

CMHC INFECTION CONTROL POLICY MANUAL	Effective Date: 08/10/17	NUMBER: B-14.21
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TRANSMISSION-BASED PRECAUTIONS		

POLICY:

TDCJ and any medical contractors will implement Transmission-Based Precautions as needed to interrupt the transmission of potentially contagious pathogens. Transmission-Based Precautions are always applied in addition to Standard Precautions.

DEFINITIONS

I. TRANSMISSION-BASED PRECAUTIONS

A. Precautions that should be implemented in addition to Standard Precautions when the implementation of Standard Precautions alone is insufficient to interrupt transmission. Diseases with multiple routes of transmission (e.g., SARS, norovirus) may require the implementation of more than one Transmission-Based Precaution. There are three categories of Transmission-Based Precautions: Airborne, Droplet, and Contact.

II. AIRBORNE PRECAUTIONS

- A. Airborne precautions should be implemented for patients known or suspected to be infected with microorganisms transmitted by airborne droplet nuclei (< 5 µm in size). These include infections such as tuberculosis, chicken pox, disseminated herpes zoster, and measles, among others.
- B. Patients are placed in a private room with monitored negative air pressure and 6-12 air exchanges per hour. The air is exhausted to the outside or to a monitored high efficiency filter (HEPA) before being recirculated. The patient must stay in the room with the door closed, except as noted below.
- C. If a private room is not available, the patient may be housed in a negative pressure room with another patient (i.e., cohorted) who is infected with the same organism (and same drug susceptibility pattern, if the organism is drug-resistant) but who has no other infection.
- D. Staff must wear respiratory protection, such as N-95, when entering the room, unless the patient has an illness to which the staff knows he or she is immune (e.g., measles). Susceptible staff members should avoid entering the room even with respiratory protection, if practical.
- E. Staff must be fit tested prior to wearing a N-95 mask and annually thereafter to determine correct size.
- F. Limit transport of the patient from the room to essential purposes only. The patient should wear a surgical mask during the time they are out of the room, if possible.

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Once the essential function (e.g., x-ray) has been performed, leave the area that they were visiting vacant for an hour if possible to allow for a full exchange of air.

- G. A permanent warning sign shall be posted on the fan at the electrical disconnect and at appropriate electrical panel breakers to read, *“Negative Pressure Isolation Room Exhaust Fan – Contact Infection Control Coordinator before Turning Off.”* The sign should also include the job title and contact number of the appropriate Health Services infection control representative and the room number(s) of the isolation room(s) exhausted by the fan.

III. DROPLET PRECAUTIONS

- A. Droplet precautions should be implemented for patients known or suspected to be infected with a microorganism transmitted by droplets (> 5 µm in size). These droplets may be generated by coughing, sneezing, talking, or performing procedures. Unlike airborne droplet nuclei, larger droplets are not spread through the ventilation system. Microorganisms transmitted by droplets include infections such as influenza, group A strep, mumps, mycoplasma pneumonia, pertussis, and meningococcal meningitis/meningococemia.
- B. Patient should be placed in a private room, if available. If a private room is not available, the patient may be housed with another patient (i.e., cohorted) who has the same infection (and same drug susceptibility pattern, if the organism is drug-resistant) but who has no other infection. If neither a private room nor cohorting is feasible, the patient may be housed in a unit with other patients as long as a distance of at least 6 feet is maintained between the infected patient and other patients or visitors. Avoid cohorting or housing the infected patient with a patient who is immunocompromised. Special ventilation is not necessary and the door to the room may remain open if otherwise appropriate.
- C. A mask should be worn by anyone coming within 6 feet of the patient. This is most easily enforced if everyone but the infected patient dons a mask on entering the room.
- D. Limit transport of the patient from the room to essential purposes only. The patient should be instructed or reminded of cough etiquette. Patients should wear a surgical mask during the time they are out of the room, if possible.

IV. CONTACT PRECAUTIONS

- A. Contact precautions should be implemented for patients with extensive wound drainage, fecal incontinence, or other discharges as well as for patients infected

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or colonized with microorganisms that can be transmitted by direct contact with the patient or the patient's environment.

- B. Patient should be placed in a private room. If no private room is available, the patient may be cohorted with another patient infected with the same organism (and same drug susceptibility pattern, if the organism is drug-resistant) but who has no other infection. Avoid cohorting the infected patient with a patient who is immunocompromised.
- C. Wear gloves when entering the patient's room. Change gloves after having contact with infective materials having a large concentration of the organism, such as wound drainage or fecal material. Always change gloves and wash hands between contact with patients even if both are on Contact Precautions. Remove gloves before leaving the patient's environment and wash hands immediately with an antimicrobial soap or waterless antiseptic agent. After washing hands, make sure the hands do not contact potentially contaminated objects or environmental surfaces in the patient's environment.
- D. Wear a gown when entering the room if you anticipate your clothing will have contact with the patient or potentially contaminated objects or surfaces in the environment. A gown should also be worn if the patient is incontinent, has diarrhea, has an ileostomy or colostomy, or has wound drainage not contained in a dressing. Remove gown and wash hands before leaving.
- E. Limit transport of the patient from the room to essential purposes only. Precautions should be maintained during patient transportation to prevent contamination of the environment or equipment.
- F. Whenever possible, dedicate the use of noncritical patient care equipment to a single patient or cohort of patients infected or colonized with the same organism. If use of common equipment is unavoidable, the equipment should be adequately cleaned and disinfected between patients.

V. TESTING RESPIRATORY ISOLATION ROOM FUNCTION

- A. All infirmary rooms that are considered by Correctional Managed Health Care Utilization Review to be available for respiratory isolation must be quantitatively tested for airflow and negative pressure on a periodic basis.
 - 1. TDCJ will be responsible for quantitative testing of respiratory isolation rooms if the facility is a TDCJ facility.
 - 2. Responsibility lies with the facility operator if it is a non-TDCJ (e.g., private) facility.
 - 3. Each respiratory isolation room will be quantitatively tested at least every two years and whenever qualitative testing suggests failure to maintain negative pressure ventilation.

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4. A copy of the test report will be provided to the unit medical practice manager/administrator.
- B. The unit health administrator or equivalent position will assure that qualitative monitoring of respiratory isolation rooms is accomplished.
 1. Qualitative testing may be done by using a smoke tube or flutter test (Attachments A & B).
 2. When a respiratory isolation room is occupied by a patient under respiratory isolation the room must be tested daily.
 3. When the room is not being used for respiratory isolation it must be tested at least monthly.
 4. A log will be maintained documenting qualitative respiratory isolation room testing (Attachment C).

PROCEDURES

- I. **Standard Precautions** (see Correctional Managed Health Care Infection Control Manual B-14.20) should be used on all patients.
- II. **In addition** patients with specific conditions should be isolated according to the table in Appendix A.

References: Hospital Infection Control Practices Advisory Committee, Guideline for Isolation Precautions in Hospitals. Infection Control and Hospital Epidemiology 1996; 17(1):53-80.

Siegel JD, Rhinehart E, Jackson M, Chiarello L, and the Healthcare Infection Control Practices Advisory Committee. 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings.

<http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf>. Reviewed December 29, 2009. Accessed July 18, 2017.

Interim Guidance for Follow-up of Contacts of Persons with Suspected Infection with Highly Pathogenic Avian Influenza A (H5N1) Virus in the United States.

<http://www.cdc.gov/flu/avian/professional/guidance-followup.htm>. Modified March 6, 2017, Accessed July 18, 2017

Appendix A Reference:

2007 Guideline for Isolation Precautions: Appendix A1, Type and Duration of Precautions Recommended for Selected Infections and Conditions.

http://www.cdc.gov/ncidod/dhqp/pdf/guidelines/Isolation2007_appendix A.pdf. Accessed July 18, 2017.

Attachment A – Qualitative Testing of Respiratory Isolation Rooms

Use of smoke tubes

The exact procedure will vary depending on the brand of smoke tube that is used. Follow the instructions that come with the smoke tube if they differ. A smoke tube is a plastic or glass tube that is sealed at both ends. To use the tube, the ends must be broken off and an ampoule may have to be broken to begin the generation of smoke. Next, attach the tube to the aspiration bulb pump. At the entrance to the isolation room at floor level, with the tube pointed parallel to or slightly away from the door, gently squeeze the bulb pump to generate a small amount of dense, white smoke. The smoke should be pulled under the door into the negative pressure isolation room. Once you have completed testing, plug both ends with the smoke tube stoppers and store for future testing. Most smoke tubes generate enough smoke for approximately 50 tests and may remain effective for up to 3 months after opening if they are tightly capped between uses.

Smoke tubes may also be used for respirator fit testing if they emit an irritant smoke.

Flutter test

This is a simple test. Hold a piece of lightweight paper or tissue near the crack at the bottom of the respiratory isolation room door. If the paper is pulled toward the door, the room is at negative pressure.

Attachment B – Monitoring Isolation Rooms Under Negative Pressure:

MONITORING ISOLATION ROOMS UNDER NEGATIVE PRESSURE

Simple and important tests can be done to confirm negative pressure status of rooms used to isolate suspected or confirmed infectious tuberculosis (TB) patients. When negative pressure is maintained, the chance of infectious particles being released to adjacent spaces is reduced.

How often should you check negative pressure?

Negative pressure should be tested daily when a room is used to isolate suspected or known infectious TB patients and at least monthly when it is not.

How can you check negative pressure?

Negative pressure can be assessed qualitatively with a smoke generation tube, an incense stick, or a strip of tissue paper. All tests should be done with the person conducting the test outside the room and the door closed. The following are three simple methods to confirm negative pressure:

SMOKE TUBES

- From outside of the room with the door closed, release smoke slowly, parallel to and two (2) inches in front of the gap at the bottom and around the door
- If the smoke moves into these cracks around the door, the room is under negative pressure
- If the smoke moves away from the room or remains stationary, the room is not under negative pressure
- Use small quantities of smoke when testing; the chemicals used to generate the smoke may be irritating when inhaled

INCENSE

- From outside of the room with the door closed, place two lit incense sticks together, and hold them approximately ½ inch to 1 inch from the openings around the door
- If the smoke moves into the room through the cracks around the door, the room is under negative pressure
- If the smoke moves away from the room or remains stationary, the room does not have negative pressure

TISSUE STRIP

- Hold a thin strip of tissue along the bottom of the door, or drop a small piece of tissue along the bottom of the door
- The tissue should be drawn under the door toward the room
- If the tissue is blown away from the door or falls straight to the floor, the room is not under negative pressure

All of the tests should be repeated at least three (3) times to confirm consistent results.

Attachment C – Isolation Room Pressure Monitor Checklist:

ISOLATION ROOM PRESSURE MONITOR CHECKLIST

Room name and number: _____

DAILY NEGATIVE PRESSURE CHECKS

Check room pressure daily when in use.

Sunday Monday Tuesday Wednesday Thursday Friday Saturday

Date _____ Initial _____						
Date _____ Initial _____						
Date _____ Initial _____						
Date _____ Initial _____						
Date _____ Initial _____						

Monthly Negative Pressure Checks

Check room pressure monthly when room is not in use.

Date/Initials _____ Date/Initials _____ Date/Initials _____

Date/Initials _____ Date/Initials _____ Date/Initials _____