covered from chin to toes with a sheet.
 - iv. Patients with known or suspected varicella zoster/shingles which require airborne precautions should have their lesions covered with a sterile dressing unless the lesions are on the face. If the lesions are disseminated, cover the patient with a sheet from chin to toes. A mask is not required.
 - e. Visitors
 - i. Patients with known or suspected Airborne pathogens will be allowed limited visitors. All visitors must be able to comply with Airborne Precautions. All visitors must wear surgical masks. They should be instructed on use of the surgical mask, as well as Airborne Precaution rooms. This includes 24-hour caregivers (persons without recompense and who are not UNCH employees or volunteers) and other visitors who may stay in adult or pediatric patient rooms for extended periods of time.
 - ii. For further information regarding guidelines for primary care givers and household members of patients <15 years of age with diagnosed or suspected TB refer to the Infection Control Policy IC 0060: Tuberculosis Control Plan.
 - iii. Visitors may not eat in the room of patients on Airborne Precautions
4. Additional Information
- a. Patients on Airborne Precautions should not ambulate in the hallways or be in public spaces, even with a mask on.
 - b. When the patient leaves the Airborne Isolation room, close the room door and leave the Airborne Precautions sign on the door. Ensure the room pressure is set on negative and

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do not use this room for another patient for at least 30 minutes. Anyone entering the room during that 30 minute time periods should wear the appropriate respiratory protection.

5. Discontinuing Airborne Isolation
 - a. For guidelines regarding discontinuation of airborne precautions for TB or suspected TB refer to Infection Control Policy IC0060: Tuberculosis Control Plan.
 - b. For guidelines regarding discontinuation of airborne precautions for all other airborne diseases refer to Appendix 1.

I. Special Airborne Precautions

1. In addition to Standard Precautions, use Special Airborne Precautions for patients known or suspected to be infected with microorganisms transmitted by the airborne route and also by contact with mucous membranes of the eyes, nose, and mouth. In particular, use Special Airborne Precautions for patients with known or suspected SARS-CoV infection, smallpox, monkey pox, VHF (e.g., Lassa, Ebola, Marburg, Argentine, Bolivian), and Avian influenza.
2. Refer to the Infection Control Policy IC0026: Highly Communicable Respiratory Diseases: Preparedness and Response Plan for specific details. Refer to the Infection Control Policy IC0004: Infection Control Response to the Intentional Use of a Biothreat Agent for further information on viral hemorrhagic fevers and other possible infectious bioterrorism agents.
3. Principles of Special Airborne Precautions
 - a. Patient Placement
 - i. Place the patient in a specially ventilated (negative pressure) room. Keep the room door closed and the patient in the room. A complete listing of airborne isolation rooms is available on Infection Control's website on the Intranet@work.
 - ii. Prior to transferring a patient needing special airborne precautions, call ahead to confirm the room is ready and negative pressure has been established with a tissue check.
 - iii. Perform a tissue test to assess negative pressure at least daily and document results on the patient record. (See Section J. of this policy for instruction on how to perform a tissue test.)
 - b. Hand Hygiene
 - i. Per Standard Precautions
 - c. Personal Protective Equipment
 - i. Wear respiratory protection when entering the room of a patient on Special Airborne Precautions. An N-95 respirator should be worn by personnel. Visitors should use an N-95 respirator if the patient is known/suspected to have SARS-CoV or smallpox.
 - ii. Wear gloves when entering the room (clean, nonsterile gloves are adequate). Perform hand hygiene following the removal of PPE.
 - iii. Wear a gown to enter the room. Use of an isolation gown is adequate if no fluid exposure is anticipated. Use a fluid resistant gown if fluid exposure is anticipated. Perform hand hygiene following the removal of PPE.
 - iv. Wear protective eyewear to enter the room. Goggles must be used for aerosol-generating procedures (e.g., suctioning, wound irrigation, inhalation therapy).

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- d. Patient Transport
 - i. Limit the movement and transport of the patient from room to essential purposes only.
 - ii. If transport or movement is necessary, minimize patient dispersal of droplet nuclei by placing a surgical mask on the patient if possible.
 - iii. If the patient must be moved out of the room, consult the Infection Control Professional on call (pager 123-7427) for advice regarding strategies to prevent exposures during transport.
 - e. Visitors
 - i. Patients with known or suspected pathogens requiring Special -Airborne Precautions will be allowed limited visitors. All visitors must be able to comply with Airborne Precautions. All visitors must wear surgical masks. They should be instructed on use of and N-95 respirator, as well as Airborne Precaution rooms. This includes 24-hour caregivers (persons without recompense and who are not UNCH employees or volunteers) and other visitors who may stay in adult or pediatric patient rooms for extended periods of time
4. Additional Information
- a. Patients on Special Airborne Precautions should not ambulate in the hallways or be in public spaces, even with a mask on.
 - b. When the patient leaves the Special Airborne Isolation room, close the room door and leave the Airborne Precautions sign on the door. Ensure the room pressure is set on negative and do not use this room for another patient for at least 30 minutes. Anyone entering the room during that 30 minute time periods should wear the appropriate respiratory protection.

J. Protective Precautions

1. Protective Precautions are designed to protect the patient with impaired resistance to infection. Immunocompromised patients vary in their susceptibility to nosocomial infections, depending on the severity and duration of immunosuppression. Immunosuppression may be due to underlying disease such as HIV and leukemia as well as treatments such as organ transplant and chemotherapy
2. Indications
 - a. Highly recommended for patients with an absolute neutrophil count (ANC) <1000 WBC mm³
 - b. Agranulocytosis
 - c. Hematopoietic Stem Cell Transplant (HSCT)
 - d. Lymphomas and leukemia in certain patients (especially in the late stages of Hodgkin's disease and acute leukemia)
 - e. Patients receiving large doses of immunosuppressive drugs, whole body irradiation, or chemotherapy
 - f. Solid organ transplant
3. Principles of Protective Precautions
 - a. Patient Placement

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- i. A private room with positive or neutral air pressure should be used. Ideally, the door should be kept closed. The door may be left open if necessary for patient safety. Positive air pressure rooms are required in the BMTU.
 - b. Hand Hygiene
 - i. Hand hygiene should be performed using an antimicrobial agent (e.g., Chlorhexidine gluconate 2% or Purell) before entering the room, before and after giving patient care, and upon leaving the room.
 - c. Personal Protective Equipment
 - i. Gowns are to be utilized as outlined under standard precautions. Gowns may be required upon entering the room at the discretion of the attending physician.
 - ii. Surgical masks are to be utilized as outlined under standard precautions. Surgical masks may be required upon entering the room at the discretion of the attending physician.
 - iii. Gloves are to be utilized as outlined under Standard Precautions. Gloves may be required upon entering the room at the discretion of the attending physician
 - d. Patient Transport
 - i. Transportation of the patient should be limited to avoid exposure to any source of infection.
 - ii. The nurse or ward secretary will notify the receiving department and patient transportation that the patient requires Protective Precautions. Arrangements must be made so the patient will not have to wait in the holding area of the department.
 - iii. Ideally, procedures outside the patient's room are scheduled at the beginning of the day.
 - iv. Personnel should ensure that the patient wears a surgical mask (or N-95 respirator at the request of the physician) while out of their room.
 - e. Guidelines for Therapeutic Activities with Patients on Protective Precautions
 - i. The patient should wear a tight fitting surgical mask (or N-95 respirator at the request of the physician) when they leave their room.
4. Additional Information
 - a. Personnel, students, volunteers, and visitors with communicable infections such as upper respiratory infections, skin infections, and gastrointestinal infection must not enter the patient's room. An attending physician with mild respiratory symptoms may enter the room wearing a tight-fitting surgical mask. Any other exception to this policy must be approved by the Medical Director of Hospital Epidemiology.
 - b. Only essential personnel should enter the patient's room. Visitation by family and friends should be limited to those significant to the patient.
 - c. The patient's room requires no special cleaning. Routine housekeeping procedures are followed as outlined in the Infection Control Policy IC0020: Environmental Services.
 - d. No live plants or fresh flowers are allowed in the patient's room.
 - e. A neutropenic diet may be ordered at the discretion of the physician. Refer to Nursing policy 0340: Neutropenia.
5. Discontinuing Protective Precautions

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- a. Protective Precautions may be rescinded with a written order by the attending physician.

K. Non-Compliance with Transmission-based Precautions

1. If a competent patient who must remain on isolation precautions will not stay in their room, notify the patient's attending physician of the patient's refusal to comply with Hospital policy. The attending physician should reinforce the rationale for isolation and the expectation that the patient comply. If the patient continues to be noncompliant, staff should contact Hospital Epidemiology/Infection Control. An Infection Control Prevention staff member will talk to the patient/family to explain the rationale. If the patient continues to refuse to maintain isolation precautions, Hospital Epidemiology along with the attending physician will determine if the patient needs to be discharged from the hospital for failure to comply with infection control policy or if the patient needs to be placed on isolation as per Orange County Health Department Health Director.

IV. References

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Reviewed/Approved by

Hospital Infection Control Committee

V. Original Policy Date and Revisions

Revised on Aug 2005, Jan 2008, Jan 2011, Jan 2014, Oct 2015, Jan 2016_{rev}, Sept 2016, June 2017_{rev}

Isolation Precautions

Appendix 1: Type and Duration of Precautions Recommended for Selected Infections and Conditions

Infection/Condition	Precautions		
	Type*	Duration †	Comments
Abscess			
- Draining, major	C	DI	No dressing or containment of drainage; until drainage stops or can be contained by dressing
- Draining, minor or limited	S		Dressing covers and contains drainage
Acquired human immunodeficiency syndrome (HIV)	S		Post exposure chemoprophylaxis for some blood exposures
Actinomycosis	S		Not transmitted from person to person
Adenovirus infection (see agent-specific guidance under gastroenteritis, conjunctivitis, pneumonia)			
Amebiasis	S		Person to person transmission is rare. Transmission in settings for the mentally challenged and in a family group has been reported. Use care when handling diapered infants and mentally challenged persons.
Anthrax			
- Cutaneous	C	Until lesions resolved	Handwashing with soap and water preferable to use of waterless alcohol-based antiseptics since alcohol does not have sporicidal activity
- Pulmonary	S		Not transmitted from person to person
- Environmental: aerosolizable spore-containing powder/substance		DE	Until decontamination of environment complete. Wear respirator (N95 mask or PAPRs), protective clothing; decontaminate persons with powder on them (http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5135a3.htm) Hand hygiene: Handwashing for 30-60 seconds with soap and water or 2% chlorhexidine gluconate after spore contact (alcohol hand rubs inactive against spores) Post-exposure prophylaxis following environmental exposure: 60 days of antimicrobials (either doxycycline, ciprofloxacin, or levofloxacin) and post-exposure vaccine under IND
Antibiotic-associated colitis (see <i>Clostridium difficile</i>)			
Arthropod-borne viral encephalitides (eastern, western, Venezuelan equine encephalomyelitis; St. Louis, California encephalitis; West Nile Virus) and viral fevers (dengue, yellow fever, Colorado tick fever)	S		Not transmitted from person to person except rarely by transfusion, and for West Nile virus by organ transplant, breastmilk or transplacentally. Install screens in windows and doors in endemic areas. Use DEET-containing mosquito repellants and clothing to cover extremities.
Ascariasis	S		Not transmitted from person to person
Aspergillosis	S		Contact Precautions and Airborne Precautions if massive soft tissue infection with copious drainage and repeated irrigations required
Avian influenza (see influenza, avian below)			

* Type of Precautions:

A = Airborne Precautions, C = Contact Precautions, D = Droplet Precautions, E= Enteric Precautions, S = Standard Precautions, SA = Special Airborne Precautions

† Duration of Precautions:

CN = until off antimicrobial treatment and culture-negative; DI = duration of illness (with wound lesions, DI means until wounds stop draining); DE = until environment completely decontaminated; U = until time specified in hours (hrs) after initiation of effective therapy

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Infection/Condition	Precautions		
	Type*	Duration †	Comments
Babesiosis	S		Not transmitted from person to person except rarely by transfusion
Blastomycosis, North American, cutaneous or pulmonary	S		Not transmitted from person to person
Botulism	S		Not transmitted from person to person
Bronchiolitis (see respiratory infections in infants and young children)	C	DI	Use mask according to Standard Precautions
Brucellosis (undulant, Malta, Mediterranean fever)	S		Not transmitted from person to person except rarely via banked spermatozoa and sexual contact. Provide antimicrobial prophylaxis following laboratory exposure
<i>Campylobacter gastroenteritis</i> (see gastroenteritis)			
Candidiasis, all forms including mucocutaneous	S		
Cat-scratch fever (benign inoculation lymphoreticulosis)	S		Not transmitted from person to person
Cellulitis	S		
Chancroid (soft chancre) (<i>H. ducreyi</i>)	S		Transmitted sexually from person to person
Chickenpox (see varicella)			
<i>Chlamydia trachomatis</i>			
- Conjunctivitis	S		
- Genital (lymphogranuloma venereum)	S		
- Pneumonia (infants < 3 mos. of age)	S		
<i>Chlamydia pneumoniae</i>	S		Outbreaks in institutionalized populations reported, rarely
Cholera (see gastroenteritis)			
Closed-cavity infection			
- Open drain in place; limited or minor drainage	S		Contact Precautions if there is copious uncontained drainage
- No drain or closed drainage system in place	S		
<i>Clostridium</i>			
- <i>C. botulinum</i>	S		Not transmitted from person to person
- <i>C. difficile</i> (see Gastroenteritis, <i>C. difficile</i>)	E	U 30 days post treatment	Refer to additional guidelines under Gastroenteritis.
- <i>C. perfringens</i>			
- Food poisoning	S		Not transmitted from person to person
- Gas gangrene	S		Transmission from person to person rare; one outbreak in a surgical setting reported. Use Contact Precautions if wound drainage is extensive.
Coccidioidomycosis (valley fever)			
- Draining lesions	S		Not transmitted from person to person except under extraordinary circumstances because the infectious arthroconidial form of <i>Coccidioides immitis</i> is not produced in humans
- Pneumonia	S		Not transmitted from person to person except under extraordinary circumstances, (e.g., inhalation of aerosolized tissue phase endospores during necropsy, transplantation of infected lung) because the infectious arthroconidial form of <i>Coccidioides immitis</i> is not produced in humans
Colorado tick fever	S		Not transmitted from person to person

Isolation Precautions

Infection/Condition	Precautions		
	Type*	Duration †	Comments
Congenital rubella	C	Until 1 yr of age	Standard Precautions if nasopharyngeal and urine cultures repeatedly negative after 3 mos. of age
Conjunctivitis			
- Acute bacterial	S		
- <i>Chlamydia</i>	S		
- Gonococcal	S		
- Acute viral (acute hemorrhagic)	C	DI	Adenovirus most common; enterovirus 70. Coxsackie virus A24 also associated with community outbreaks. Highly contagious; outbreaks in eye clinics, pediatric and neonatal settings, institutional settings reported. Eye clinics should follow Standard Precautions when handling patients with conjunctivitis. Routine use of infection control measures in the handling of instruments and equipment will prevent the occurrence of outbreaks in this and other settings.
Corona virus associated with SARS (SARS-CoV) (see severe acute respiratory syndrome)			
Coxsackie virus disease (see enteroviral infection)			
Creutzfeldt-Jakob disease CJD, vCJD	S		Notify Hospital Epidemiology prior to the patient undergoing invasive procedures where high risk tissues (e.g., brain, spinal cord, posterior eyes, pituitary tissue) are involved. Use disposable instruments or special prion reprocessing procedures for instruments that have contact with high risk tissue. Refer to the infection control policy for CJD.
Croup (see respiratory infections in infants and young children)			
Crimean-Congo Fever (see Viral Hemorrhagic Fever)			
Cryptococcosis	S		Not transmitted from person to person, except rarely via tissue and corneal transplant
Cryptosporidiosis (see gastroenteritis)			
Cysticercosis	S		Not transmitted from person to person
Cytomegalovirus infection, including in neonates and immunosuppressed patients	S		No additional precautions for pregnant HCPs
Decubitus ulcer (see Pressure ulcer)			
Dengue fever	S		Not transmitted from person to person
Diarrhea, acute-infective etiology suspected (see gastroenteritis)			
Diphtheria			
- Cutaneous	C	CN	Until 2 cultures taken 24 hrs. apart negative
- Pharyngeal	D	CN	Until 2 cultures taken 24 hrs. apart negative
Ebola virus (see viral hemorrhagic fevers)			
Echinococcosis (hydatidosis)	S		Not transmitted from person to person
Echovirus (see enteroviral infection)			
Encephalitis or encephalomyelitis (see specific etiologic agent)			

Isolation Precautions

Infection/Condition	Precautions		
	Type*		Type*
Endometritis (endomyometritis)	S		
Enterobiasis (pinworm disease, oxyuriasis)	S		
<i>Enterococcus</i> species (see multidrug-resistant organisms if epidemiologically significant or vancomycin resistant)			
Enterocolitis, <i>C. difficile</i> (see <i>C. difficile</i> , gastroenteritis)	E		
Enteroviral infections (i.e., Group A and B Coxsackie viruses and Echo viruses) (excludes polio virus)	S		Use Contact Precautions for diapered or incontinent children for duration of illness and to control institutional outbreaks
Epiglottitis, due to <i>Haemophilus influenzae</i> type b	D	U 24 hrs	See specific disease agents for epiglottitis due to other etiologies
Epstein-Barr virus infection, including infectious mononucleosis	S		
Erythema infectiosum (also see Parvovirus B19)			
<i>Escherichia coli</i> gastroenteritis (see gastroenteritis)			
Food poisoning			
- Botulism	S		Not transmitted from person to person
- <i>C. perfringens</i> or <i>welchii</i>	S		Not transmitted from person to person
- Staphylococcal	S		Not transmitted from person to person
Furunculosis, staphylococcal	S		Contact if drainage not controlled. Follow institutional policies if MRSA
Infants and young children	C	DI	
Gangrene (gas gangrene)	S		Not transmitted from person to person
Gastroenteritis	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks for gastroenteritis caused by all of the agents below
- Adenovirus in stool	E		Until asymptomatic for 48 hours.
- <i>Campylobacter</i> species	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
- Cholera (<i>Vibrio cholerae</i>)	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
- <i>C. difficile</i>	E	, U 30 days post treatment	Use Enteric Contact Precautions until 30 days after antibiotic therapy is completed. Terminally clean room and shared patient equipment (if not contraindicated by the manufacturer) with 1:10 bleach and water. Hand washing with soap and water is recommended because of the absence of sporicidal activity of alcohol contained in waterless antiseptic hand rubs.
- <i>Cryptosporidium</i> species	S		Use Enteric Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
- <i>E. coli</i> : Enteropathogenic O157:H7 and other shiga toxin-producing strains	E		Until asymptomatic for 48 hours.
- <i>E. coli</i> : Other species	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
Enterovirus D 68	E		Until asymptomatic for 48 hours.
- <i>Giardia lamblia</i>	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks

Isolation Precautions

Infection/Condition	Precautions		
	Type*		Type*
- Noroviruses	E	U 48hrs symptom free	Use Enteric Contact Precautions. Persons who clean areas heavily contaminated with feces or vomitus may benefit from wearing masks since virus can be aerosolized from these body substances; ensure consistent environmental cleaning and disinfection with focus on restrooms even when apparently unsoiled. Hypochlorite solutions may be required when there is continued transmission. Handwashing with soap and water is recommended.
- Rotavirus	E	U 48hrs symptom free	Use Enteric Contact Precautions until no longer symptomatic and remains asymptomatic for 48 hours. Ensure consistent environmental cleaning and disinfection and frequent removal of soiled diapers. Prolonged shedding may occur in both immunocompetent and Immuno-compromised children and the elderly.
- <i>Salmonella</i> species (including <i>S. typhi</i>)	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
- <i>Shigella</i> species (Bacillary dysentery)	E	U 48hrs symptom free	Until asymptomatic for 48 hours.
- <i>Vibrio parahaemolyticus</i> neg. after 3 mos. of age	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
- Viral (if not covered elsewhere)	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
- <i>Yersinia enterocolitica</i>	S		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks
German measles (see rubella; see congenital rubella)			
Giardiasis (see gastroenteritis)			
Gonococcal ophthalmia neonatorum (gonorrheal ophthalmia, acute conjunctivitis of newborn)	S		
Gonorrhea	S		
Granuloma inguinale (Donovanosis, granuloma venereum)	S		
Guillain-Barré' syndrome	S		Not an infectious condition
<i>Haemophilus influenzae</i> (see disease-specific recommendations)			
Hand, foot, and mouth disease (see enteroviral infection)			
Hansen's Disease (see Leprosy)			
Hantavirus pulmonary syndrome	S		Not transmitted from person to person
<i>Helicobacter pylori</i>	S		

Isolation Precautions

Infection/Condition	Precautions		
	Type*		Type*
Hepatitis, viral			
- Type A	S		Provide hepatitis A vaccine post-exposure as recommended
Diapered or incontinent patients	E		Maintain Enteric Contact Precautions in infants and children <3 years of age for duration of hospitalization; for children 3-14 yrs. of age for 2 weeks after onset of symptoms; >14 yrs. of age for 1 week after onset of symptoms
- Type B-HBsAg positive; acute or chronic	S		See specific recommendations for care of patients in hemodialysis centers
- Type C and other unspecified non-A, non-B	S		See specific recommendations for care of patients in hemodialysis centers
- Type D (seen only with hepatitis B)	S		
- Type E	S		Use Contact Precautions for diapered or incontinent individuals for the duration of illness
- Type G	S		
Herpangina (see enteroviral infection)			
Herpes simplex (<i>Herpesvirus hominis</i>)			
- Encephalitis	S		
- Mucocutaneous, disseminated or primary, severe	C	Until lesions dry and crusted	
-Mucocutaneous, recurrent (skin, oral, genital)	S		
-Neonatal	C	Until lesions dry and crusted	Also, for asymptomatic, exposed infants delivered vaginally or by C-section and if mother has active infection and membranes have been ruptured for more than 4 to 6 hrs until infant surface cultures obtained at 24-36 hrs. of age negative after 48 hrs incubation
Herpes zoster (varicella-zoster) (shingles)			Refer to Appendix 5 for definition of immunocompromised persons.
Disseminated (>3 dermatomes)	A,C	Until lesions dry and crusted	
Immunocompromised with ≤3 dermatomes	A,C		
Non-immunocompromised with ≤3 dermatomes	C		
Inpatients		Until lesions dry and crusted	Susceptible HCPs should not provide direct patient care when other immune caregivers are available.
Outpatients			
- Localized disease	C	Until lesions dry and crusted	Susceptible HCPs should not enter room if immune caregivers are available.
- Disseminated disease	A,C		
Histoplasmosis	S		Not transmitted from person to person
Hookworm	S		
Human immunodeficiency virus (HIV)	S		Post-exposure chemoprophylaxis for high risk blood exposures
Human metapneumovirus			HAI reported but route of transmission not established. Precautions until no longer symptomatic or returned to baseline respiratory status.
Adults		DI	
Pediatric and BMTU patients	D,C		
Impetigo	C	U 24 hrs	
Infectious mononucleosis	S		

Isolation Precautions

Infection/Condition	Precautions		
	Type*		Type*
Influenza			
- Human (seasonal influenza)	D	7 days adults, 10 days children and BMTU	Single patient room; avoid placement with high-risk patients; mask patient when transported out of room; chemoprophylaxis/vaccine to control/prevent outbreaks. Use gown and gloves according to Standard Precautions may be especially important in pediatric settings. Duration of precautions for immunocompromised patients cannot be defined; prolonged duration of viral shedding (i.e. for several weeks) has been observed; implications for transmission are unknown. Use surgical mask for HCP or N95 for cough inducing procedures.
- Avian/Pandemic (e.g., H5N1, H7, H9 strains)	SA		See the following website for information on the current situation with avian influenza and infection control recommendations www.cdc.gov/flu/avian/professional/infect-control.htm .
Kawasaki syndrome	S		Not an infectious condition
Lassa fever (see viral hemorrhagic fevers)			
Legionnaires' disease	S		Not transmitted from person to person
Leprosy	C		
Leptospirosis	S		Not transmitted from person to person
Lice			http://www.cdc.gov/ncidod/dpd/parasites/lice/default.htm
- Head (pediculosis)	C	U 24 hrs	
- Body	C		Transmitted person to person through infested clothing. Wear gown and gloves when removing clothing; bag and wash clothes according to CDC guidance above.
- Pubic	C		Transmitted person to person through sexual contact
Listeriosis (<i>listeria monocytogenes</i>)	S		Person-to-person transmission rare; cross-transmission in neonatal settings reported.
Lyme disease	S		Not transmitted from person to person
Lymphocytic choriomeningitis	S		Not transmitted from person to person
Lymphogranuloma venereum	S		
Malaria	S		Not transmitted from person to person except through transfusion rarely and through a failure to follow Standard Precautions during patient care. Install screens in windows and doors in endemic areas. Use DEET-containing mosquito repellants and clothing to cover extremities.
Marburg virus disease(see viral hemorrhagic fevers)			
Measles (rubeola)	A	4 days after onset of rash; DI in immune compromised	Susceptible HCPs should not enter room if immune care providers are available; no recommendation for face protection for immune HCP; no recommendation for type of face protection for susceptible HCPs, i.e., mask or respirator. For exposed susceptibles, post-exposure vaccine within 72 hrs., or immune globulin within 6 days when available. Place exposed susceptible patients on Airborne Precautions and exclude susceptible healthcare personnel from duty from day 5 after first exposure to day 21 after last exposure, regardless of post-exposure vaccine.
Melioidosis, all forms	S		Not transmitted from person to person

Isolation Precautions

Infection/Condition	Precautions		
	Type*		Type*
Meningitis			
- Aseptic (nonbacterial or viral; also see enteroviral infections)	S		Contact for infants and young children
- Bacterial, gram-negative enteric, in neonates	S		
- Fungal	S		
- <i>Haemophilus influenzae</i> , type b known or suspected	D	U 24 hrs	
- <i>Listeria monocytogenes</i> (See Listeriosis)	S		
- <i>Neisseria meningitidis</i> (meningococcal) known or suspected	D	U 24 hrs	See meningococcal disease below
- <i>Streptococcus pneumoniae</i>	S		
- <i>M. tuberculosis</i>	S		Concurrent, active pulmonary disease or draining cutaneous lesions may necessitate addition of Contact and/or Airborne Precautions. For children, airborne precautions until active tuberculosis ruled out in visiting family members (see tuberculosis below).
- Other diagnosed bacterial	S		
Meningococcal disease: sepsis, pneumonia, meningitis	D	U 24 hrs	Postexposure chemoprophylaxis for household contacts, HCPs exposed to respiratory secretions; postexposure vaccine only to control outbreaks
<i>Molluscum contagiosum</i>	S		
Monkeypox	SA	A: Until monkeypox confirmed and smallpox excluded C: Until lesions crusted	See www.cdc.gov/ncidod/monkeypox for most current recommendations. Transmission in hospital settings unlikely. Pre- and post-exposure smallpox vaccine recommended for exposed HCPs.
Mucormycosis	S		
Multidrug-resistant organisms (MDROs), infection or colonization (e.g., MRSA, VRE, VISA/VRSA, ESBLs, Carbapenemase production, resistant <i>S. pneumoniae</i>)	C		MDROs judged by the infection control program, based on local, state, regional, or national recommendations, to be of clinical and epidemiologic significance. Contact Precautions recommended in settings with evidence of ongoing transmission, acute care settings with increased risk for transmission or wounds that cannot be contained by dressings. See recommendations for management options. Contact state health department for guidance regarding new or emerging MDRO.
Mumps (infectious parotitis)	D	U 9 days	9 days of isolation after onset of parotitis

Isolation Precautions

Infection/Condition	Precautions		
	Type*		Type*
Mycobacteria, nontuberculosis (atypical)			Not transmitted person-to-person
- Pulmonary	S		
- Wound	S		
<i>Mycoplasma pneumoniae</i>	S		
Necrotizing enterocolitis	S		Contact Precautions when cases clustered temporally.
Nocardiosis, draining lesions, or other presentations	S		Not transmitted person-to-person.
Norovirus (see gastroenteritis)			
Norwalk agent gastroenteritis (see gastroenteritis)			
Orf	S		
Para influenza virus infection : Adult	S		Viral shedding may be prolonged in immunosuppressed patients. Reliability of antigen testing to determine when to remove patients with prolonged hospitalizations from Contact Precautions uncertain.
Pediatric and BMTU patients	D, C	DI	
Parvovirus B19 (Erythema infectiosum)	D		All patients who are PCR positive for Parvovirus B19 must be placed on droplet precautions. Maintain precautions for duration of hospitalization when chronic disease occurs in an immunocompromised patient. For patients with acute parvovirus infections such as transient aplastic crisis or red-cell crisis, maintain precautions for 7 days after onset of symptoms. Duration of precautions for immunosuppressed patients with persistently positive PCR can be discontinued when the patient's PCR is negative.
Pediculosis (lice)	C	U 24 hrs after treatment	
Pertussis (whooping cough)	D	U 5 days after starting effective therapy	Single patient room. Post-exposure chemoprophylaxis for household contacts and HCP-Ps with prolonged exposure to respiratory secretions. Recommendations for Tdap vaccine in adults.
Pinworm infection (Enterobiasis)	S		
Plague (<i>Yersinia pestis</i>)			
- Bubonic	S		
- Pneumonic	D	U 48 hrs	Antimicrobial prophylaxis for exposed HCP-P.
Pneumonia:			
- Adenovirus	D,C	DI	Until no longer symptomatic or patient returned to baseline respiratory status. Outbreaks in pediatric and institutional settings reported In immunocompromised hosts; extend duration of Droplet and Contact Precautions due to prolonged shedding of virus.
- Bacterial not listed elsewhere (including gram-negative bacterial)	S		
- <i>B. cepacia</i> in patients with CF, including respiratory tract colonization	C	Unknown	Avoid exposure to other persons with CF; private room preferred. Criteria for D/C precautions not established. See CF Foundation guideline and UNCHCS CF Policy.
- <i>B. cepacia</i> in patients without CF (see multidrug-resistant organisms)			
- <i>Chlamydia</i>	S		
- Fungal	S		

Isolation Precautions

Infection/Condition	Precautions		
	Type*		Type*
- <i>Haemophilus influenzae</i> , type b			
Adults	S		
Infants and children	D	U 24 hrs	
- <i>Legionella spp.</i>	S		
- Meningococcal	D	U 24 hrs	See meningococcal disease above.
-Multidrug-resistant bacterial (see multidrug-resistant organisms)			
- <i>Mycoplasma</i> (primary atypical pneumonia)	S		
- Pneumococcal pneumonia	S		Use Droplet Precautions if evidence of transmission within a patient care unit or facility
- <i>Pneumocystis jiroveci</i> (<i>Pneumocystis carinii</i>)	S		Avoid placement in the same room with an immunocompromised patient
- <i>Staphylococcus aureus</i>	S		For MRSA, see MDROs
- <i>Streptococcus</i> , group A			
Adults	D	U 24 hrs	See streptococcal disease (group A streptococcus) below
Infants and young children	D	U 24 hrs	Contact Precautions if skin lesions present
- Varicella-zoster (pneumonia)	A,C		Precautions may be discontinued when the following criteria are met: Clinical Improvement, completion 7-10 days of appropriate therapy, skin lesions are dried/crusted and no signs of pneumonia on a current chest x-ray
- Viral			
Adults	S		
Infants and young children (see respiratory infectious disease, acute, or specific viral agent)			
Poliomyelitis	C	DI	
Pressure ulcer (decubitus ulcer, pressure sore) infected			
- Major	C	DI	If no dressing or containment of drainage; until drainage stops or can be contained by dressing
- Minor or limited	S		If dressing covers and contains drainage
Prion disease (See Creutzfeld-Jacob Disease)			
Psittacosis (ornithosis) (<i>Chlamydia psittaci</i>)	S		Not transmitted from person to person
Q fever	S		Use Contact Precautions for obstetrical procedures on pregnant women
Rabies	S with mask with face shield	DI	Person to person transmission rare; transmission via corneal, tissue and organ transplants has been reported. If patient has bitten another individual or saliva has contaminated an open wound or mucous membrane, wash exposed area thoroughly and administer postexposure prophylaxis.
Rat-bite fever (<i>Streptobacillus moniliformis</i> disease, <i>Spirillum minus</i> disease)	S		Not transmitted from person to person
Relapsing fever	S		Not transmitted from person to person
Resistant bacterial infection or colonization (see multidrug-resistant organisms)			

Isolation Precautions

Infection/Condition	Precautions		
	Type*		Type*
Respiratory infectious disease, acute (if not covered elsewhere)			
- Adults	S		
- Infants and young children	C	DI	
Respiratory syncytial virus (RSV) infection,	D, C	DI, except U 1 month after positive test for NCCC	Precautions until no longer symptomatic or returned to baseline respiratory, except in NCCC. Infants in NCCC will remain on precautions for 1 month after positive test. status
Reye's syndrome	S		Not an infectious condition
Rheumatic fever	S		Not an infectious condition
Rhinovirus Adults Pediatric and BMT patients	S D,C	DI	Droplet most important route of transmission. Outbreaks have occurred in NICUs and LTCFs. For young infants, add Contact Precautions if copious moist secretions and close contact likely to occur.
Rickettsial fevers, tickborne (Rocky Mountain spotted fever, tickborne typhus fever)	S		Not transmitted from person to person except through transfusion, rarely
Rickettsialpox (vesicular rickettsiosis)	S		Not transmitted from person to person
Ringworm (dermatophytosis, dermatomycosis, tinea)	S		A child with ringworm may visit the pediatric playroom as long as all infectious lesions are covered and no other children are present
Ritter's disease (staphylococcal scalded skin syndrome)	C	DI	See staphylococcal disease, scalded skin syndrome below
Rocky Mountain spotted fever	S		Not transmitted from person to person except through transfusion, rarely
Roseola infantum (exanthem subitum; caused by HHV-6)	S		
Rotavirus infection (see gastroenteritis)			
Rubella (German measles); also see congenital rubella	D	U 7 days after onset of rash	Susceptible HCP-Ps should not enter room if immune caregivers are available. No recommendation for wearing face protection (e.g., a surgical mask) if immune. Pregnant women who are not immune should not care for these patients. Administer vaccine within three days of exposure to non-pregnant susceptible individuals. Place exposed susceptible patients on Droplet Precautions and exclude susceptible healthcare personnel from duty from day 5 after first exposure to day 21 after last exposure, regardless of post-exposure vaccine.
Rubeola (see measles)			
Salmonellosis (see gastroenteritis)			
Scabies	C	U 24	
Scalded skin syndrome, staphylococcal	C	DI	See staphylococcal disease, scalded skin syndrome below
Schistosomiasis (bilharziasis)	S		
Severe acute respiratory syndrome (SARS)	SA	Notify Hospital Epidemiology	
Shigellosis (see gastroenteritis)			

Isolation Precautions

Infection/Condition	Precautions		
	Type*		Type*
Smallpox (variola) (see vaccinia for management of vaccinated persons)	SA	Notify Hospital Epidemiology	Until all scabs have crusted and separated (3-4 weeks). Non-vaccinated HCP-Ps should not provide care when immune HCP-Ps are available; N95 or higher respiratory protection required for susceptible and successfully vaccinated individuals; postexposure vaccine within 4 days of exposure protective.
Sporotrichosis	S		
<i>Spirillum minor</i> disease (rat-bite fever)	S		Not transmitted from person to person
Staphylococcal disease (<i>S. aureus</i>)			
- Skin, wound, or burn			
Major	C	DI	No dressing or dressing does not contain drainage adequately
Minor or limited	S		Dressing covers and contains drainage adequately
- Enterocolitis	S		Use Contact Precautions for diapered or incontinent children for duration of illness
- Multidrug-resistant (see multidrug-resistant organisms)			
- Pneumonia	S		
- Scalded skin syndrome	C	DI	Consider healthcare personnel as potential source of nursery, NICU outbreak
- Toxic shock syndrome	S		
<i>Streptobacillus moniliformis</i> disease (rat-bite fever)	S		Not transmitted from person to person
Streptococcal disease (group A streptococcus)			
- Skin, wound, or burn			
Major	C, D	U 24 hrs	No dressing or dressing does not contain drainage adequately
Minor or limited	S		Dressing covers and contains drainage adequately
- Endometritis (puerperal sepsis)	S		
- Pharyngitis in infants and young children	D	U 24 hrs	
- Pneumonia	D	U 24 hrs	
- Scarlet fever in infants and young children	D	U 24 hrs	
- Serious invasive disease	D	U24 hrs	Outbreaks of serious invasive disease have occurred secondary to transmission among patients and healthcare personnel. Contact Precautions for draining wound as above; follow rec. for antimicrobial prophylaxis in selected conditions
Streptococcal disease (group B streptococcus), neonatal	S		
Streptococcal disease (not group A or B) unless covered elsewhere	S		
Multidrug-resistant (see multidrug-resistant organisms)			
Strongyloidiasis	S		
Syphilis			
- Latent (tertiary) and seropositivity without lesions	S		
- Skin and mucous membrane, including congenital, primary secondary	C	U24 hrs	

Isolation Precautions

Infection/Condition	Precautions		
	Type*		Type*
Tapeworm disease			
- <i>Hymenolepis nana</i>	S		Not transmitted from person to person
- <i>Taenia solium</i> (pork)	S		
- Other	S		
Tetanus	S		Not transmitted from person to person
Tinea (e.g., dermatophytosis, dermatomycosis, ringworm)	S		Rare episodes of person-to-person transmission
Toxoplasmosis	S		Transmission from person to person is rare; vertical transmission from mother to child, transmission through organs and blood transfusion rare
Toxic shock syndrome (staphylococcal disease, streptococcal disease)	S		Droplet Precautions for the first 24 hours after implementation of antibiotic therapy if Group A streptococcus is a likely etiology
Trachoma, acute	S		
Transmissible spongiform encephalopathy (see Creutzfeld-Jacob disease, CJD, vCJD)			
Trench mouth (Vincent's angina)	S		
Trichinosis	S		
Trichomoniasis	S		
Trichuriasis (whipworm disease)	S		
Tuberculosis (<i>M. tuberculosis</i>)			
- Extrapulmonary, draining lesion with irrigation	A		Examine for evidence of active pulmonary tuberculosis
- Extrapulmonary, no draining lesion, meningitis	S		Examine for evidence of pulmonary tuberculosis. For infants and children, use Airborne Precautions until active pulmonary tuberculosis in visiting family members ruled out.
- Pulmonary or laryngeal disease, confirmed	A		Discontinue precautions only when patient on at least 2 weeks of effective therapy, is improving clinically <u>and</u> has three consecutive sputum smears negative for acid-fast bacilli collected at least 8 hours apart
- Pulmonary or laryngeal disease, suspected	A		Discontinue precautions only when the likelihood of infectious TB disease is deemed negligible, <u>and</u> either 1) there is another diagnosis that explains the clinical syndrome or 2) the results of three sputum smears for AFB are negative. Each of the three sputum specimens should be collected 8-24 hours apart, and at least one should be an early morning specimen.
- Skin-test positive with no evidence of current active disease	S		
Tularemia			BSL 2 laboratory required for processing cultures
- Draining lesion	S		Not transmitted from person to person
- Pulmonary	S		Not transmitted from person to person
Typhoid (<i>Salmonella typhi</i>) fever (see gastroenteritis)			
Typhus			
- <i>Rickettsia prowazekii</i> (Epidemic or Louse-borne typhus)	S		Transmitted from person to person through close personal or clothing contact
- <i>Rickettsia typhi</i>	S		Not transmitted from person to person

Isolation Precautions

Infection/Condition	Precautions		
	Type*		Type*
Urinary tract infection (including pyelonephritis), with or without urinary catheter	S		
Vaccinia (vaccination site, adverse events following vaccination) *			Only vaccinated HCPs have contact with active vaccination sites and care for persons with adverse vaccinia events; if unvaccinated, only HCPs without contraindications to vaccine may provide care
- Vaccination site care (including autoinoculated areas)	S		Vaccination recommended for vaccinators; for newly vaccinated HCPs: semi-permeable dressing over gauze until scab separates, with dressing change as fluid accumulates, ~3-5 days; gloves, hand hygiene for dressing change; vaccinated HCP or HCP without contraindication to vaccine for dressing changes
- Eczema vaccinatum	C	Until lesions dry and crusted, scabs separated	For contact with virus-containing lesions and exudative material
- Fetal vaccinia	C		
- Generalized vaccinia	C		
- Progressive vaccinia	C		
- Postvaccinia encephalitis	S		
- Blepharitis or conjunctivitis	C		
- Iritis or keratitis	S		
- Vaccinia-associated erythema multiforme (Stevens Johnson Syndrome)	S		Not an infectious disease
- Secondary bacterial infection (e.g., <i>S. aureus</i> , group A beta hemolytic streptococcus)	C		Follow organism-specific (strep, staph most frequent) recommendations and consider magnitude of drainage
Varicella	A,C	Until lesions dry and crusted	Susceptible HCPs should not enter room if immune caregivers are available; Post-exposure prophylaxis: provide post-exposure vaccine ASAP but within 120 hours; for susceptible exposed persons for whom vaccine is contraindicated (immunocompromised persons, pregnant women, newborns whose mother's varicella onset is ≤5days before delivery or within 48 hrs after delivery) provide VZIG, when available, within 96 hours; if unavailable, use IVIG, Use Airborne Precautions for exposed susceptible persons and exclude exposed susceptible healthcare workers beginning 8 days after first exposure until 21 days after last exposure or 28 if received VZIG, regardless of postexposure vaccination
Variola (see smallpox)			
<i>Vibrio parahaemolyticus</i> (see gastroenteritis)			
Vincent's angina (trench mouth)	S		
Viral hemorrhagic fevers due to Lassa, Ebola, Marburg, Crimean-Congo fever viruses	SA	Notify Hospital Epidemiology	Single-patient room preferred. Emphasize: 1) use of sharps safety devices and safe work practices; 2) hand hygiene; 3) barrier protection against blood and body fluids upon entry into room (single gloves and fluid-resistant or impermeable gown, face/eye protection with masks, goggles, or face shields); and 4) appropriate waste handling. Use N95 or higher respirators when performing aerosol-generating procedures. Largest viral load in final stages of illness when massive hemorrhage occurs; additional PPE, including double gloves, leg and shoe coverings may be needed under these conditions. Notify public health officials immediately if Ebola is suspected.

Isolation Precautions

Infection/Condition	Precautions		
	Type*		Type*
Viral respiratory diseases (not covered elsewhere)			
- Adults	S		
- Infants and young children (see respiratory infectious disease, acute)			
Whooping cough (see pertussis)			
Wound infections			
- Major	C	DI	No dressing or dressing does not contain drainage adequately
- Minor or limited	S		Dressing covers and contains drainage adequately
<i>Yersinia enterocolitica</i> gastroenteritis (see gastroenteritis)			
<i>Yersinia Pestis</i> (See plague)			
<i>Zika virus</i>	S		Transmitted via mosquito, blood, and sexual contact
Zoster (varicella-zoster) (see herpes zoster)			
Zygomycosis (phycomycosis, mucormycosis)	S		Not transmitted person-to-person

Appendix 2: Isolation Precautions Quick Reference

<u>DISEASE</u>	<u>Precautions</u>	<u>Duration of Precautions</u>
Antibiotic Resistant Bacteria: ORSA/MRSA VRE CRE MDR Gram-negative bacilli	Contact Contact Contact Contact	Varies with type of bacteria; refer to "Isolation Precautions" section for discontinuing isolation guidelines.
Chickenpox (Symptomatic)	Airborne*/Contact	Until all lesions are crusted and dried
Chickenpox (Incubating)	Airborne*	For incubation period: 8-21st day post-exposure. (thru 28 th day if given VZIG). If lesions appear, isolate until all lesions are crusted and dried.
<i>C. difficile</i> Gastroenteritis**	Enteric	Until 30 days after antibiotic therapy is completed
Norovirus Gastroenteritis**	Enteric	Until 48 hrs after symptoms subside
Rotavirus Gastroenteritis**	Enteric if <6 years of age and diapered/incontinent or BMT patient	Until no longer symptomatic and remains asymptomatic for 48hours.
Herpes Simplex: Neonatal Disseminated / primary severe Mucocutaneous, recurrent (skin, oral, genital)	Contact Contact Standard	Until no longer symptomatic, lesions crusted and dried
Lice (head)	Contact	Until 24 hours after treatment
Measles	Airborne*	Until no longer symptomatic
Meningitis: Unknown <i>Neisseria meningitidis</i> <i>H. influenzae</i>	Droplet Droplet Droplet	Until patient has received 24 hours of appropriate antibiotic therapy
Pertussis	Droplet	Until patient has received 5 days of appropriate antibiotic therapy
Scabies	Contact	Until 24 hours after treatment
Tuberculosis	Airborne*	Refer to the Tuberculosis Control Plan and/or consult with Infection Control
Zoster/Shingles - Localized - 3 dermatomes or disseminated - Immunocompromised - BMT patient	Contact Contact/Airborne Contact/Airborne Contact/Airborne	Use Contact Precautions until all lesions are crusted and dried. For detailed information on the management of Zoster, refer to Appendix 5.

*Airborne and Special Airborne Precautions require a negative pressure isolation room.

** Use soap and water for hand hygiene

Appendix 3: Quick Glance for Respiratory Virus Panel Isolation Precautions*

Resp Virus NAA	Precautions		
	Type*	Duration †	Comments
Influenza A Influenza B Adults Pediatric and immunocompromised persons of all ages	D	7 days adults	Droplet Precautions. Single patient room when available or cohort; avoid placement with high-risk patients; mask patient when transported out of room. Gloves and gown may be necessary in pediatric settings if contamination with respiratory secretions is possible.
		10 days for pediatric and/or immunocompromised patients	
Adenovirus	D, C	DI	Precautions until no longer symptomatic or returned to baseline respiratory status
Metapneumovirus	D,C	DI	Precautions until no longer symptomatic or returned to baseline respiratory status
Parainfluenza 1 Parainfluenza 2 Parainfluenza 3 Parainfluenza 4 Adults	S		
Pediatric and BMTU patients	D,C	DI	Precautions until no longer symptomatic or returned to baseline respiratory status. Viral shedding may be prolonged in immunosuppressed patients. Reliability of antigen testing to determine when to remove patients with prolonged hospitalizations from Contact Precautions uncertain.
RSV	D, C		Precautions until no longer symptomatic or returned to baseline respiratory status, except in NCCC. Infants in NCCC will remain on precautions for 1 month after positive test.
Rhino/Entero Adults	S		
Pediatric and BMTU patients	D, C	DI	Precautions until no longer symptomatic or returned to baseline respiratory status.
Coronavirus (not SARS)	D, C	DI	Precautions until no longer symptomatic or returned to baseline respiratory status

***When a Respiratory Viral Panel is sent the patient should be placed on Droplet plus Contact Precautions until test finalized and then follow precautions as listed above.**

DI = Duration of Illness (until symptoms have resolved)

D = droplet precautions.

C = contact precautions.

S = standard precautions.

Appendix 4: Definition of Multi-Drug Resistant Pathogens Requiring Contact Isolation

Patients colonized or infected with resistant pathogens (as specified below) will be placed on contact isolation. All employees should perform hand hygiene prior to entering the room and after removing gloves/prior to leaving the room. Contact isolation may be required for other antibiotic resistant organisms at the discretion of Hospital Epidemiology or the attending physician.

Definitions of MDR Pathogens Requiring Contact Isolation

1. MRSA (resistant to oxacillin or methicillin)
2. VRE – *E. faecium* and *E. faecalis* (resistant to vancomycin)
3. *E. coli*, *Proteus*, *Serratia*, *Klebsiella*, *Enterobacter*, *Providencia*, other *Enterobacteriaceae*
 - Resistant to at least one drug in 3 of the following classes:
 - Extended spectrum cephalosporins (cefepime, ceftazidime, cefotaxime, ceftriaxone)
 - Fluoroquinolones (ciprofloxacin, levofloxacin, moxifloxacin)
 - Aminoglycosides (gentamicin, tobramycin, amikacin)
 - Carbapenems (imipenem, meropenem, doripenem)
 - Piperacillin/tazobactam
4. *Pseudomonas aeruginosa*
 - Resistant to at least one drug in 3 of the following classes:
 - Extended spectrum cephalosporins (cefepime, ceftazidime)
 - Fluoroquinolones (ciprofloxacin, levofloxacin)
 - Aminoglycosides (gentamicin, tobramycin, amikacin)
 - Carbapenems (imipenem, meropenem, doripenem)
 - Piperacillin/tazobactam
5. *Acinetobacter baumannii*
 - Resistant to at least one drug in 3 of the following classes:
 - Extended spectrum cephalosporins (cefepime, ceftazidime)
 - Fluoroquinolones (ciprofloxacin, levofloxacin)
 - Aminoglycosides (gentamicin, tobramycin, amikacin)
 - Carbapenems (imipenem, meropenem, doripenem)
 - Piperacillin/tazobactam
 - Ampicillin/sulbactam
6. CRE are defined as Enterobacteriaceae (only *E. coli*, *Klebsiella* species, and *Enterobacter* species)
 - Non susceptible to one of the following carbapenems: doripenem, meropenem, or imipenem
 - AND**
 - Resistant to all of the following third generation cephalosporins that were tested: ceftriaxone, cefotaxime, and ceftazidime

Caveats

- Treat “intermediate” as “resistant”
- We will not classify *S. maltophilia* as a multidrug resistant pathogen based on susceptibilities given how few antibiotics are tested and because outbreaks are rare.
- Use contact precautions for all patients with CRE – carbapenem resistant *Enterobacteriaceae* (*E. coli*, *Klebsiella*, *Enterobacter*)
- *B. cepacia*, *Achromobacter*, *Pseudomonas* (CF) use existing guidelines until CF guideline finalized Fall 2013
- Consider expanding CRE classification to all Enterobacteriaceae organisms in an outbreak setting for the purpose of decision making for cohorting patients (e.g., CR *Klebsiella* and CR *Serratia* would be cohorting together).

References

1. Sievert DM, et al. Antimicrobial-resistant pathogens associated with healthcare-associated infections: Summary of data reported to the National Healthcare Safety Network at the Centers for Disease Control and Prevention, 2009-2010. *Infect Control Hosp Epidemiol* 2013;34:1-14 (Table 8)
2. Centers for Disease Control and Prevention. Carbapenem-resistant *Enterobacteriaceae*. <http://www.cdc.gov/hai/organisms/cre/>. Accessed 7 June, 2013.

Appendix 5: Management of Herpes Zoster (Shingles)

The following guidelines apply to inpatient and outpatient patient care areas.

1. Patients with localized herpes zoster (< 3 dermatomes) require Contact Precautions.
 - a. Cover lesions with a sterile dressing and/or clothing.
 - b. Wear gloves for all patient contacts and perform hand hygiene after glove removal.
 - c. An isolation gown is required if clothing may have contact with the lesions or drainage.
 - d. Persons not immune to chicken pox (immunity is provided by varicella vaccine or natural disease) should not enter the patient's room. If they must provide care to a patient with zoster they must wear an N-95 respirator, gown, and gloves.
2. In addition to Contact Precautions, use Airborne Precautions for the following conditions.
 - a. Disseminated zoster (≥ 3 dermatomes)
 - b. All patients in the BMTU
 - c. Zoster in an immunocompromised patient. Immunocompromised is defined as:
 - Congenital immunodeficiency
 - Receipt of chemotherapy [considered immunosuppressed for 3 months following receipt]
 - Receipt of whole body irradiation [considered immunosuppressed for 3 months following receipt]
 - Solid organ transplant (liver, heart, lung, kidney, intestines)
 - Stem cell transplantation
 - Leukemia, lymphoma, or other malignant neoplasms affecting bone marrow or lymphatic system
 - HIV infection
 - Persons with clinical or laboratory evidence of unspecified cellular immunodeficiency (MD diagnosed immunodeficiency disease)
 - Treatment with methotrexate (>0.4 mg/kg/week), azathioprine (>3.0 mg/kg/day), or 6-mercaptopurine (>1.5 mg/kg/day) {used for treatment of rheumatoid arthritis, psoriasis, polymyositis, sarcoidosis, inflammatory bowel disease, and other conditions}. [considered immunosuppressed for 3 months]
 - Receipt of systemic steroids (IV or PO) who are receiving ≥ 2 mg/kg or ≥ 20 mg/day of prednisone or its equivalent. [considered immunosuppressed for 3 months]
 - Persons receiving recombinant human immune mediators and immune modulators, especially the antitumor necrosis factor agents: adalimumab, infliximab, and etanercept. [considered immunosuppressed for 6 months following receipt]
 - Neutropenia (WBC $<1,000$)
 - Burn Patients

Appendix 6: Management of Patients with Suspected Viral Hemorrhagic Fevers (VHFs) Due to Marburg, Ebola, Crimean-Congo Hemorrhagic, and Lassa Fever Viruses

The following recommendations apply to patients who, within 3 weeks before the onset of fever, have either traveled in the specific area of a country where VHF has recently occurred; had direct contact with blood, other body fluids, secretions, or excretions from a person or animal with VHF; or worked in a laboratory or animal facility that handles viruses that cause hemorrhagic fever. The likelihood of acquisition of VHF is considered extremely low for persons who do not meet any of these criteria. The cause of fever in persons who have traveled in areas where VHF is endemic is more likely to be a different infectious disease (e.g., malaria or typhoid fever); evaluation for and treatment of these other potentially serious infections should not be delayed.

1. Because most ill persons who undergo prehospital evaluation and transport are in the early stages of disease and would not be expected to have symptoms that increase the likelihood of contact with infectious body fluids (e.g., vomiting, diarrhea, or hemorrhage), standard precautions are generally sufficient. Hand hygiene must be performed between contacts with different patients and after removing PPE. If a patient has respiratory symptoms (e.g., cough), face shields or surgical masks and eye protection should be worn by caregivers to prevent droplet contact. Blood, urine, feces, or vomitus, if present, should be handled as described in the following recommendations for hospitalized patients.
2. Patients in a hospital outpatient or inpatient setting should be placed in a private room. A negative-pressure room is not required during the early stages of illness but should be considered at the time of hospitalization to avoid the need for subsequent transfer of the patient. Nonessential staff and visitors should be restricted from entering the room. Health care workers should use barrier precautions to prevent skin and mucous membrane exposure to blood, other body fluids, secretions, and excretions. All persons who enter the room should wear gloves and gowns to prevent contact with items or environmental surfaces that may be soiled. In addition, face shields or surgical masks and eye protection (e.g., goggles or eyeglasses with side shields) should be worn by persons coming within ~1 m of the patient to prevent contact with blood, other body fluids, secretions (including respiratory droplets), or excretions. The need for additional barriers depends on the potential for fluid contact, as determined by the procedure performed and the presence of clinical symptoms that increase the likelihood of contact with body fluids from the patient. For example, if copious amounts of blood, other body fluids, vomit, or feces are present in the environment, leg and shoe coverings also may be needed. Before entering the hallway, all protective barriers should be removed, and shoes that are soiled with body fluids should be cleaned and disinfected as described below (see recommendation 6). An anteroom for putting on and removing protective barriers and for storing supplies would be useful, if available.
3. For patients with suspected VHF who have a prominent cough, vomiting, diarrhea, or hemorrhage, additional precautions are indicated to prevent possible exposure to airborne particles that may contain virus. Patients with these symptoms should be placed in a negative-pressure room. Persons who enter the room should wear personal protective respirators as recommended for care of patients with tuberculosis (i.e., N-95 masks).
4. Measures to prevent percutaneous injuries associated with the use and disposal of needles and other sharp instruments should be undertaken as outlined in recommendations for standard precautions.
5. Because of the potential risks associated with handling infectious materials, laboratory testing should be the minimum necessary for diagnostic evaluation and patient care. Clinical laboratory specimens should be obtained according to the precautions outlined above (see recommendations

Isolation Precautions

1-4), placed in plastic bags that are sealed, and then transported in clearly labeled, durable, leak-proof containers directly to the specimen handling area of the laboratory. Care should be taken not to contaminate the external surfaces of the container. Laboratory staff should be alerted to the nature of the specimens, which should remain in the custody of a designated person until testing is done. Specimens in clinical laboratories should be handled in a class II biological safety cabinet according to biosafety level 3 practices. Serum samples used in laboratory tests should be pretreated with polyethylene glycol p-tert-octylphenyl ether (Triton X-100); treatment with 10 μ L of 10% Triton X-100/1 mL of serum for 1 h reduces the titer of viruses that cause VHF in serum, although 100% efficacy in inactivation of these viruses should not be assumed. Blood smears (e.g., for malaria) are not infectious after fixation in solvents. Routine procedures can be used for automated analyzers; analyzers should be disinfected as recommended by the manufacturer or with a 500-ppm solution of sodium hypochlorite (1:10 dilution bleach) after use. Virus isolation or cultivation must be done at biosafety level 4.

6. Environmental surfaces or inanimate objects contaminated with blood, body fluids, secretions, or excretions should be cleaned and disinfected according to standard procedures. Disinfection can be accomplished by use of a US Environmental Protection Agency (EPA)-registered hospital disinfectant or a 1:10 dilution of household bleach.
7. Soiled linens should be placed in clearly labeled leak-proof bags at the site of use and transported directly to the decontamination area. Linens can be decontaminated in a gravity displacement autoclave or incinerated. Alternatively, linens can be laundered in a normal hot water cycle with bleach if standard precautions to prevent exposures are precisely followed and linens are placed directly into washing machines without sorting.
8. There is no evidence of transmission of viruses that cause VHF to humans or animals through exposure to contaminated sewage. As an added precaution, measures should be taken to eliminate or reduce the infectivity of bulk blood, suctioned fluids, secretions, and excretions before disposal. These fluids should be autoclaved, processed in a chemical toilet, or treated with several ounces of household bleach for >5 minutes (e.g., in a bedpan or commode) before flushing or disposal in a drain connected to a sanitary sewer. Care should be taken to avoid splashing when disposing of these materials. Potentially infectious medical waste (e.g., contaminated needles, syringes, and tubing) should be either incinerated or decontaminated by autoclaving or immersion in a suitable chemical germicide (i.e., a US EPA-registered hospital disinfectant or a 1:10 dilution of household bleach) and then handled according to existing local and state regulations for waste management.
9. If the patient dies, the amount of handling of the body should be minimal. The corpse should be wrapped in sealed leak-proof material (not embalmed) and cremated or buried promptly in a sealed casket. If an autopsy is necessary, the state health department and Centers for Disease Control and Prevention should be consulted regarding appropriate precautions.
10. Persons with percutaneous or mucocutaneous exposures to blood, body fluids, secretions, or excretions from a person with suspected VHF should immediately wash the affected skin surfaces with soap and water. Application of an antiseptic solution or hand hygiene product may be considered also, although the efficacy of this supplemental measure is unknown. Mucous membranes (e.g., conjunctiva) should be irrigated with copious amounts of water or eyewash solution. Exposed persons should receive medical evaluation and follow-up management from the Occupational Health Service or Emergency Department as appropriate.

Appendix 7: Isolation Guidelines for Vaccinia Recipients and Patients with Known or Suspected Smallpox

Patients with Recent (≤ 4 weeks) Vaccinia Immunization

- Local Lesion Only
 - Patient will be placed on appropriate isolation
 - If the patient has an active lesion on the arm, it should be covered with a sterile gauze and then a semipermeable dressing
 - Dressing should be changed daily
 - The patient should be evaluated daily for the development of satellite lesions, remote lesions, and adverse reactions due to vaccinia
 - When being transported in the hospital for medical studies, the patient should wear a gown with long sleeves that completely covers the bandage
 - Bag the patient's clothing, quarantine for 24 hours, and allow patient/family to take home
- Remote Lesions, Progressive Vaccinia, Generalized Vaccinia, Eczema Vaccinatum
 - Patient will be placed on appropriate isolation
 - If possible, lesions should be covered with sterile gauze and then a semipermeable dressing
 - To the extent possible, all medical procedures should be performed in the patient's room (e.g., x-ray)
 - To the extent possible, when being transported in the hospital for medical studies, the patient should wear a gown with long sleeves that completely covers all lesions
 - When available, only health care workers recently immunized with vaccinia should provide patient care
 - Bag the patient's clothing, quarantine for 24 hours, and allow patient/family to take home
 - Limit visitors to close relatives (no children)

Visitors with Recent (≤ 4 weeks) Vaccinia Immunization

- Signs will be placed in key locations asking visitors with a recent immunization and active lesions to refrain from visiting within UNC Hospitals until the scab falls off revealing healthy skin

Known or Suspected Smallpox

- Immediately place in a private room on contact and airborne isolation
- Immediately contact Hospital Epidemiology (6-1636, or on nights and weekends call ICP On Call at 123-7427)
- Immediately page Infectious Disease Consult Team (216-0626)
- If patient is not yet in the hospital (e.g., referral), notify Emergency Medicine attending, Infectious Disease Consult, and Hospital Epidemiology (Infection Control) PRIOR to accepting the transfer
(Hospital Epidemiology: 984-974-7500 or 123-7427)

Appendix 8: Expanded Infection Control Precautions for Adverse Events with Increased Potential for Contact with Vaccinia Virus

Adverse Event	Standard Precautions	Contact Precautions
Inadvertent inoculation ¹	✓	
Ocular vaccinia / Blepharitis, conjunctivitis	✓	✓
Ocular vaccinia / Iritis, keratitis	✓	
Eczema vaccinatum ²	✓	✓
Generalized vaccinia ²	✓	✓
Progressive vaccinia (vaccinia necrosum)	✓	✓
Postvaccinial encephalitis	✓	
Fetal vaccinia	✓	✓
Vaccinia associated with erythema multiforme (Stephens-Johnson syndrome)	✓	
Secondary bacterial infections (e.g., <i>S. aureus</i> , <i>S. pyogenes</i>) of vaccination sites ¹	✓	✓

¹ Use contact isolation if there is drainage that cannot be contained by dressings

² If smallpox is in the differential diagnosis, use a respirator and use a room meeting airborne isolation criteria.

Appendix 9: Sequence for Removing Personal Protective Equipment (PPE)

SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)	SECUENCIA PARA QUITARSE EL EQUIPO DE PROTECCIÓN PERSONAL (PPE)
<p>Except for respirator, remove PPE at doorway or in anteroom. Remove respirator after leaving patient room and closing door.</p>	<p>Con la excepción del respirador, quítese el PPE en la entrada de la puerta o en la antesala. Quítese el respirador después de salir de la habitación del paciente y de cerrar la puerta.</p>
<p>1. GLOVES</p> <ul style="list-style-type: none"> ■ Outside of gloves is contaminated! ■ Grasp outside of glove with opposite gloved hand; peel off ■ Hold removed glove in gloved hand ■ Slide fingers of ungloved hand under remaining glove at wrist ■ Peel glove off over first glove ■ Discard gloves in waste container 	<p>1. GUANTES</p> <ul style="list-style-type: none"> ■ ¡El exterior de los guantes está contaminado! ■ Agarre la parte exterior del guante con la mano opuesta en la que todavía tiene puesto el guante y quíteselo ■ Sostenga el guante que se quitó con la mano enguantada ■ Deslice los dedos de la mano sin guante por debajo del otro guante que no se ha quitado todavía a la altura de la muñeca ■ Quítese el guante de manera que acabe cubriendo el primer guante ■ Arroje los guantes en el recipiente de desechos
<p>2. GOGGLES OR FACE SHIELD</p> <ul style="list-style-type: none"> ■ Outside of goggles or face shield is contaminated! ■ To remove, handle by head band or ear pieces ■ Place in designated receptacle for reprocessing or in waste container 	<p>2. GAFAS PROTECTORAS O CARETA</p> <ul style="list-style-type: none"> ■ ¡El exterior de las gafas protectoras o de la careta está contaminado! ■ Para quitárselas, tómelas por la parte de la banda de la cabeza o de las piezas de las orejas ■ Colóquelas en el recipiente designado para reprocessar materiales o de materiales de deshecho
<p>3. GOWN</p> <ul style="list-style-type: none"> ■ Gown front and sleeves are contaminated! ■ Unfasten ties ■ Pull away from neck and shoulders, touching inside of gown only ■ Turn gown inside out ■ Fold or roll into a bundle and discard 	<p>3. BATA</p> <ul style="list-style-type: none"> ■ ¡La parte delantera de la bata y las mangas están contaminadas! ■ Desate los cordones ■ Tocando solamente el interior de la bata, pásela por encima del cuello y de los hombros ■ Voltee la bata al revés ■ Dóblela o enróllela y deséchela
<p>4. MASK OR RESPIRATOR</p> <ul style="list-style-type: none"> ■ Front of mask/respirator is contaminated — DO NOT TOUCH! ■ Grasp bottom, then top ties or elastics and remove ■ Discard in waste container 	<p>4. MÁSCARA O RESPIRADOR</p> <ul style="list-style-type: none"> ■ La parte delantera de la máscara o respirador está contaminada — ¡NO LA TOQUE! ■ Primero agarre la parte de abajo, luego los cordones o banda elástica de arriba y por último quítese la máscara o respirador ■ Arrójela en el recipiente de desechos
<p>PERFORM HAND HYGIENE IMMEDIATELY AFTER REMOVING ALL PPE</p>	<p>EFFECTÚE LA HIGIENE DE LAS MANOS INMEDIATAMENTE DESPUÉS DE QUITARSE CUALQUIER EQUIPO DE PROTECCIÓN PERSONAL</p>



Appendix 10: Known MDRO Positive Visitor of Patients in the Hospital

Physicians need to:

- Clearly express to the patient the risk of exposure (exposure to MRSA/ORSA from the family members may cause colonization, infection, and death)
- Explain to the visitor that hand hygiene can help prevent colonization in the patient
- Document this conversation in the patient's chart
- Validate that the following precautions are understood and followed by the colonized visitors and staff

If the patient/MD assess the benefits of visitation outweigh the risk and they accept the risk of infection, the following steps will be taken to protect the hospital environment, other patients, visitors, and staff.

Nursing Staff need to:

- Teach optimal hand hygiene for all involved
- Educate the family about MDROs and Contact Precautions (if applicable) in the hospital
- Direct that colonized visitors follow these recommendations

Colonized visitors need to know:

- To wash their hands before entering the patient's room or upon entry into an ICU
- Visitation occurs only in the patient's private room
- Visitors are not allowed to visit other patients in the hospital
- The colonized visitor will perform hand hygiene before touching the patient and before leaving the patient's room

Refer to Appendix 9 of the Infection Control Policy IC0033: Women's Hospital Maternal Units for guidelines for Mothers/Primary caregivers of patients in NCCC/NBN

Refer to Infection Control Policy IC0012: Patients with Cystic Fibrosis for guidelines regarding MDRO positive visitors visiting Cystic Fibrosis patients.

There may be exceptions to this policy if deemed necessary by the Medical Director of Hospital Epidemiology.

Appendix 11: Infection Control Recommendations for Multiple Patients/Healthcare Personnel with Signs/Symptoms of Gastroenteritis

The following measures will be implemented to prevent the spread of gastroenteritis:

I. Patients

- A. Patients with symptoms of gastroenteritis (for example, 3 or more loose stools in 24 hours; vomiting and diarrhea) will be placed on strict Enteric-Contact Precautions. Notify Infection Control (6-1638) if additional cases occur.
- B. Enteric-Contact Precautions require:
 1. Private room with Enteric-Contact Precautions sign prominently displayed outside room.
 2. Patient is restricted to the room; however may leave the room for essential purposes (e.g., radiology tests, surgical procedure). Patient should not attend group activities until Enteric Precautions are discontinued.
 3. Hand hygiene will be performed using soap and water (i.e., chlorhexidine) rather than alcohol-containing foam; a 15 second handwash is required:
 - a. before and after contact with the patient or the patient's environment
 - b. before donning gloves and after glove/gown removal
 4. All staff will wear gloves upon room entry, even if they are not intending to touch anything. A gown is required for direct contact with the patient and when clothing may contact equipment/surfaces in the room. Equipment will be dedicated to the room, if possible. If equipment must be shared, it must be cleaned thoroughly with a 1:10 solution of bleach and water (expires in 30 days) prior to use by another patient.
 5. Visitors should be assessed for signs/symptoms of gastroenteritis. Medical and nursing personnel should exclude visitors with signs/symptoms of communicable disease until cleared by their personal physician or healthcare facility personnel.
 6. Visitors will be taught compliance with Enteric-Contact Precautions and monitored for adherence.
 7. Patients will be assisted with hand hygiene before eating and after use of the bathroom.
 8. Patients should remain on Enteric-Contact Precautions until:
C. difficile – 30 days after completion of antibiotic therapy
Norovirus – until the patient is 48 hours after symptoms have resolved
Rotavirus – until no longer symptomatic and remains asymptomatic for 48hours
- C. Patient Placement
 1. Ideally, do not transfer symptomatic patients to an unaffected nursing unit until at least 48 hours after symptoms have ended.
 2. Ideally, cohort symptomatic patients by location (e.g., one unit or one area of a unit) and with designated staff for the ill patients.
- D. In certain outbreak situation additional enhanced precautions may be necessary (e.g. closure of a unit) at the discretion of Hospital Epidemiology.

II. Staff

- A. Staff with symptoms of gastroenteritis will not be allowed to work (i.e., will be on sick leave) until asymptomatic for 48 hours.
- B. Staff will not eat or drink on the unit.
- C. Staff will perform hand hygiene with soap and water and in accordance with the Infection Control Policy IC 0024: Hand Hygiene and Use of Antiseptics for Skin Preparation. Gastroenteritis is spread by the fecal-oral route; thus hand hygiene is essential before eating and after using the bathroom.

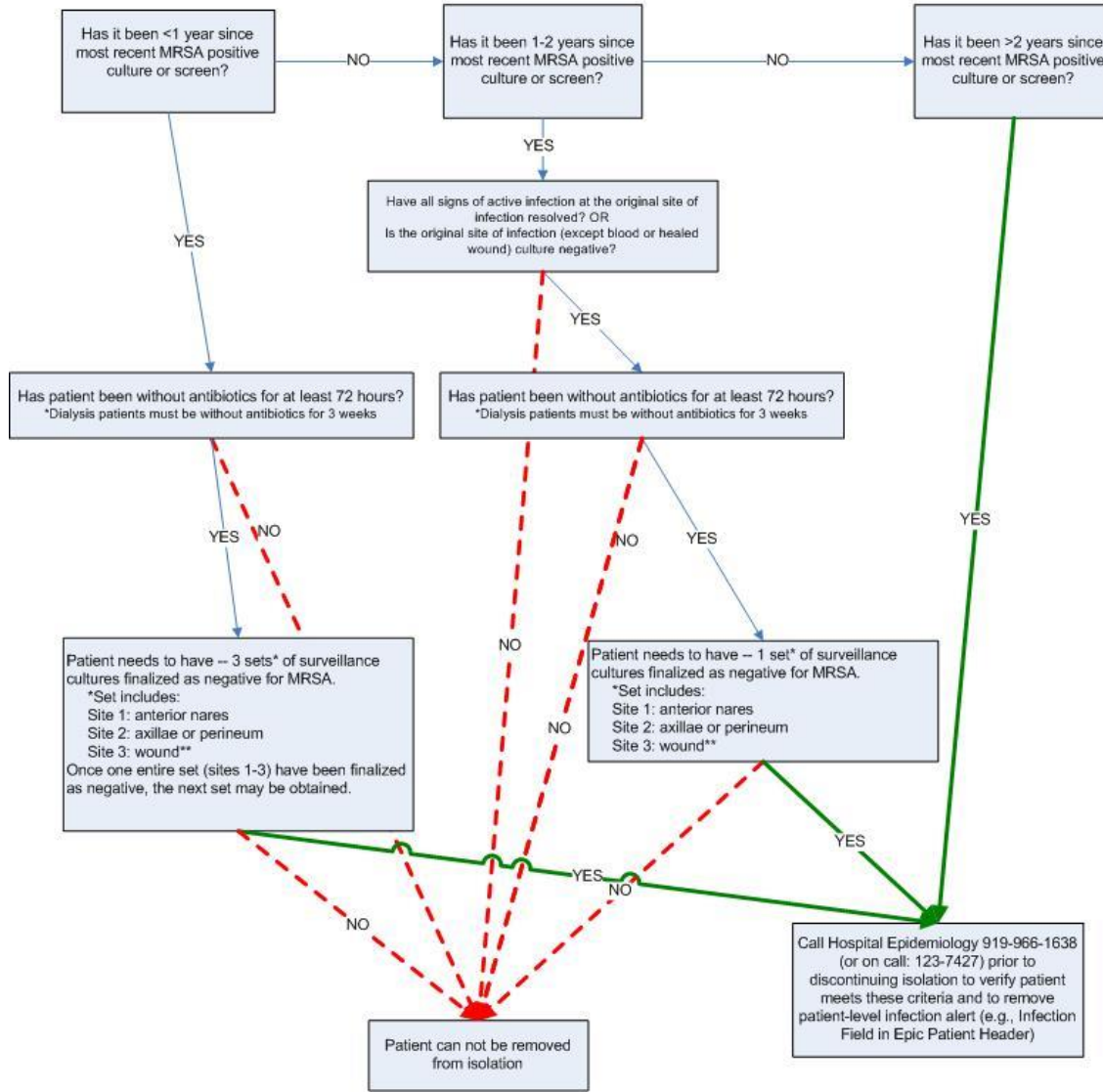
Isolation Precautions

- III. Housekeeping
 - A. Gloves and gown should be worn to clean Enteric-Contact Precautions rooms.
 - B. Norovirus
 - 1. Environmental Services will perform a thorough cleaning of the patient's room with a 1:10 solution of bleach and water.
 - 2. For outbreaks (e.g., ≥ 3 patients on a nursing unit overlapping in time), all routine daily cleaning by Environmental Services should be done with 1:10 bleach solution for the entire unit, until 48 hours after last patient is symptomatic and there are no further cases among staff or patients.
 - C. *C. difficile* and Rotavirus
 - 1. Terminal cleaning of the room will be done using 1:10 bleach and water.
 - 2. Additional cleaning may be indicated for outbreaks and as directed by Hospital Epidemiology.

For questions about this policy or for other infection control concerns, contact Hospital Epidemiology at 984-974-7500, after hours call pager 123-7427.

Appendix 12: Policy for Removal of Contact Isolation for Patients with MRSA

POLICY FOR REMOVAL OF CONTACT ISOLATION FOR PATIENTS WITH MRSA



*As of 1/1/2013, **a set** must include all specified sites. Previously, only a nares culture was required for this policy, therefore a negative nares culture will be accepted as part of this surveillance culture protocol if it was collected prior to 1/1/2013.

***Wound notes:
 -Does not include percutaneous device insertion sites or tracheostomies
 -If the original MRSA site was a wound and the patient has any unhealed wound, culture wound.
 -If the patient does not have any open wounds, this site may be omitted.

Decolonization protocol does not alter this policy.

This policy does not apply to patients with cystic fibrosis.

Appendix 13: Protocol for Obtaining MRSA Surveillance Swabs

Protocol for Obtaining a Nasal Swab for MRSA Surveillance

1. Use a routine culturette swab
2. Insert swab ~ 1" into nares, rotate 5 times clockwise, 5 times counter-clockwise, then remove
3. Using same swab, repeat in other nares
4. Send to lab for Surveillance culture, MRSA

Protocol for obtaining an Axillae or Perianal Swab for MRSA Surveillance

1. Use a routine culturette swab
2. Swab the skin in/around the Axillae or Perianal area
3. For axillae; using same swab, repeat in other axillae
4. Send to lab for Surveillance culture, MRSA

Protocol for Obtaining a Wound Swab for MRSA Surveillance

1. Use a routine culturette swab
2. Remove dressing
3. Irrigate wound with sterile normal saline to remove any exudate, absorb excess normal saline with sterile gauze
4. Swab 1 square cm of viable tissue for 5 seconds using mild pressure to produce exudate
5. For a dry wound bed, pre-moisten the culturette swab with sterile normal saline and then obtain culture
6. Send to lab for Surveillance culture, MRSA

Appendix 14: Discontinuing Isolation for Patients with VRE

The following requirements must be met in order to remove a patient from Contact Isolation for VRE.

Patients who have had a positive culture for VRE **within the past 1 year** should remain on Contact Precautions or contact Infection Prevention for clearance criteria (off antibiotics 7 days, 3 successive cultures 1 week apart).

Patients who had a positive **culture more than 1 year ago** are to be placed on contact precautions until they meet **ALL** the following criteria:

- Patient must be off antibiotics active against VRE for at least 7 days.
- A stool specimen or rectal swab (collected at least 7 days off antibiotics active against VRE) is negative for VRE.

Patients who have not had a positive VRE culture or VRE screen **in the past 2 years** can be removed from Contact Precautions.

Appendix 15: Management of Patients with Multidrug-Resistant Organisms (MDROs) or Epidemiologically-Important Pathogens in Ambulatory Settings

There are few data on the risk of MDRO transmission in the ambulatory setting. In most cases, adherence to Standard Precautions is sufficient to prevent cross-transmission. However, cross-transmission of MDR *B. cepacia* has been demonstrated in Cystic Fibrosis Clinics and one study found probable cross-transmission of MRSA in an HIV clinic. Due to the concern for cross-transmission of MDROs, some UNCHC clinics choose to follow Contact Precautions for patients colonized/infected with MDROs.

The following guidelines are intended to assist the clinician when managing outpatients with MDROs who receive care in clinics that utilize Contact Precautions.

- Place the patient in an exam room or cubicle as soon as possible.
- A disposable isolation gown and exam gloves should be worn by all staff that have direct contact with the patient. Gown and gloves should be removed and hand hygiene performed when leaving the exam room.
- Exam room patient care equipment (e.g., exam table, computers) should be disinfected using a Sani Cloth or Metrigard before use for another patient.

Some diagnostic and treatment areas (e.g., GI Procedures, Interventional Radiology) see both inpatients and outpatients. In these areas, staff should follow Contact Precautions when indicated for inpatients. For all other patients (inpatients that do not require Contact Precautions and outpatients), Standard Precautions are followed.

Hemodialysis and CF Clinic will follow their own infection control policy regarding management of patients.

Appendix 16: Transport of Patients

Transport of Patients

- Utilize standard precautions
- All open wounds should be covered with an intact dressing
- Urinary catheters
 - Ideally, urinary catheter bags should be emptied before transport
 - Ensure urinary catheter securement device is in place prior to transport
 - Urinary catheter bags must hang below the level of the bladder

Transport of Patients on Airborne Isolation

- Patients with known or suspected TB
 - Patients should wear a tight-fitting surgical mask
 - Patients being transported on a closed system ventilator or manual ventilation bag with a HEPA filter do not require a mask
 - Patients with a tracheostomy or stoma should have their mouth and trach/stoma covered with a mask if tolerated.
- Patients with known or suspected chicken pox (varicella)
 - Patients should wear a tight-fitting surgical mask
 - Patients should be covered from chin to toes with a sheet.
- Patients with known or suspected shingles (varicella zoster)
 - Patients should have their lesions covered whenever possible
 - Disseminated lesions (on 3 or more dermatomes)
 - Cover patients with a sheet from chin to toes.
 - A mask is not required for patient or transport personnel

Transport of Patients on Droplet Precautions

- Place a surgical mask on the patient

Transport of Patients on Contact Precautions

- Transporters
 - When preparing patients for transport
 - Transporter must perform hand hygiene before entering patient environment
 - Transporter must don isolation gown and gloves
 - When transporting patients
 - Transporter should remove isolation gown and gloves and perform hand hygiene
- Patients on stretchers

Isolation Precautions

- Patients should wear a visibly clean hospital gown and be covered with a clean sheet
- Patient does not need to wear a yellow isolation gown
- Patients in wheelchairs
 - Patients should wear a visibly clean hospital gown and lap should be covered with a clean sheet
 - Patient does not need to wear a yellow isolation gown
- Patients walking to test/procedure
 - Instruct patient to perform hand hygiene
 - Patients do not need to wear yellow isolation gown
 - Healthcare personnel must accompany patient walking to test/procedure
- Transport of critically ill patients (e.g. transporting of ICU patients to procedures, transport of patient to ICU) on contact precautions may require the use of gowns and gloves if direct contact with the patient is essential.

Appendix 17: Herpes Simplex

Infections due to herpes simplex virus (HSV) Type I and Type II can be encountered in both patients and hospital personnel. Viral transmission can occur through contact with primary or recurrent lesions or through excretions (e.g., saliva, vaginal secretions) that contain the virus even when no lesions are obvious. Hand hygiene and barrier techniques are essential to prevent spread of the virus among patients and personnel.

General Hospital Patients

1. Patients with mucocutaneous, recurrent skin, oral, genital herpes will be managed with Standard Precautions with the exception of Obstetrical and Newborn Patients. Refer to Appendix 7 of the Infection Control Policy IC0033: Women's Hospital Maternal Units. Gloves should always be worn when touching lesions, saliva, semen, or vaginal secretions. Remove gloves immediately after contact and perform hand hygiene.
2. Patients with mucocutaneous disseminated infections or with severe primary infections should be placed on Contact Precautions for the duration of herpetic infection.

Visitors

1. Visitors with active oral herpetic lesions should not visit high risk patients (e.g., immunocompromised hosts, burn patients, ICU patients, infants).
2. In special circumstances, significant family members with oral herpes infections may visit if their lesions are covered with an occlusive dressing. These persons must be instructed on measures to prevent viral transmission (e.g., hand hygiene).

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