

Office of Origin: Department of Hospital Epidemiology and Infection Control (HEIC)

TESTING

STANDARD

PURPOSE

Standard Precautions are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection in healthcare settings. Standard Precautions apply to all patients and in all situations, regardless of diagnosis or presumed infection status. Because all patients can serve as reservoirs for infectious agents, adhering to Standard Precautions during the care of all patients is essential to interrupting the transmission of microorganisms.

REFERENCES

1. [Abbott, D and JS McGurk. Authority and Responsibility of Local Health Officers in Emergencies and Disasters. September 30, 1998. The local health authority, San Francisco Department of Public Health \(SFDPH\), is the ultimate authority in a public health emergency. UCSF will implement precautions and use personal protective equipment according to SFDPH guidance.](#)
2. Administrative Policy 1.03.14 Visitors: Identification, Hours and Control
<http://manuals.ucsfmedicalcenter.org/AdminManual/IndividualPolicies/VisitorsPolicy.PDF>
3. [Administrative Policy 02.01.02 Patient Care Equipment Cleaning In-Patient and Diagnostic Testing Areas](#)
4. [California Code of Regulations, Title 8, Section 5199, Aerosol-Transmissible Diseases.](#)
5. California Department of Public Health HAI program CRE webpage:
<https://www.cdph.ca.gov/programs/hai/Pages/Carbapenem-ResistantEnterobacteriaceae.aspx>
6. Centers for Disease Control and Prevention. Guidance for Control of Carbapenem-resistant Enterobacteriaceae. Toolkit 2015. <http://www.cdc.gov/hai/organisms/cre/cre-toolkit/>
7. [Environment of Care Manual, Policy 3.1.2 Aerosol-Transmissible Diseases Exposure Control Plan](#)
8. [Environment of Care Manual, Policy 3.1.1 Bloodborne Pathogens Exposure Control Plan](#)
9. [General Conditions and Specific Organisms Requiring Transmission-Based Precautions](#)
10. Hayden, et al Clin Infect Dis. 2015; 60:1154-1161
11. Hoover, C et al. [SFDPH DRAFT Scenario-based Recommendations for Acute Care Hospitals for CRE prevention and management. 7/24/15 \(unpublished\)](#)
12. Horwich-Scholefield, S and E. Epton. Carbapenem Resistant Enterobacteriaceae (CRE): An Emerging Pathogen in the Bay Area. May 13, 2015. Healthcare Associated Infections Program. Center for Healthcare Quality. California Department of Public Health.
13. [Infection Control Policy 4.2, Human Prion Disease](#)
14. [Infection Control Policy 1.2, Hand Hygiene](#)
15. Jacob, JT et al. [Vital Signs: Carbapenem-Resistant Enterobacteriaceae.](#) Centers for Disease Control and Prevention. March 5, 2013. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6209a3.htm>
16. Safety devices: Materiel Services. <http://supplychain.ucsfmedicalcenter.org/>
17. [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](#)
18. Won S Y et al. Clin Infect Dis. 2011;53:532-540

POLICY

Staff, faculty and students will assess situations and implement Standard and Transmission-Based Precautions as noted in the Practices below.

Standard Precautions are sufficient to interrupt the spread of most infectious agents.

Transmission-based precautions are used in addition to Standard Precautions.

Transmission of infection requires three elements:

- a source of infecting microorganisms
- a susceptible host
- a means of transmission for the microorganism

Standard Precautions are practices to reduce healthcare associated infections are used with all patients, regardless of diagnosis or isolation status, and apply to interacting with blood, body fluids, secretions, and excretions *except sweat*, regardless of whether they contain visible blood, non-intact skin and mucous membranes. The required elements include:

1. Adequate hand hygiene at all appropriate times
2. Disinfecting surfaces and equipment between patient uses
3. Appropriate use of Personal Protective Equipment (PPE) (e.g., gowns, gloves, mask, eye protection) for reasonably anticipated contact with body substances or contaminated equipment. Standard Precautions take into consideration the task being performed, e.g. gloves and mask with face shield for emptying drainage bags
4. Safe injection practices
5. Respiratory Hygiene/Cough Etiquette
6. Infection Control practices for special lumbar puncture situations

A. **Hand Hygiene:** refer to [IC 1.2 Hand Hygiene Policy](#)

B. Personal Protective Equipment (PPE)

1. Symptoms, condition, and expected interaction with each patient must be critically assessed when determining appropriate PPE use.
2. Use of protective equipment (i.e., gowns, gloves, masks, eye protection) is mandated by the OSHA bloodborne pathogens final rule to reduce the risk of exposures to bloodborne pathogens under specified circumstances.
3. Routinely remove and discard all PPE and CLEAN HANDS prior to leaving the patient care zone, defined as the patient's room, or in open bay situations, the immediate patient care area.
4. It is acceptable to wear appropriate PPE while performing a task beyond the patient care zone while hands are occupied and there is reasonable anticipation that contact with blood or body fluid may occur, or during transport of a patient on Contact Isolation.
5. Remove and discard PPE and perform hand hygiene at the completion of the task, and when moving from a contaminated body site to a clean body site. Do not wear the same pair of gloves for the care of more than one patient, and do not wash gloves between uses with different patients.
6. Gloves: Glove use does not replace the need for hand hygiene. Wear gloves:
 - a. To provide a protective barrier and to prevent gross contamination of the hands
 - b. For anticipated contact with mucous membranes and non-intact skin
 - c. For invasive procedures
7. Gown use may 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, remove the gown and clean hands when leaving the patient's environment.
 - a. Wear a clean, non-sterile disposable 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.
 - b. Unanticipated soiling of skin and/or clothing may occur upon close physical contact with a patient. A gown may be worn when physically moving a patient to or from a transport device such as a gurney or wheelchair, and is required when the patient is in Contact Isolation or Enteric Isolation.

- c. Remove and discard gown at completion of task, and clean hands to avoid transfer of microorganisms to other patients or environments.
- d. Do not save and re-use gowns used in Contact or Enteric Isolation environments.
8. Mask and Eye Protection
 - a. Wear a mask to cover the nose and mouth, and eye protection (i.e., goggles or a face shield) during procedures and patient care activities that are likely to generate splashes or sprays of blood or body fluids.
 - b. Wear a surgical mask and eye protection when providing care in the room/care area of a patient who is coughing, sneezing, spitting, or being suctioned using open system suctioning.
 - c. Wear a fit tested N-95 respirator and eye protection or a CAPR/PAPR when performing “aerosol generating procedures” (see High Risk Medical Procedures, [Aerosol-Transmissible Diseases Exposure Control Plan](#)) such as sputum induction, bronchoscopy, open system suctioning or delivering nebulized medications to patients with suspected or confirmed Aerosol-Transmissible Diseases (ATD).
 - d. Wear a surgical mask when placing a catheter or injecting material into the spinal canal or subdural space (i.e., during myelograms, lumbar puncture).
 - e. Wear a mask while performing a central line insertion or dressing change.

C. **Surface Disinfection and Reusable Equipment**

[Administrative Policy 02.01.02 “Patient Care Equipment Cleaning In-Patient and Diagnostic Testing Areas”](#) details responsibilities for and frequency of cleaning and disinfection of patient care equipment. Departmental procedures detail the processes by which all equipment will be cleaned/disinfected.

1. All patient care items and surfaces used for multiple patient contacts will be cleaned/disinfected between uses. A hospital-approved detergent disinfectant will be applied and maintained wet for the label-claim period before the next patient contact using impregnated wipes or solutions per manufacturers’ instructions.
2. Hospitality Services provides regular disinfection of all restrooms, countertops, furniture, public televisions, public telephones, elevators, meeting rooms and lounges according to established departmental policies and procedures.
3. Office equipment and storage units are cleaned by their owners/users as needed.
4. Hospital-approved detergent disinfectant is used for routine room and equipment cleaning.
5. Specialty equipment may require exceptions to this policy; procedures are developed collaboratively between HEIC and users of specialty equipment.

D. **Safe Injection Practices**

1. Scrub the cap or port of invasive lines with alcohol using friction before injecting an IV medication.
2. Use a sterile, single-use disposable needle and syringe for each injection given.
3. Do not administer medications from a syringe to multiple patients, even if the needle or cannula on the syringe is changed.
4. Use fluid infusion and administration sets (i.e., intravenous bags, tubing and connectors) for one patient only and discard appropriately after use. Consider a syringe or needle/cannula contaminated once used to enter or connect to a patient’s intravenous infusion bag or administration set.
5. Use single-dose vials for parenteral medications whenever possible.
6. Do not administer medications from single-dose vials or ampules to multiple patients or combine leftover contents for later use.
7. If multidose vials (MDV) must be used, both the needle or cannula and syringe used to access the MDV must be sterile.
 - a. Date and time every MDV
 - b. Check date and time every time you use a MDV to ensure it is in-date.
8. Before each withdrawal from a MDV, scrub the surface of the rubber diaphragm with alcohol using friction.

9. Do not keep MDV in the immediate patient treatment area; store MDV according to the manufacturer's recommendations; discard if sterility is compromised or questionable.
10. Do not use bags or bottles of intravenous solution as a common source of supply for multiple patients.

E. Respiratory Hygiene and Cough Etiquette

This section applies to patients and accompanying family members and friends with undiagnosed transmissible respiratory infections, and applies to any person with signs of illness including cough, congestion, rhinorrhea, or increased production of respiratory secretions when entering a healthcare facility.

1. Elements are implemented in inpatient and ambulatory points of entry:
 - a. Educate healthcare personnel on the importance of source control measures to contain respiratory secretions to prevent droplet and fomite transmission of respiratory pathogens, especially during seasonal outbreaks of viral respiratory tract infections (e.g., influenza, RSV, adenovirus, parainfluenza virus) in communities - this information is included in the Infection Control Educational Module, required to be completed annually by all hospital personnel.
 - b. Post [signs](#), in language(s) appropriate to the population served, with instructions to patients and other persons with symptoms of a respiratory infection to cover their mouths/noses when coughing or sneezing, use and discard tissues, and perform hand hygiene after hands have been in contact with respiratory secretions .
 - c. Offer masks to coughing patients and other symptomatic persons (e.g., persons who accompany ill patients) upon entry into the facility or medical office. Instruct patient to ensure both mouth and nose are covered by mask.
 - d. Encourage spatial separation, ideally >6 feet, between those with respiratory infections in common waiting areas when possible.
 - e. Move coughing or sneezing patients into exam rooms as soon as possible.
2. Refer to Occupational Health's ["Stay Home/Return to Work"](#) guidance for HCW.

F. Infection Control Practices for special lumbar puncture situations

Wear a surgical mask when placing a catheter or injecting material into the spinal canal or subdural space (e.g., during myelograms, lumbar puncture).

G. Other Infection Prevention Safety Practices

1. **Patient Placement:** Appropriate patient assessment and placement is imperative to controlling infection. Place patients with confirmed or suspected highly transmissible and/or epidemiologically important microorganism (e.g. tuberculosis, influenza, *Clostridium difficile*, chickenpox) in a private room.
2. **Needles and Sharps:** Discard all used needles and sharps in designated puncture-resistant containers. Containers should be located in all patient rooms, treatment rooms, delivery rooms, nurseries, OR suites, critical care cubicles, laboratory workstations, and ED cubicles. Sharps containers must be stabilized at all times, and closed and discarded when filled to the "full" line. Additional information on safety devices available at UCSF Medical Center can be found on the Material Services website: <http://supplychain.ucsfmedicalcenter.org/> .
3. **Solid Waste:** Discard all trash in impervious plastic bag lined waste receptacles. Regulated ("red bag") waste includes liquid blood wastes, containers of bloody body fluids, pathological waste, laboratory and microbiology waste, dialysis waste and full, closed sharps containers.
4. **Linen:** Handle used textiles and fabrics with minimum agitation to avoid contamination of air, surfaces and persons; place soiled linen in designated linen bags. Upon discharge or room transfer, unused linen stored in that patient's room will be considered soiled. When linen bag is 2/3 full or less, it should be tied securely for transport to the laundry.
5. **Reusable procedure trays and equipment** contaminated with blood and/or body fluids will be returned to Sterile Processing for reprocessing in case carts or in impermeable bags or containers.

6. **Laboratory specimens:** All specimens will be considered potentially infectious, and will be placed in a container that is securely closed, labeled, and will be placed in a “Biohazard” labeled impervious bag, size permitting.
7. **Blood spills:** Environmental surfaces contaminated with blood or body substances will be immediately cleaned with a hospital-approved detergent disinfectant. Personnel will wear personal protective equipment during the cleaning process to protect them from exposure. Refer to the Rainbow Chart in your area.
8. **Bloodborne Pathogens Exposures:** First aid and thorough washing or flushing of the exposed site is essential at the time of the exposure. After sufficiently washing the site, blood and body substance exposures will be immediately reported to [Occupational Health Services](#) via the Needlestick & Exposure Hotline (353-STIC), and then to the area supervisor. Refer to the EOC Policy [3.1.1 Bloodborne Pathogens Exposure Control Plan](#).
9. **Deceased patient:** Standard Precautions will be followed when preparing a deceased patient for moving and transport. Exceptions to this policy in the care of a patient with suspected or confirmed human prion disease are addressed in [IC Policy 4.2](#).

TRANSMISSION-BASED ISOLATION

PURPOSE

Transmission-based Isolation are designed for patients with symptoms and/or documented or suspected infection or colonization with one of the organisms listed on the table “[General Conditions and Specific Organisms Requiring Transmission-Based Isolation](#)”

POLICY

1. Use Transmission-based Isolation in addition to Standard Precautions for patients with suspected or confirmed diseases listed in the “General Conditions and Specific Organisms Requiring Transmission-Based” table. Maintain appropriate Transmission-based until the condition has been ruled out or the criteria for removal from isolation have been met.
 2. The four types of Transmission-based Isolation may be used alone, or in combination for any disease(s) that have multiple routes of transmission:
 - a. Contact Isolation
 - b. Enteric Isolation
 - c. Droplet Isolation
 - d. Airborne isolation
 3. Anyone may institute the appropriate when suspicion of a condition triggers a test for the causative agent.
 4. A physician’s order is not required to initiate Transmission-Based Isolation, though electronic medical record functionality may require an order be written.
 5. Cohorting patients may be considered only after consultation with HEIC.
- A. Contact Isolation (For patients with diarrhea, see B. Enteric Isolation)**
Contact, or touch, is the most common and most significant mode of transmission of infectious agents. Contact transmission can occur by directly touching the patient, through contact with the patient’s environment, or by using contaminated gloves or equipment. Patients in Contact Isolation include those with confirmed or suspected contact-transmitted organisms deemed significant by HEIC.

Contact Isolation requires:

1. Private Room unless a shared space has been approved by HEIC
2. Dedicated, disposable equipment (e.g., stethoscope, blood pressure cuff, thermometer, etc.). If shared equipment is used, it must be cleaned with hospital disinfectant (e.g. disposable detergent disinfectant-impregnated wipes) after each use.

3. Children under 2 years who are in Droplet Isolation are also placed in Contact Isolation.
4. Appropriate [door signage](#) (green)
5. Patient/representative education: [“Contact Isolation Patient Information Sheet”](#)

Healthcare workers caring for patients in Contact Isolation must:

1. When entering the patient’s room.
 - a. Put on and secure a clean gown (do not save/reuse gowns)
 - b. Clean hands
 - c. Put on gloves
2. When exiting a patient’s room/area:
 - a. Remove and discard gloves and gown
 - b. Clean hands with soap and water or alcohol-based hand rub (ABHR)
 - c. Turn off faucet/open door using a paper towel
3. Patients on Contact Isolation are not allowed in communal spaces (play room, school room, solarium), but may ambulate in hallways wearing a clean hospital gown and after washing hands with soap and water or ABHR.
6. Notify receiving department of patient isolation status.
7. Receiving department room cleaning: see C. **Surface Disinfection and Reusable Equipment** above.

Patient Transport: Gown and gloves may be worn during transport of a patient on Contact Isolation . PPE must be removed and hand hygiene performed when the transfer is complete.

Visitors may choose to wear indicated PPE. Provide Hand Hygiene education to family and visitors.

Discontinuing isolation:

1. Diarrhea, not caused by *Clostridium difficile*: when patient’s diarrhea has resolved. (See [Diarrhea Decision Tree: http://infectioncontrol.ucsfmedicalcenter.org/diarrhea-decision-tree](#))
2. Other conditions/diseases: consult with HEIC

Admission to Comfort Care Suites/Rooms:

Patients in Contact Isolation may be admitted to Comfort Care.

B. Enteric Contact Isolation

Diarrheal illness of infectious etiology is a significant cause of morbidity in hospitalized patients. Transmission can occur by directly touching the patient or the patient’s environment, or by using contaminated gloves or equipment.

Enteric Isolation requires:

1. Private Room unless a shared space has been approved by HEIC
2. Dedicated, disposable equipment (e.g., stethoscope, blood pressure cuff, thermometer, etc.). If shared equipment is used, it must be cleaned with hospital disinfectant (e.g. disposable detergent disinfectant-impregnated wipes) after each use.
3. Appropriate [door signage](#).
4. Patient/representative education: [“Enteric Contact Isolation Patient Information Sheet”](#).

Healthcare workers caring for patients in Contact Isolation must:

1. When entering the patient’s room.
 - a. Put on and secure a clean gown (do not save/reuse gowns)
 - b. Clean hands
 - c. Put on gloves
2. When exiting a patient’s room/area:

- a. Remove and discard gloves and gown
 - b. Clean hands with soap and water
 - c. Turn off faucet/open door using a paper towel
3. Patients on Contact Isolation are not allowed in communal spaces (play room, school room, solarium), but may ambulate in hallways wearing a clean hospital gown and after washing hands with soap and water
4. Notify receiving department of patient isolation status.
 5. Receiving department room cleaning: see C. **Surface Disinfection and Reusable Equipment** above.
 6. Hospitality Services will clean specified locations twice daily on units housing patients in Enteric Isolation.

Patient Transport: Gown and gloves may be worn during transport of a patient on Contact Isolation . PPE must be removed and hand hygiene with soap and water performed when the transfer is complete.

Visitors may choose to wear indicated PPE. Provide Hand Hygiene education to family and visitors.

Discontinuing isolation:

1. Diarrhea caused by *Clostridium difficile*: when patient has had no loose stools for 48 hours, bathed, and transferred to a clean room. (See [Diarrhea Decision Tree: http://infectioncontrol.ucsfmedicalcenter.org/diarrhea-decision-tree](http://infectioncontrol.ucsfmedicalcenter.org/diarrhea-decision-tree))
2. Diarrhea, caused by norovirus: Enteric Isolation to continue for the duration of hospitalization.

Admission to Comfort Care Suites/Rooms:

Patients in Contact Isolation may be admitted to Comfort Care.

B. Droplet Isolation

Droplets are formed when a person coughs, sneezes, speaks, spits, sings, or undergoes oral or tracheal/bronchial suctioning. Transmission occurs when droplets from an infected person are propelled a short distance (3-6 feet), and may come in contact with another person's conjunctivae or mucous membranes (eyes, nose or mouth). Droplets do not remain suspended in the air, and are not transmitted by the airborne route. Table 1 shows a sampling of diseases and conditions identified by CalOSHA as requiring Droplet Isolation. A complete table can be found in the table [“General Conditions and Specific Organisms Requiring Transmission-Based ”](#).

Table 1. Diseases/Pathogens Requiring Droplet Isolation (CalOSHA)

Diphtheria pharyngeal
Epiglottitis, due to *Haemophilus influenzae* type b
Haemophilus influenzae Serotype b (Hib) disease/*Haemophilus influenzae* serotype b -- Infants and children
Influenza, human (typical seasonal variations)/influenza viruses
Meningitis
 Haemophilus influenzae, type b known or suspected
 Neisseria meningitidis (meningococcal) known or suspected
Meningococcal disease sepsis, pneumonia (see also meningitis)
Mumps (infectious parotitis)/Mumps virus
Mycoplasmal pneumonia
Parvovirus B19 infection (erythema infectiosum)
Pertussis (whooping cough)
Pharyngitis in infants and young children/Adenovirus, Orthomyxoviridae, Epstein-Barr virus, Herpes simplex virus,
Pneumonia
 Adenovirus
 Haemophilus influenzae Serotype b, infants and children
 Meningococcal
 Mycoplasma, primary atypical
 Streptococcus Group A
Pneumonic plague/*Yersinia pestis*
Rubella virus infection (German measles)/Rubella virus
Severe acute respiratory syndrome (SARS)
Streptococcal disease (group A streptococcus)
 Skin, wound or burn, Major
 Pharyngitis in infants and young children
 Pneumonia
 Scarlet fever in infants and young children
 Serious invasive disease

Viral hemorrhagic fevers due to Lassa, Ebola, Marburg, Crimean-Congo fever viruses (airborne infection isolation and respirator use may be required for aerosol-generating procedures)
Any other disease for which public health guidelines recommend Droplet Isolation

Droplet Isolation requires:

1. Private room, except when directed otherwise by HEIC.
2. Patients to remain in their room except for essential purposes (surgery, tests, treatments, therapy services). The patient may ambulate in the hallway, however are not allowed in communal spaces (playroom, school rooms, solarium, cafeteria, etc.).
3. When patients on droplet isolation are out of their room they must wear a regular mask (without the eye shield), clean patient gown, and must complete hand hygiene (hand gel and/or wash with soap and water) before leaving their room. If the patient is unable or unwilling to wear a mask the patient must remain in their room.
4. Children under the age of 2 years who require Droplet Isolation also require Contact Isolation.
5. Appropriate door signage (yellow).
6. Patient/representative education: [“Droplet Isolation Patient Information Sheet”](#).

Healthcare workers caring for patients in Droplet Isolation will:

1. Perform hand hygiene with alcohol based hand rub or soap and water when entering room.

2. Put on a mask that covers the mouth and nose (regular surgical or paper mask), and eye protection (safety goggles, fluid shield) upon entering the room of a patient in isolation.
3. Wear mask and eye protection when performing high hazard procedures (bronchoscopy, sputum induction, elective intubation and extubation, autopsies, open suctioning of airways. and when feasible during emergent situations such as cardiopulmonary resuscitation, emergent intubation) for patients with suspected or confirmed diseases requiring Droplet Isolation.
4. Remove and discard mask/eye protection and clean hands before leaving the patient's room or, in semi-private room or multi-bed bay situation, before leaving the patient's immediate vicinity. Clean goggles may be reused; clean with a disinfectant wipe between uses by different healthcare workers.
5. Notify receiving department of patient isolation status when patient transportation (e.g., off-unit testing/procedure).

Visitors

1. Visitors will be educated regarding the transmission of diseases requiring Droplet Isolation :
 - a. Perform hand hygiene with alcohol based hand rub or soap and water regularly and always upon leaving the patient's room.
 - b. Risk of acquisition of diseases requiring Droplet Isolation is reduced through the use of personal protective equipment (i.e. surgical mask with eye shield or goggles). This equipment will be available for visitors upon request.
2. Visitors with upper respiratory symptoms are asked to refrain from visiting. Special consideration may be given to close family members. Symptomatic family members will be required to wear a surgical mask while visiting.
3. Nursing staff will instruct family/visitors to clean hands after contact with patient secretions or contact with immediate patient environment.
4. Patients on Droplet Isolation (and their pediatric siblings) are not allowed in communal spaces (play room, school room, solarium, etc.)

Discontinuing isolation:

Droplet Isolation may be discontinued when symptoms resolve and when criteria for discontinuing ([see Transmission-based Table](#)) have been met.

Admission to Comfort Care Suites/Rooms:

5. Patients in Droplet Isolation may be admitted to Comfort Care.

C. Airborne Isolation

When a person infected with an airborne-transmitted disease coughs, sneezes, speaks, spits, sings, or undergoes oral or tracheal/bronchial suctioning, infectious particles sized 5 microns or smaller, which carry the infectious organism may be released into the air and be carried via air currents. Table 2 shows a sampling of diseases and conditions identified by CalOSHA as requiring Airborne Isolation. A complete table can be found in the table "[General Conditions and Specific Organisms Requiring Transmission-Based](#)".

Table 2. Diseases/Pathogens Requiring Airborne Isolation (CalOSHA)

Aerosolizable spore-containing powder or other substance that is capable of causing serious human disease, e.g.
Anthrax/*Bacillus anthracis*
Avian influenza/Avian influenza A viruses (strains capable of causing serious disease in humans)
Varicella disease (chickenpox, shingles)/Varicella zoster and Herpes zoster viruses, disseminated disease in any patient. Localized disease in immunocompromised patient until disseminated infection ruled out
Measles (rubeola)/Measles virus
Monkeypox/Monkeypox virus
Novel or unknown pathogens
Severe acute respiratory syndrome (SARS)
Smallpox (variola)/Variola virus
Tuberculosis (TB)/*Mycobacterium tuberculosis* -- Extrapulmonary, draining lesion; Pulmonary or laryngeal disease, confirmed; Pulmonary or laryngeal disease, suspected
Any other disease for which public health guidelines recommend airborne infection isolation

Negative pressure air handling (ventilation) is required for isolating patients diagnosed or suspected of having a disease requiring Airborne Isolation.

Airborne Isolation requires:

1. Private Airborne Infection Isolation Room (AIIR, aka Negative Pressure Isolation Room [NPIR]).
2. Healthcare workers entering the room of a patient with suspected or confirmed diseases requiring Airborne isolation to wear a [fit-tested N-95 respirator or Powered Air Purifying Respirator \(PAPR\)](#) - see EOC [Policy 3.1.2 Aerosol-Transmissible Diseases Exposure Control Plan](#).
3. The healthcare worker to wear a [PAPR](#) when performing high hazard procedures (bronchoscopy, sputum induction, elective intubation and extubation, autopsies, open suctioning of airways; and when feasible during emergent situations such as cardiopulmonary resuscitation, emergent intubation) for patients with suspected or confirmed diseases requiring Airborne isolation . Exceptions to wearing a PAPR for aerosol-generating procedures include:
 - a. Emergent patient conditions that do not allow time to don PAPR equipment.
 - b. PAPR equipment interferes with the use of medical devices necessary to conduct a procedure.
 - c. Other exemptions must be submitted to the Office of Environmental Health and Safety on behalf of the department for compilation and annual review.
4. When a patient is suspected or confirmed to have an infection with chickenpox, disseminated varicella or measles, susceptible healthcare workers or visitors should not enter the room. Immunity to chickenpox (varicella) may be confirmed via:
 - a. Clinical disease demonstrable by serum antibody titer.
 - b. Two doses of varicella vaccine. NOTE: No vaccine is perfect and breakthrough cases of mild disease are not uncommon in vaccinated people. Vaccinated personnel who care for patients with chickenpox or disseminated zoster should monitor themselves for symptoms following exposure.
5. Patients to be confined to their room except for essential purposes, in which case, a regular mask (surgical or paper) is worn by the patient at all times when outside the negative pressure environment. (Patients with airborne transmitted diseases are not required to wear an N-95 respirator.)
6. Keep N-95 respirators and PAPRs on when exiting the room. Then discard them outside patient door and clean hands.
7. Appropriate [door signage](#) (red).
8. Patient/representative education "[Airborne Isolation Patient Information Sheet](#)".
9. Notify receiving department of patient isolation status when patient transportation (e.g., off-unit testing/procedure) is required.

Visitors

- a. Visitors may choose to wear the indicated PPE.
- b. Symptomatic household or other contacts of patient may not visit until medically cleared. If symptomatic contact must visit, a mask will be donned before entering the hospital and worn continuously while in the facility.

Discontinuing Airborne isolation:

Consult with HEIC before discontinuing Airborne Isolation.

In addition, for "R/O TB", consult EOC [Policy 3.1.2 Aerosol-Transmissible Diseases Exposure Control Plan](#)

Admission to Comfort Care Suites/Rooms:

1. Set the room to negative pressure prior to admission of a patient on Airborne Isolation.

D. Cadaver Handling

Wear a PAPR when performing aerosol generating procedures in cadavers with suspected or confirmed diseases requiring Droplet or Airborne Isolation. Exceptions to wearing a PAPR for aerosol generating procedures include:

- a. Emergent patient conditions that do not allow time to don PAPR equipment.
- b. PAPR equipment interferes with the use of medical devices necessary to conduct a procedure.
- c. Other exemptions must be submitted to the Office of Environmental Health and Safety on behalf of the department for compilation and annual review.

E. Definitions

1. Aerosol transmissible disease (ATD) or aerosol transmissible pathogen (ATP). A disease or pathogen for which droplet or airborne isolation are required.
2. Aerosol transmissible pathogen -- laboratory (ATP-L). A pathogen that meets one of the following criteria: (1) the pathogen appears on the list in Appendix D of the CalOSHA Aerosol Transmissible Diseases Standard, (2) the Biosafety in Microbiological and Biomedical Laboratories (BMBL) recommends biosafety level 3 or above for the pathogen, (3) the biological safety officer recommends biosafety level 3 or above for the pathogen, or (4) the pathogen is a novel or unknown pathogen.
3. Airborne infection isolation (AII). HEIC procedures as described in Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings. These procedures are designed to reduce the risk of transmission of airborne infectious pathogens, and apply to patients known or suspected to be infected with epidemiologically important pathogens that can be transmitted by the airborne route.
4. Airborne infection isolation room or area (AIIR). A room, area, booth, tent, or other enclosure that is maintained at negative pressure to adjacent areas in order to control the spread of aerosolized *M. tuberculosis* and other airborne infectious pathogens and that meets the requirements stated in subsection (e)(5)(D) of this standard.
5. Airborne infectious disease (AirID). Either: (1) an aerosol transmissible disease transmitted through dissemination of airborne droplet nuclei, small particle aerosols, or dust particles containing the disease agent for which AII is recommended by the CDC or CDPH, or (2) the disease process caused by a novel or unknown pathogen for which there is no evidence to rule out with reasonable certainty the possibility that the pathogen is transmissible through dissemination of airborne droplet nuclei, small particle aerosols, or dust particles containing the novel or unknown pathogen.
6. Airborne infectious pathogen (AirIP). Either: (1) an aerosol transmissible pathogen transmitted through dissemination of airborne droplet nuclei, small particle aerosols, or dust particles containing the infectious agent, and for which the CDC or CDPH recommends AII, or (2) a novel or unknown pathogen for which there is no evidence to rule out with reasonable certainty the possibility that it is transmissible through

dissemination of airborne droplet nuclei, small particle aerosols, or dust particles containing the novel or unknown pathogen.

7. aka: also known as
8. CalOSHA: California Occupational Safety and Health Administration.

F. References

1. Abbott, D and JS McGurk. Authority and Responsibility of Local Health Officers in Emergencies and Disasters. September 30, 1998. *The local health authority, San Francisco Department of Public Health (SFDPH), is the ultimate authority in a public health emergency. UCSF will implement and use personal protective equipment according to SFDPH guidance.*
2. California Code of Regulations, Title 8, Section 5199, *Aerosol-Transmissible Diseases.*
3. Siegel JD, Rhinehart E, Jackson M, Chiarello L, and the Healthcare Infection Control Practices Advisory Committee, *2007 Guideline for Isolation : Preventing Transmission of Infectious Agents in Healthcare Settings*

2016 Revision Team:

Hospital Epidemiology and Infection Control	C. Liu, A. Nichols, S. Kistler, P. Kolonoski
Nursing Education	Daphne Stannard
OEH&S	R. Eaton
Medical Center Safety	M. Carlson

This guideline is intended for use by UCSF Medical Center staff and personnel and no representations or warranties are made for outside use. Not for outside production or publication without permission. Direct inquiries to the Office of Origin or Medical Center Administration at (415) 353-2733