

# INFECTION CONTROL PRECAUTIONS

<b>Outline</b>	<b>Standard Precautions</b>
	<b>Droplet Precautions</b>
	<b>Contact Precautions</b>
	<b>Airborne Precautions</b>
	<b>References</b>

---

## STANDARD PRECAUTIONS

---

Use Standard Precautions, or the equivalent, for the care of all patients.

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) nonintact 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.

### **Hand Hygiene**

When hands are visibly dirty or visibly soiled with blood or other body fluids:

- Wash with either antimicrobial or non-antimicrobial soap & water

If hands are not visibly soiled:

- Use an alcohol-based hand rub or wash with an antimicrobial soap & water to decontaminate hands

Decontaminate hands before:

- Having direct contact with patients
- Donning sterile gloves before sterile procedures
- Moving from a contaminated-body site to a clean-body site during patient care
- Eating

Decontaminate hands after:

- Contact with a patient's intact skin
- Contact with body fluids or excretions, mucous membranes, nonintact skin, and wound dressings, inanimate objects (including medical equipment) in the immediate vicinity of the patient
- Removing gloves
- Using a restroom

Before eating and after using a restroom:

- Wash with either antimicrobial or non-antimicrobial soap & water

If exposure to *Bacillus anthracis* is suspected or confirmed:

- Wash with either antimicrobial or non-antimicrobial soap & water. The physical action of washing and rinsing hands under such circumstances is recommended because alcohols, chlorhexidine, iodophors, and other antiseptic agents have poor activity against spores.

### **Gloves**

Wear gloves (clean, nonsterile gloves are adequate) when touching blood, body fluids, secretions, excretions, 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, before touching noncontaminated items and surfaces, and before going to another patient, and wash hands immediately to avoid transfer of microorganisms to other patients or environments.

### **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.

### **Gown**

Wear a gown (a clean, nonsterile gown is adequate) 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. Remove a soiled gown as promptly as possible and wash hands to avoid transfer of microorganisms to other patients or environments.

### **Patient-Care Equipment**

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. Ensure that reusable equipment is not used for the care of another patient until it has been cleaned and reprocessed appropriately. Ensure that single-use items are discarded properly.

### **Environmental Control**

Ensure that the hospital has adequate procedures for the routine care, cleaning, and disinfection of environmental surfaces, beds, bedrails, bedside equipment, and other frequently touched surfaces, and ensure that these procedures are being followed.

## **Linen**

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.

## **Occupational Health and Bloodborne Pathogens**

Take care to prevent injuries when using, cleaning, and disposing of sharp instruments.

Never recap used needles, manipulate them using both hands, or use any other technique that involves directing the point of a needle toward any part of the body; rather, use either a one-handed "scoop" technique or a mechanical device designed for holding the needle sheath.

Do not remove used needles from disposable syringes by hand, and do not bend, break, or otherwise manipulate used needles by hand. Place used sharp items in appropriate puncture-resistant containers.

Use mouthpieces, resuscitation bags, or other ventilation devices as an alternative to mouth-to-mouth resuscitation methods in areas where the need for resuscitation is predictable.

## **Patient Placement**

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.

---

## **DROPLET PRECAUTIONS**

---

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 the respiratory tract of a person who has a clinical disease or who is a carrier of the microorganism. Droplets are generated from the source person primarily during coughing, sneezing, or talking and during the performance of certain procedures such as suctioning and bronchoscopy.

Transmission via large-particle droplets requires close contact between source and recipient persons, because droplets do not generally travel long distances through the air, thus special air handling and ventilation are not required to prevent droplet transmission.

## **Mask**

In addition to wearing a mask as outlined under Standard Precautions, wear a mask when working within 6-10 ft of the patient. (Logistically, some hospitals may want to implement the wearing of a mask to enter the room.)

### **Patient Placement**

Place the patient in a private room. If a private room is not available, place the patient in a room with a patient(s) who has active infection with the same microorganism but with no other infection (cohorting). When a private room is not available and cohorting is not achievable, maintain spatial separation of at least 3 ft between the infected patient and other patients and visitors and draw the curtain between patient beds. Special air handling and ventilation are not necessary, and the door may remain open.

### **Patient Transport**

Limit the movement and transport of the patient from the room to essential purposes only. If transport or movement is necessary, minimize patient dispersal of droplets by masking the patient.

---

## **CONTACT PRECAUTIONS**

---

Direct-contact transmission involves skin-to-skin contact and physical transfer of microorganisms to a susceptible host from an infected or colonized person, such as occurs during patient-care activities that require physical contact. Direct-contact transmission also can occur between two patients (e.g., skin-to-skin contact), with one serving as the source of infectious microorganisms and the other as a susceptible host. Indirect-contact transmission involves contact of a susceptible host with a contaminated intermediate object, an inanimate object or a person, in the patient's environment.

### **Patient Placement**

Place the patient in a private room. If a private room is not available, place the patient in a room with a patient(s) who has active infection with the same microorganism but with no other infection (cohorting).

### **Gloves and Handwashing**

In addition to wearing gloves as outlined under Standard Precautions, wear gloves (clean, nonsterile gloves are adequate) when entering the room.

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, before touching noncontaminated items and surfaces, and before going to another patient or leaving the room, and wash hands immediately.

After glove removal and handwashing, ensure that hands do not touch potentially contaminated environmental surfaces or items in the patient's room to avoid transfer of microorganisms to other patients or environments.

## **Gown**

In addition to wearing a gown as outlined under Standard Precautions, wear a gown (a clean, nonsterile gown is adequate) when entering the room if you anticipate that your clothing will have substantial contact with the patient, environmental surfaces, or items in the patient's room. Remove the gown before leaving the patient's environment. After gown removal, ensure that clothing does not contact potentially contaminated environmental surfaces to avoid transfer of microorganisms to other patients or environments.

## **Patient Transport**

Limit the movement and transport of the patient from the room to essential purposes only. 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.

## **Patient-Care Equipment**

When possible, dedicate the use of noncritical patient-care equipment to a single patient (or cohort of patients infected or colonized with the pathogen requiring precautions) to avoid sharing between patients. If use of common equipment or items is unavoidable, then adequately clean and disinfect them before use for another patient.

---

## **AIRBORNE PRECAUTIONS**

---

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 [5 µm or smaller in size] 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; therefore, special air handling and ventilation are required to prevent airborne transmission.

## **Patient Placement**

Place the patient in a private room that has: 1) monitored negative air pressure in relation to the surrounding areas; 2) 6 to 12 air changes per hour; and 3) appropriate discharge of air outdoors or monitored high-efficiency filtration of room air before the air is circulated to other areas in the hospital. Keep the room door closed and the patient in the room. If a private room is not available, place the patient in a room with a patient who has active infection with the same microorganism but with no other infection (unless otherwise recommended).

### **Respiratory Protection**

Wear respiratory protection (N95 respirator) when entering the room of a patient with known or suspected infection.

### **Patient Transport**

Limit the movement and transport of the patient from the room to essential purposes only. If transport or movement is necessary, minimize patient dispersal of droplet nuclei by placing a surgical mask on the patient, if possible.

---

## REFERENCES

---

Siegel JD, Rhinehart E, Jackson M, Chiarello L, and the Hospital Infection Control Practices Advisory Committee, 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, June 2007. <http://www.cdc.gov/ncidod/dhqp/pdf/isolation2007.pdf>

CDC/HICPAC. Hand Hygiene in Health Care Settings. MMWR October 25, 2002 / 51(RR16);1-44