01.19 – Isolation Precautions

Purpose

To facilitate safe care of all patients presenting themselves to The University of Texas Medical Branch (UTMB) inpatient and outpatient facilities with a known or suspected communicable disease.

Audience

All employees, contract workers, licensed independent practitioners, volunteers, and students who have contact with patients in isolation at UTMB.

Policy

Standard Precautions will be used in the care of all patients. They are based on a risk assessment and make use of common-sense practices and personal protective equipment use that protect healthcare providers from infection and prevent the spread of infection from patient to patient. This includes performing hand hygiene before and after a patient's care and wearing gloves when performing patient care.

Respiratory hygiene procedures will be followed in the care of all patients with respiratory tract infections, such as wearing a face mark if recovering from an illness or covering your cough.

Patients with known or suspected communicable diseases will be placed on the appropriate type of isolation precautions upon evaluation at any inpatient or outpatient facility or upon identification of a condition requiring isolation.

Isolation orders may be entered by a physician or Infection Control and Healthcare Epidemiology (ICHE) personnel. If the order is placed by ICHE personnel, it is placed under the authority of an Infection Prevention Physician. An Infection Preventionist (IP) will chart the rationale in a progress note as applicable. Personal protective equipment (PPE) and supplies may be obtained from Clinical Equipment Services (CES), Materials Management, and the Laundry. Isolation carts for PPE are available from CES where applicable.

Questions concerning isolation precautions during non-office hours may be referred to the IP on call at 409-643-3133.

Everyone, including physicians, medical students, nurses, employees of environmental services, technicians, etc. is responsible for complying with isolation precautions and for tactfully calling observed infractions to the attention of offenders.

Upon patient discharge, disposable items are either sent home with the patient or discarded. Reusable equipment will be disinfected.

Refer to *Appendix A* for specific guidance for patient precautions for infectious diseases.

Refer to *Appendix B* for specific discontinuation criteria related to patients in Neonatal Intensive Care Unit (NICU), Pediatric Ward, Pediatric Intensive Care Unit with confirmed or suspected respiratory viral illness.

Infection Prevention Responsibilities

Infection Preventionist (IP) will review all infection and isolation flags daily for appropriateness and correct all mismatches. Isolation rounds, performed by the Infection Control team will monitor isolation compliance including signage posted on the patient's door and personal protective equipment (PPE) availability. The IP will ensure patient education has been documented in the patient's chart.

Nursing Responsibilities

Implement appropriate isolation precautions for patients who are admitted with an isolation precautions flag in the electronic medical record (EMR) system. Contact ICHE for questions.

The Department of ICHE should be contacted before Airborne Precautions are discontinued.

If a patient is to be transported to another location (OR, Radiology, etc.) nursing should notify the Transportation Department and the receiving department prior to transport, that the patient is on a particular type of isolation precautions.

The appropriate isolation sign is placed at the patient's door and the patient's EMR is flagged.

- Hospital personnel should instruct visitors about precautions to be taken while visiting or attending patients in isolation.

All patients in isolation will be reviewed daily by the nurse in charge and responsible physician(s) to determine the need for change in isolation status or for discontinuing isolation. Findings will be noted in the patient's medical record.

Transportation Responsibilities

Transport patients by the most direct routes to their destination. Avoid contact with employees and visitors as much as possible.

Disinfect wheelchairs and stretchers with a hospital-grade disinfectant after use for a patient on isolation and prior to returning the wheelchair/stretcher to service.

Cleaning of wheelchairs will be focused on the seat, arm rest, and back rest. The metal portion of the wheelchair will be inspected for contamination with blood and other body fluids and once removed, all surfaces will be decontaminated with a hospital grade disinfectant.

Cleaning of the stretchers will focus on the upper and lower surfaces of the stretcher pad. The metal portion of the stretcher will be inspected for contamination with blood and body fluids and once removed, all surfaces decontaminated with a hospital grade disinfectant except for *C. difficile* in which case a 1:10 dilution of sodium hypochlorite (bleach) will be used.

Refer to Table 5 for additional guidance.

Patient Compliance and Education

In the event a patient is non-compliant with the isolation precautions the following steps will be taken:

- The nurse and or physician will explain the isolation precautions to the patient and encourage the patient's compliance with the precautions (i.e. staying in the room, wearing a mask). Continued non-compliance will be reported to the higher-level supervisor.
- The nurse will document isolation education provided to the patient and family within the patient's chart.

Isolation Precautions

Guidelines for specific types of isolation are listed below, and include: Airborne, All Barrier, Droplet, Contact, Extended Contact Precautions, Extended Respiratory and Extremely Drug-Resistant Organisms Precautions (XDRO).

Airborne Precautions

Airborne Precautions will be used for patients known or suspected to be infected with microorganisms transmitted by airborne droplet nuclei (small-particle residue [3-5µm in size] of evaporated droplets containing microorganisms that remain suspended in the air and that can be dispersed widely by air currents within a room or over a long distance).

Airborne Precautions include placement in an airborne infection isolation room (AIIR) meeting the following criteria:

Private Room: necessary for all patients in this category.

- Monitored negative air pressure in relation to the surrounding areas.
- Twelve (12) air changes per hour, and
- Appropriate discharge of air outdoors or monitored high-efficiency filtration of room air before the air is recirculated to other areas in the hospital.
    - If an AIIR is not available, ICHE, upon consultation with Property Services, will recommend an alternate method of managing airborne droplet nuclei.

Respiratory Protection: A fit tested particulate respirator (N-95) will be worn when entering the room for all patients in this category. Use of a powered air purifying respirator (PAPR) is also acceptable. PAPRs require a fit test, equipment acquisition and training. The facility will provide respiratory protection, no personal items are allowed for use.

- Persons susceptible to measles (Rubeola) or chickenpox (Varicella Zoster Virus) will not enter the room of patients known or suspected to have measles or chickenpox if other immune caregivers are available.
- For chickenpox, a gown and gloves will also be worn (Airborne + Contact Precautions).
- For pulmonary tuberculosis: All patients requiring work up for pulmonary tuberculosis, will have MTB PCR, AFB smear, and AFB cultures performed on adequately collected sputum samples. In general, infectiousness can be determined accurately by MTB PCR. All patients require AFB smears and cultures regardless of PCR results. Negative PCR but positive AFB smear usually indicates non-tuberculous mycobacteria.

- For patients with suspected pulmonary TB, airborne precautions will continue until the patient **has one negative PCR** on sputum samples, and after considering all other clinically relevant information. In some cases, results of additional PCR, AFB smears and culture results may be required before discontinuing airborne precautions; this decision may be guided by infectious disease specialists.
- For patients with MTB PCR or culture confirmed pulmonary TB: Airborne precautions should continue until symptoms improve, the patient has complied with an adequate TB treatment regimen for at least 2 weeks, and patient has **two negative PCR or 3 negative smears** on sputum samples which are obtained at least 8 hours apart. Extrapulmonary tuberculosis: evaluate for concomitant pulmonary infection.

Door: Keep the room door closed and the patient in the room. Place an Airborne Precautions sign on the patient's door.

Hands: Will be washed with an antimicrobial soap or an alcohol hand rub will be applied before entering and after leaving the room.

Food Trays: Patients will be served meals on regular food trays.

Patient Transport: Limit the movement and transport of the patient from the room to essential purposes only. If transport is necessary, place a surgical mask on the patient during transport. A mask is not necessary for the transporter.

Extended Respiratory Precautions

In addition to Standard Precautions, Extended Respiratory Precautions will be used for patients known or suspected to be infected with microorganisms that transmit primarily through large particle droplets and contact. Some treatments may cause aerosolization of droplets to the extent that a higher level of protection is required. In addition, eye protection is required.

Diseases requiring the use of Extended Respiratory Precautions include COVID-19, SARS, and MERS.

Room placement:

- Private room
- Airborne infection isolation room (negative pressure room) is ONLY required for prolonged or frequent aerosol-generating procedures.
- Door should be kept closed

PPE Required:

- Respiratory protection
  - An N95 respirator will be worn for all patient care activities
  - An N95 respirator (PAPR for those who cannot be fit-tested for N95 and who must participate in care) will be worn to perform aerosol-generating procedures. (These include but are not limited to intubating the patient, extubating the patient, suctioning, use of CPAP.)
- Eye protection – The following are acceptable forms of eye protection, but must function well with the respiratory protection worn:
  - Isolation masks with attached face shields
  - Disposable safety glasses or face shields
  - Reusable hard plastic safety glasses, goggles, or face shields

- Contact precautions:
  - Isolation or fluid-resistant gown
  - Gloves that cover the cuff of the gown

Food Trays: Patients will be served meals on regular food trays.

Patient Transport: Limit the movement and transport of the patient from the room to essential purposes only. The patient will don a clean gown, will wear a surgical mask, will practice hand hygiene and will be covered by a clean sheet whether transported by stretcher or wheelchair. For most emerging infectious diseases (EIDs), the transporter will clean hands and don PPE prior to entering the room, will retain PPE until the patient is placed on the stretcher or in a wheelchair, and then will remove the PPE and clean hands. For some EIDs, the transporter will be required to wear a surgical mask during transport. Detailed guidance will be provided by ICHE staff based on the type of pathogen under consideration.

Patient Care Equipment: Dedicate the use of patient-care equipment when possible. If equipment must leave the patient's room, the healthcare worker will remove the equipment (removing PPE as previously instructed). All surfaces of the equipment will be cleaned with a hospital grade disinfectant.

All Barrier Precautions for high consequence and special pathogens

All Barrier Precautions will be used for patients known or suspected to have an Emerging Infectious Disease (EID) due to high consequence or special pathogens when both contact and airborne transmission are important. A separate, detailed ICHE policy (04.01 – Infection Control for the Care of Patients with suspected or Diagnosed High Consequence Pathogens, Viruses of Special Concern or Emerging Infectious Diseases) addresses the institutional response. The policy includes (i) screening of patients for symptoms and travel history at all points of entry to care which is activated in the electronic medical records when a special alert is issued by health authorities; (ii) guidance on isolation precautions; (iii) informing public health authorities and key hospital staff; and (iii) disposal of waste.

Following is a brief summary of the isolation precautions for these pathogens.

Note: for some high-consequence infections (e.g. Ebola virus disease), the Biocontainment Critical Care Unit (BCCU) will be activated. Limit movement of patient to extent possible.

If the BCCU is activated, BCCU-specific protocols will be followed. All Barrier Precautions for other inpatient areas include:

Private Room: necessary for all patients in this category.

- Monitored negative pressure in relation to the surrounding areas.
- Twelve (12) air exchanges per hour, and
- Appropriate discharge of air outdoors or monitored high-efficiency filtration of room air before the air is recirculated to other areas in the hospital.

Personal Items: All rings, watches, bracelets, pagers, or any other personal items should be removed prior to donning personal protective equipment (PPE) as described below.

Respiratory Protection: A fit tested particulate respirator (N-95) will be worn when entering the room for all patients in this category.

- Healthcare workers who enter the room must have been previously fit tested for the N-95 mask. If not, the healthcare worker must not enter the room.
- PAPRs may be required for care in the BCCU and may be utilized for entry into any room where a patient in Airborne Precautions is housed if the staff member cannot be fit-tested for an N95 respirator.

Protective Eyewear: Wear protective eyewear when entering the room unless a PAPR or face shield is worn.

Faceshield: Wear faceshield over the N-95 mask and gown when performing aerosol-generating procedures unless a PAPR is worn.

Gloves: Wear gloves (clean, nonsterile gloves are adequate) when entering the room.

Gowns: Wear a gown when entering the room.

Hands: Will be washed with a hospital approved antimicrobial soap or an alcohol hand rub applied before entering and after leaving the room.

Donning PPE Sequence:

- Don gown
- Don fit tested N-95 mask
- Don goggles (eyeglasses do not replace the need for goggles)
- Don gloves
- Make sure gown is secured behind the neck and with the tie behind the back
- Pull gloves up over gown sleeve cuffs

Doffing PPE Sequence:

- Remove gloves
- Remove protective eyewear
- Remove gown
- Exit room and WASH HANDS WITH AN ANTIMICROBIAL SOAP or APPLY AN ALCOHOL HAND RUB; then remove the N-95 mask and WASH HANDS WITH AN ANTIMICROBIAL SOAP OR APPLY AN ALCOHOL HAND RUB again.
- Note: if transmission of the infection is by contact, clean hands after removing gloves and between removing each item of PPE.
- See http://www.utmb.edu/hce/ or Healthcare Epidemiology under Clinical on the UTMB home page.

Powered Air Purifying Respirator (PAPR): may be worn in lieu of a N-95 mask during aerosol-generating procedures such as bronchoscopy, endotracheal intubation, endotracheal tube suctioning, etc. when not using a closed system. A

PAPR may be required for care of the patient in the BCCU (see BCCU department protocols).

Door: Keep the room door closed and the patient in the room. Place an All-Barrier Precautions sign on the patient's door.

Trash and Linen: Trash and linen will be handled the same as for any isolation room.

Food Trays: Trays will be delivered on disposable plates with disposable cutlery.

Patient Transport: Limit the movement and transport of the patient from the room to essential purposes only. The patient will don a clean gown, will wear a surgical mask, will practice hand hygiene, and will be covered by a clean sheet whether transported by stretcher or wheelchair. For most EIDs, the transporter will clean hands and don PPE prior to entering the room, will retain PPE until the patient is placed on the stretcher or in a wheelchair, and then will remove the PPE and clean hands. For some EIDs, the transporter will be required to wear a surgical mask during transport.

Patient Care Equipment: Dedicate the use of patient-care equipment when possible. If equipment must leave the patient's room, the healthcare worker will remove the equipment (removing PPE as previously instructed). All surfaces of the equipment will be cleaned with a hospital grade disinfectant.

Outpatient Clinics: No personal protective equipment is required for the registration of patients. Patients may be required to wear a facemask. Gowns and gloves are required for invasive procedures. Hand hygiene (handwashing with an antimicrobial soap and water or application of an alcohol handrub to hands) is required before and after contact with all patients.

Droplet Precautions

Droplet Precautions will be used for patients known or suspected to be infected with microorganisms transmitted by droplets (large-particle droplets [larger than 10µm in size]) that can be generated by the patient during coughing, sneezing, talking, or during the performance of cough-inducing procedures).

Private Room:
necessary for all patients in this category.

When Private Room is NOT available: Place the patient in a room with a patient who has an infection with the same microorganism, (same species) unless otherwise recommended, but with no other infection (cohorting).

- When cohorting is not achievable, maintain spatial separation of $\geq$3 feet between the infected patient and other patients and visitors. (Special air handling and ventilation are not necessary).

Respiratory Protection: Don a surgical mask prior to entering the patient's room.

Door: May remain open. Place Droplet Precautions sign on the patient's door.

Hands: Will be washed with an antimicrobial soap or an alcohol hand rub applied before entering and after leaving the room.

Food Trays: Patients will be served meals on regular food trays.

Patient Transport: Limit the movement and transport of the patient from the room to essential purposes only. If transport is necessary, place a surgical mask on the patient prior to transport. A mask is not necessary for the transporter.

Contact Precautions

Contact Precautions will be used for specified patients known or suspected to be infected or colonized with epidemiologically important microorganisms 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.

Private Room: necessary for all patients in this category.

Gloves: Wear gloves (clean, nonsterile gloves are adequate) when entering the room.

- Change gloves after having contact with infective material such as blood and body fluids.
- Remove gloves before leaving the patients environment Hands will be washed with an antimicrobial soap or an alcohol hand rub applied before entering and after leaving the room.

Gowns: Wear a gown when entering the room.

- Remove the gown before leaving the patient's environment.
- After gown removal, ensure that clothing does not contact potentially contaminated environmental surfaces.

Food Trays: Patients will be served meals on regular food trays.

Extended Contact Precautions

Extended Contact Precautions will be used for specified patients known or suspected of being colonized or infected with *Clostridium difficile* or *Norovirus*. This microorganism may be transmitted to patients by the contaminated hands or clothing of healthcare workers or by contact with contaminated inanimate or environmental surfaces.

Private Room: necessary for all patients in this category.

When Private Room is NOT Available:

- Consultation with ICHE will be necessary before patient placement.

Gloves: Wear gloves (clean, nonsterile gloves are adequate) when entering the room.

- Change gloves after having contact with infective material such as blood and body fluids.

- Remove gloves before leaving the patients environment and wash hands immediately with an antimicrobial soap and water. **DO NOT use alcohol hand rub for this type of isolation. Alcohol will not kill *C. difficile* spores or *Noroviruses*.**

Gowns: Wear a gown when entering the room.

- Remove the gown before leaving the patient's environment.
- After gown removal, ensure that clothing does not contact potentially contaminated environmental surfaces.

Door: Place an Extended Contact Precautions sign on the patient's door.

Food Trays: Patients will be served meals on regular food trays.

Patient Transport: Limit the movement and transport of the patient from the room for essential purposes only. If the patient is transported, ensure that isolation precautions are maintained to minimize the risk of transmission of microorganisms to other patients and contamination of environmental surfaces or equipment. Patients on Extended Contact Precautions must be transported on a stretcher or wheelchair covered with a sheet or other physical barrier. Gown or gloves should not be worn during transport. The transporter should wear a gown and gloves to assist the patient in and out of the wheelchair/stretcher at each destination. Hands must be washed with an antimicrobial soap after gloves are removed. **Do not use an alcohol hand rub after patient contact or upon entering the patient's care space. Alcohol will not kill *C. difficile* spores or *Noroviruses*.**

Patient Care Equipment: When possible, dedicate the use of non-critical patient-care equipment to a single patient to avoid sharing between patients. If use of common equipment or items is unavoidable, then clean and disinfect them before use on another patient.

Outpatient Clinics: No personal protective equipment is required for the registration of patients. Gowns and gloves are required for invasive procedures. Hand hygiene (handwashing with an antimicrobial soap and water or application of an alcohol hand rub) is required before and after contact with all patients.

Extremely Drug-Resistant Organism Precautions (XDRO)

XDRO precautions will be used for bacteria or fungi that are classified as epidemiologically significant due to their resistance to all first-line antimicrobials. They are also species that has been identified as causes of outbreaks in healthcare facilities.

Private Room: necessary for all patients in this category.

Gloves: Wear gloves (clean, nonsterile gloves are adequate) when entering the room.

- Change gloves after having contact with infective material that may contain high concentrations of microorganisms (fecal material)

- Remove gloves before leaving the patients environment Hands will be washed with an antimicrobial soap or an alcohol hand rub applied before entering and after leaving the room

Gowns: Wear a gown when entering the room.

- Remove the gown before leaving the patient's environment.
- After gown removal, ensure that clothing does not contact potentially contaminated environmental surfaces.

Protective Eyewear: Wear protective eyewear when performing droplet generating procedures such as suctioning of respiratory secretions, intubation/extubation.

Food Trays: Patients will be served meals on regular food trays.

Patient Transport: Limit the movement and transport of the patient from the room to essential purposes only. Patients on XDRO Precautions must be transported on a stretcher or wheelchair covered with a sheet or other physical barrier. Gown or gloves should not be worn during transport. The transporter should wear a gown and gloves to assist the patient in and out of the wheelchair/stretcher at each destination.

Patient Care Equipment: When possible, dedicate the use of non-critical patient-care equipment to a single patient to avoid sharing between patients. If use of common equipment or items is unavoidable, then clean and disinfect them before use on another patient. Physicians and other healthcare workers may not take a personal stethoscope, cell phone or iPad into the room unless they are covered by the gown and not removed from under gown while in the room. Environmental cultures will be conducted as needed at the discretion of the ICHE department. See policy 01.22- Control of Multi-Durg Resistant Organisms (MDRO) for more information.

Immunocompromised Patients

Risk factors for infection

- Pathogens causing infections while hospitalized most often come from patient's own flora (or from donor for transplanted patient's) (e.g. Candida, CMV, HSV) rather than transmission from other patients or from staff.
- Additional risks for infections derive from peripheral or central venous catheters, urinary catheters and surgical wounds.
- Other nosocomial risks derive from exposure to individuals with symptomatic respiratory virus infections (e.g. influenza and RSV), or skin infections (e.g. impetigo, boils, exposed HSV or shingles lesions).

Infection control measures

- Hand hygiene is the cornerstone of infection prevention. Standard precautions (see Table 4) and transmission-based precautions (see Table 2) should be followed when caring for immunocompromised patients.
- Universal masking or contact precautions ('reverse' isolation) are not required.

- Visitors and staff must be well without any fever, respiratory symptoms (e.g. cough, nasal discharge, frequent sneezing) or gastrointestinal symptoms (e.g. nausea, vomiting or diarrhea) or infected skin lesions.
- Avoid unnecessary use of venous catheters or urinary catheters. Care of these catheters must follow standard UTMB policy.
- Patients undergoing allogeneic hematopoietic stem-cell transplantation (HSCT) should be placed in a protective environment (PE) to minimize fungal spore counts in the environment and decrease the risk of invasive fungal infections.

APPENDIX A

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Abscess			
• Draining, major	Contact	DI	Until drainage stops or can be contained by dressing
• Draining, minor or limited	Standard		If dressing covers and contains drainage
Acquired immunodeficiency syndrome	Standard		Postexposure chemoprophylaxis for some blood exposures
Actinomycosis	Standard		Not transmitted from person to person
Adenovirus infection (see agent-specific guidance under Gastroenteritis, Conjunctivitis, Pneumonia)			
Amebiasis	Standard		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.
Andes virus	Airborne	Case-by-case	Duration of precautions should be determined on a case-by-case basis, in conjunction with local, state, and federal health authorities. Factors that should be considered include, but are not limited to, presence of symptoms, date symptoms resolved, other conditions that would require specific precautions (e.g. tuberculosis, *Clostridium difficile*) and available laboratory information.
Anthrax	Standard		Infected patients do not generally pose a transmission risk.
• Cutaneous	Standard		Transmission through non-intact skin contact with draining lesions possible, therefore use Contact Precautions if large amount of uncontained drainage. Handwashing with soap and water preferable to use of waterless alcohol-based antiseptics since alcohol does not have sporicidal activity.
• Pulmonary	Standard		Not transmitted from person to person.
• Environmental contaminant: aerosolizable spore containing powder or other substance		Until environment completely decontaminated	Until decontamination of environment complete. Wear respirator (N95 mask or PAPRs), protective clothing; decontaminate persons with powder on them (https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5135a3.h tm accessed September 2018).) Hand hygiene: Handwashing for 30-60 seconds with soap and water or 2% chlorhexidine gluconate after spore contact (alcohol handrubs inactive against spores.) Postexposure prophylaxis following environmental exposure: 60 days of antimicrobials (either doxycycline,

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
			ciprofloxacin, or levofloxacin) and Postexposure vaccine under IND.
Antibiotic-associated colitis (see *Clostridiodes difficile*)			
Arthropod-borne • viral encephalitis (eastern, western, Venezuelan equine encephalomyelitis; St Louis, California encephalitis; West Nile Virus) and viral fevers (dengue, yellow fever, Colorado tick fever)	Standard		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	Standard		Not transmitted from person to person.
Aspergillosis	Standard		Contact Precautions and Airborne if massive soft tissue infection with copious drainage and repeated irrigations required
Avian influenza (see Influenza, Avian below)			
Babesiosis	Standard		Not transmitted from person to person, except rarely by transfusion.
Blastomycosis, North American, cutaneous or pulmonary	Standard		Not transmitted from person to person.
Botulism	Standard		Not transmitted from person to person.
Bronchiolitis (see respiratory infections in infants and young children)	Contact + Standard	Duration of Illness	Use mask according to Standard Precautions
Brucellosis (undulant, Malta, Mediterranean fever)	Standard		Not transmitted from person to person, except rarely via banked spermatozoa and sexual contact. Provide antimicrobial prophylaxis following laboratory exposure.
***Campylobacter* gastroenteritis** (see Gastroenteritis)			
Candidiasis, all forms including mucocutaneous	Standard		
Candida auris	XDRO	**Indefinately**	Contact ICHE for questions
Cat-scratch fever (benign inoculation lymphoreticulosis)	Standard		Not transmitted from person to person.
Cellulitis (without open skin lesions or impetigo)	Standard		
Chancroid (soft chancre) ***(H.ducreyi)***	Standard		Transmitted sexually from person to person.
Chickenpox (see varicella)			
Chlamydia trachomatis			
• Conjunctivitis	Standard		
• Genital *(lymphogranuloma venereum)*	Standard		
• Pneumonia (infants ≤ 3 mos of age)	Standard		
Chlamydia pneumoniae	Standard		Outbreaks in institutionalized populations reported, rarely.

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Cholera (see Gastroenteritis)			
Closed-cavity infection			
• Open drain in place; limited or minor drainage	Standard		Contact Precautions if there is copious uncontained drainage.
• No drain or closed drainage system in place	Standard		
Clostridiodes difficile (C diff)	Extended Contact + Standard	Duration of Illness	
Clostridium: **see list below**			
• *C. botulinum*	Standard		Not transmitted from person to person.
• *C.perfringens* (Food poisoning)	Standard		Not transmitted from person to person.
• *C.perfringens* (Gas gangrene)	Standard		Transmission from person to person rare; 1 outbreak in a surgical setting reported. Use Contact Precautions if wound drainage is extensive.
Coccidioidomycosis (valley fever)			
• Draining lesions	Standard		Not transmitted from person to person except under extraordinary circumstances, because the infectious arthroconidial form of *Coccidioides immitis* is not produced in humans.
• Pneumonia	Standard		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 *Coccidioides immitis* is not produced in humans.
Colorado tick fever	Standard		Not transmitted from person to person.
Congenital rubella	Contact + Standard	Until 1yr of age	Standard Precautions if nasopharyngeal and urine cultures repeatedly negative after 3 mos. of age.
Conjunctivitis			
• Acute bacterial	Standard		
• *Chlamydia*	Standard		
• Gonococcal	Standard		
• Acute viral (acute hemorrhagic)	Contact + Standard	Duration of illness	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.

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Coronavirus			
• **Common strains (e.g. HKU1, NL63, 229E, OC43)**			
• Adults-not immunocompromised	Standard		
• Adults immunocompromised	Droplet	Duration of illness	
• Children	Contact	Duration of illness	
• Neonatal (NICU)	Contact + Droplet	Duration of illness	
• Covid-19	Contact + Droplet + Extended Respiratory		Eye Protection required Until cleared by ICHE. See Emerging Infectious Disease Protocol.
• MERS, SARS (also see middle eastern respiratory syndrome and severe acute respiratory syndrome)	Extended Respiratory		Until cleared by ICHE. See Emerging Infectious Disease Protocol.
Coxsackievirus disease (see enteroviral infection)			
Creutzfeldt-Jakob disease (CJD, vCJD)	Standard		Use disposable instruments or special sterilization/disinfection for surfaces, objects contaminated with neural tissue if CJD or vCJD suspected and has not been R/O; No special burial procedures.
Croup (see respiratory infections in infants and young children)			
Crimean – Congo Fever (see Viral Hemorrhagic Fever)	Standard		
Cryptococcosis	Standard		Not transmitted from person to person, except rarely via tissue and corneal transplant
Cryptosporidiosis (see gastroenteritis)			
Cysticercosis	Standard		Not transmitted from person to person.
Cytomegalovirus infection, neonatal or immunosuppressed	Standard		No additional precautions for pregnant HCWs.
Decubitus ulcer, (see Pressure ulcer)			
Dengue Fever	Standard		Not transmitted from person to person.
Diarrhea, acute - infective etiology suspected (see Gastroenteritis)			
Diphtheria			
• Cutaneous	Contact + Standard	Until off antimicrobial treatment and culture-negative	Until 2 cultures taken 24 hours apart negative.
• Pharyngeal	Droplet + Standard	Until off antimicrobial treatment and culture-negative	Until 2 cultures taken 24 hours apart negative.

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Ebola virus (see Viral Hemorrhagic Fevers)			**Ebola Virus Disease for Healthcare Workers [2014]:** Updated recommendations for healthcare workers can be found at Ebola: for Clinicians (https://www.cdc.gov/vhf/ebola/clinicians/index.html accessed September 2018).
Echinococcosis (hydatidosis)	Standard		Not transmitted from person to person.
Echovirus (see enteroviral infection)			
Encephalitis or encepalomyelitis (see specific etiologic agents)			
Endometritis (endomyometritis)	Standard		
Enterobiasis (pinworm disease, oxyuriasis)	Standard		
***Enterococcus* species** (see multidrug-resistant organisms if epidemiologically significant or vancomycin resistant)			
Enterocolitis, *C. difficile* (see Gastroenteritis, *C. difficile*)			
Enteroviral infections (i.e., Group A and B Coxsakie viruses and Echo viruses) (excludes polio virus)			
• Adults	Standard		
• Infants and young children	Contact		Use Contact Precautions for diapered or incontinent children for duration of illness and to control institutional outbreaks
Epiglottitis, due to *Haemophilus influenzae,* type b	Droplet + Standard	Until 24 hours after initiation of effective therapy	See specific disease agents for epiglottitis due to other etiologies.
Epstein-Barr virus infection, including infectious mononucleosis	Standard		
Erythema infectiosum (also see Parvovirus B19)			
***Escherichia coli* gastroenteritis** (see gastroenteritis)			
Extremely drug-resistant organisms (XDRO)	XDRO		Contact ICHE for discontinuation requirements
Food poisoning			
• Botulism	Standard		Not transmitted from person to person.
• *Clostridium perfringens* or *welchii*	Standard		Not transmitted from person to person.
• Staphylococcal	Standard		Not transmitted from person to person.
Furunculosis, staphylococcal	Standard		Contact if drainage not controlled. Follow institutional policies if MRSA.
• Infants and young children	Contact + Standard	Duration of illness (with wound lesions, until wounds stop draining)	

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Gangrene (gas gangrene)	Standard		Not transmitted from person to person.
Gastroenteritis: see specific agents below	Standard		
• Adenovirus	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
• *Campylobacter* species	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
• Cholera	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
• *Clostridium difficile*	Contact + Standard	Duration of illness	Discontinue antibiotics if appropriate. Do not share electronic thermometers; ensure consistent environmental cleaning and disinfection. Hypochlorite solutions may be required for cleaning if transmission continues. Handwashing with soap and water preferred because of the absence of sporicidal activity of alcohol in waterless antiseptic handrubs
• *Cryptosporidium* species	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
• *Escherichia coli*	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
○ Enterohemorrhagic 0157:H7	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
○ Diapered or incontinent	Contact + Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
○ Other species	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
• *Giardia lamblia*	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
• Norovirus	Extended Contact		Use Extended Contact Precautions for a minimum of 48 hours after the resolution of symptoms or to control institutional outbreaks. 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. Alcohol is less

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
			active, but there is no evidence that alcohol antiseptic handrubs are not effective for hand decontamination. Cohorting of affected patients to separate airspaces and toilet facilities may help interrupt transmission during outbreaks. **Gastroenteritis, Noroviruses Precaution Update [May 2019]:** The Type of Precaution was updated from "Standard" to "Contact + Standard" to align with Guideline for the Prevention and Control of Norovirus Gastroenteritis Outbreaks in Healthcare Settings (2011)
• Rotavirus	Contact + Standard	Duration of illness	Ensure consistent environmental cleaning and disinfection and frequent removal of soiled diapers. Prolonged shedding may occur in both immunocompetent and immunocompromised children and the elderly
• *Salmonella* species (including *S. typhi*)	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
○ Diapered or incontinent	Contact + Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
• *Shigella* species	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
○ Diapered or incontinent	Contact + Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
• *Vibrio parahaemolyticus*	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
• Viral (if not covered elsewhere)	Standard		Use Contact Precautions for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.
• *Yersinia enterocolitica*	Standard		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 opthalmia, acute conjunctivitis of newborn)	Standard		
Gonorrhea	Standard		
Granuloma inguinale (donovanosis, granuloma venereum)	Standard		
Guillain-Barré syndrome	Standard		Not an infectious condition
Haemophilus influenzae (see disease-specific recommendations)			

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Hand, foot, and mouth disease (see enteroviral infection)			
Hansen's Disease (see Leprosy)			
***Hantavirus* pulmonary syndrome**	Standard		Not transmitted from person to person.
Helicobacter pylori	Standard		
Hemorrhagic fevers (see viral hemorrhagic fevers)			
Hepatitis, viral			
• Type A	Standard		Provide hepatitis A vaccine postexposure as recommended.
○ Diapered or incontinent patients	Contact + Standard		Maintain 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	Standard		See specific recommendations for care of patients in hemodialysis centers.
• Type C and other unspecified non-A, non-B	Standard		See specific recommendations for care of patients in hemodialysis centers.
• Type D (seen only with hepatitis B)	Standard		
• Type E	Standard		Use Contact Precautions for diapered or incontinent individuals for the duration of illness.
• Type G	Standard		
Herpangina (see enteroviral infection)			
Herpes simplex (*Herpesvirus hominis*)			
• Encephalitis	Standard		
• Neonatal	Contact + Standard	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 hours until infant surface cultures obtained at 24-36 hours of age negative after 48 hours incubation.
• Mucocutaneous, disseminated or primary, severe	Contact + Standard	Until lesions dry and crusted	
• Mucocutaneous, recurrent (skin, oral, genital)	Standard		
Herpes zoster (varicella-zoster) (Shingles)			
• Disseminated disease in any patient • Localized disease in immunocompromised patient until disseminated infection ruled out	Airborne + Contact + Standard	Duration of illness	Susceptible HCWs should not enter room if immune caregivers are available; no recommendation for protection of immune HCWs; no recommendation for type of protection (i.e. surgical mask or respirator) for susceptible HCWs.

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
• Localized in patient with intact immune system with lesions that can be contained/covered	Standard	Until lesions dry and crusted	Susceptible HCWs should not provide direct patient care when other immune caregivers are available.
Histoplasmosis	Standard		Not transmitted from person to person.
HIV (see human immunodeficiency virus)			
Hookworm disease (ancylostomiasis, uncinariasis)	Standard		
Human immunodeficiency virus (HIV) infection[3]	Standard		Postexposure chemoprophylaxis for some blood exposures
Human metapneumovirus	Contact + Standard	Duration of illness	HAI reported, but route of transmission not established. Assumed to be Contact transmission as for RSV since the viruses are closely related and have similar clinical manifestations and epidemiology. Wear masks according to Standard Precautions.
Impetigo	Contact + Standard	Until 24 hours after initiation of effective therapy	
Infectious mononucleosis	Standard		
Influenza, Human seasonal **For infants in neonatal ICU, see Appendix B.**	Droplet + Standard	7 days except DI in immunocompromised persons	See Prevention Strategies for Seasonal Influenza in Healthcare Settings (https://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm accessed September 2018).
Influenza, Swine	All Barrier	7 days from onset of symptoms or until afebrile for 24 hours, whichever is longer except DI in immunocompromised persons	,
Influenza, Avian (e.g., H5N1, H7, H9 strains)	Droplet + Standard		See https://www.cdc.gov/flu/avianflu/novel-flu-infection-control.htm accessed September 2018 for current avian influenza guidance.
Influenza, Pandemic Influenza (also a human influenza virus)	Droplet + Standard		See https://www.cdc.gov/flu/avianflu/novel-flu-infection- control.htm accessed September 2018 for current pandemic influenza guidance.
Kawasaki syndrome	Standard		
Lassa fever (see Viral Hemorrhagic Fevers)	All Barrier		BCU protocol
Legionnaires' disease	Standard		Not transmitted from person to person.
Leprosy	Standard		

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Leptospirosis	Standard		Not transmitted from person to person.
Lice			
• Head (pediculosis)	Contact + Standard	Until 24 hours after initiation of effective therapy	See https://www.cdc.gov/parasites/lice/index.html accessed September 2018
• Body	Standard		Transmitted person-to-person through infested clothing. Wear gown and gloves when removing clothing; bag and wash clothes according to CDC guidance (https://www.cdc.gov/parasites/lice/index. html accessed September 2018).
• Pubic	Standard		Transmitted person-to-person through sexual contact. (https://www.cdc.gov/parasites/lice/index.html accessed September 2018).
Listeriosis (Listeria monocytogenes)	Standard		Person-to-person transmission rare; cross-transmission in neonatal settings reported.
Lyme disease	Standard		Not transmitted from person to person.
Lymphocytic choriomeningitis	Standard		Not transmitted from person to person.
Lymphogranuloma venereum	Standard		
Malaria	Standard		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).	All Barrier		BCU Protocol
Measles (rubeola), all presentations	Airborne + Standard	4 days after onset of rash; duration of illness in immune compromised	Interim Measles Infection Control [July 2019]: See Interim Infection Prevention and Control Recommendations for Measles in Healthcare Settings (https://www.cdc.gov/infectioncontrol/guidelines/measles) Susceptible healthcare personnel (HCP) should not enter room if immune care providers are available; regardless of presumptive evidence of immunity, HCP should use respiratory protection that is at least as protective as a fit- tested, NIOSH-certified N95 respirator upon entry into the patient's room or care area. For exposed susceptibles, postexposure vaccine within 72 hours or immune globulin within 6 days when available. Place exposed susceptible patients on Airborne Precautions and exclude susceptible healthcare personnel.

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Melioidosis, all forms	Standard		Not transmitted from person to person.
Meningitis			
• Aseptic (nonbacterial or viral meningitis [also see enteroviral infections])	Standard		Contact for infants and young children.
• Bacterial, gram-negative enteric, in neonates	Standard		
• Fungal	Standard		
• *Haemophilus influenzae*, type b known or suspected	Droplet + Standard	Until 24 hours after initiation of effective therapy	
• *Listeria monocytogenes* (see Listeriosis)	Standard		
• *Neisseria meningitidis* (meningococcal) known or suspected	Droplet + Standard	Until 24 hours after initiation of effective therapy	See Meningococcal Disease below.
• *Streptococcus pneumoniae*	Standard		
• *M. tuberculosis*	Standard		Concurrent, active pulmonary disease or draining cutaneous lesions may necessitate addition of Contact and/or Airborne. For children, Airborne Precautions until active tuberculosis ruled out in visiting family members (see Tuberculosis below).
• Other diagnosed bacterial	Standard		
Meningococcal disease: sepsis, pneumonia, Meningitis	Droplet + Standard	Until 24 hours after initiation of effective therapy	Postexposure chemoprophylaxis for household contacts, HCWs exposed to respiratory secretions; postexposure vaccine only to control outbreaks.
Middle Eastern Respiratory Syndrome (MERS)	Extended Respiratory		See Emerging Infectious Disease Protocol.
Molluscum contagiosum	Standard		
Monkeypox (mpox)	Airborne + Contact	A - until monkey pox confirmed and smallpox excluded; C - until lesions crusted	See CDC's Monkeypox website (https://www.cdc.gov/poxvirus/monkeypox/clinicians/infection-control-healthcare.html accessed May 2022) for information on infection prevention and control.
Mucormycosis	Standard		
Multidrug-resistant organisms (MDROs), infection or colonization (e.g., MRSA, VRE, VISA/VRSA, ESBLs, resistant *S. pneumoniae*)	Contact + Standard		*See MDR policy-some highly resistant organisms may require additional precautions*
• Gastrointestinal	Contact + Standard		
• Respiratory	Contact + Standard		

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
• Pneumococcal	Standard		
• Skin, wound, or burn	Contact + Standard		
• Methicillin-resistant *Staphylococcus aureus* (MRSA)-infection (clinical isolate)	Contact + Standard		
• Vancomycin-resistant enterococci (VRE)	Contact + Standard		
Mumps (infectious parotitis)	Droplet + Standard	Until 5 days after the onset of swelling	Mumps Update [October 2017]: The Healthcare Infection Control Practices Advisory Committee (HICPAC) voted to change the recommendation of isolation for persons with mumps from 9 days to 5 days based on a 2008 MMWR report**:** (https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5740 a3.htm accessed September 2018). After onset of swelling, susceptible HCWs should not provide care if immune caregivers are available.
Mycobacteria, non-tuberculosis (atypical)			
• Pulmonary	Standard		
• Wound	Standard		
***Mycoplasma* pneumonia**	Droplet + Standard	Duration of Illness	
Necrotizing enterocolitis	Standard		Contact Precautions when cases clustered temporally.
Nipah virus	Airborne	Duration of precautions should be determined on a case-by-case basis, in conjunction with local, state, and federal health authorities. Factors that should be considered include, but are not limited to, presence of symptoms, date symptoms resolved, other conditions that would require specific	Patient Placement: AIIR PPE: If suspect Nipah case and clinically stable: gown, gloves, eye protection, N95 respirator or higher If suspect Nipah and clinically unstable (e.g. hemodynamic instability, vomiting) OR confirmed Nipah case regardless of clinical stability: use PPE according to guidance for confirmed patients and clinically unstable patients suspected to have VHF

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
		precautions (e.g. tuberculosis, Clostridium difficile)	
Nocardiosis, draining lesions or other presentations	Standard		Not transmitted person-to-person.
Norovirus (see Gastroenteritis)			
Orf Virus (Sore Mouth Infection)	Standard		
Parainfluenza virus infection, respiratory in infants and young children	Contact + Standard	Duration of illness	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.
Parvovirus B19 (Erythema infectiosum)	Droplet + Standard		Maintain precautions for duration of hospitalization when chronic disease occurs in an immunocompromised patient. For patients with transient aplastic crisis or red-cell crisis, maintain precautions for 7 days. Duration of precautions for immunosuppressed patients with persistently positive PCR not defined, but transmission has occurred
Pediculosis (lice)	Contact + Standard	Until 24 hours after initiation of effective therapy after treatment	
Pertussis (whooping cough)	Droplet + Standard	Until 5 days after initiation of effective antibiotic therapy	Single patient room preferred. Cohorting is an option. Postexposure chemoprophylaxis for household contacts and HCWs with prolonged exposure to respiratory secretions. Recommendations for Tdap vaccine in adults under development. **Tdap Vaccine Recommendations Update:** Current recommendations can be found at (https://www.cdc.gov/vaccines/hcp/acip-recs/vacc- specific/dtap.html accessed September 2018).
Pinworm infection (Enterobiasis)	Standard		
Plague *(Yersinia pestis)*			
• Bubonic	Standard		
• Pneumonic	Droplet + Standard	Until 48 hours after initiation of effective antibiotic therapy	Antimicrobial prophylaxis for exposed HCW.
Pneumonia			

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
• Adenovirus	Droplet + Contact + Standard	Duration of illness	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)	Standard		
• *Burkholderia cepacia* in cystic fibrosis (CF) patients, including respiratory tract colonization	Contact + Standard	Unknown	Avoid exposure to other persons with CF; private room preferred. Criteria for D/C precautions not established. See CF Foundation guideline.
• *Chlamydia*	Standard		
• Fungal	Standard		
• *Haemophilus influenzae*, type b			
○ Adults	Standard		
○ Infants and children (any age)	Droplet + Standard	Until 24 hours after initiation of effective therapy	
• *Legionella*	Standard		
• Meningococcal	Droplet + Standard	Until 24 hours after initiation of effective therapy	See Meningococcal Disease above.
• Multidrug-resistant bacterial (see multidrug-resistant organisms)			
• *Mycoplasma* (primary atypical pneumonia)	Droplet + Standard	Duration of illness	
• Pneumococcal pneumoniae	Standard		Use Droplet Precautions if evidence of transmission within a patient care unit or facility.
• *Pneumocystis jiroveci (Pneumocystis carinii)*	Standard		Avoid placement in the same room with an immunocompromised patient.
• *Pseudomonas cepacia* (see *Burkholderia cepacia*)			
• *Staphylococcus aureus (MSSA only)*	Standard		For MRSA, see MDROs and MRSA policy.
• *Streptococcus*, Group A			
○ Adults	Droplet + Standard	Until 24 hours after initiation of effective therapy	See Streptococcal Disease (group A *Streptococcus*) below Contact Precautions if skin lesions present.
○ Infants and young children	Droplet + Standard	Until 24 hours after initiation of effective therapy	Contact Precautions if skin lesions present.
• Viral, non-specific syndrome (see respiratory infectious disease, acute or specific viral agent)	Standard		

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Poliomyelitis	Contact + Standard	Duration of illness	
Pressure ulcer (decubitus ulcer, pressure sore) **infected**			
• Major	Contact + Standard	Duration of illness	Until drainage stops or can be contained by dressing.
• Minor or limited	Standard		If dressing covers and contains drainage.
Prion disease (See Creutzfeld-Jacob Disease)			
Psittacosis (ornithosis)	Standard		Not transmitted from person to person.
Q fever	Standard		
Rabies	Standard		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 post exposure prophylaxis.
Rat-bite fever (*Streptobacillus moniliformis* disease, *Spirillum minus* disease)	Standard		Not transmitted from person to person.
Relapsing fever	Standard		Not transmitted from person to person.
Resistant bacterial infection or colonization (see multidrug-resistant organisms)			
Respiratory infectious disease, acute (if not covered elsewhere)			
• Adults	Standard		
• Infants and young children	Contact + Standard	Duration of illness	Also see syndromes or conditions listed in Table 2.
Respiratory syncytial virus infection (RSV), in infants and young children, and immunocompromised adults. For infants in neonatal ICU see Appendix B.	Contact + Standard	Duration of illness	Wear mask according to Standard Precautions. In immunocompromised patients, extend the duration of Contact Precautions due to prolonged shedding. Reliability of antigen testing to determine when to remove patients with prolonged hospitalizations from Contact Precautions uncertain.
Reye's syndrome	Standard		Not an infectious condition.
Rheumatic fever	Standard		Not an infectious condition.
Rhinovirus For infants in neonatal ICU see Appendix B.	Droplet + Standard	Duration of illness	Droplet most important route of transmission. Outbreaks have occurred in NICUs and LTCFs. Add Contact Precautions if copious moist secretions and close contact likely to occur (e.g., young infants).
Rickettsial fevers, tickborne (Rocky Mountain spotted fever, tickborne typhus fever)	Standard		Not transmitted from person to person except through transfusion, rarely.

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Rickettsialpox (vesicular rickettsiosis)	Standard		Not transmitted from person to person.
Ringworm (dermatophytosis, dermatomycosis, tinea)	Standard		Rarely, outbreaks have occurred in healthcare settings, (e.g., NICU, rehabilitation hospital. Use Contact Precautions for outbreak.
Ritter's disease (see staphylococcal scalded skin syndrome)			
Rocky Mountain spotted fever	Standard		Not transmitted from person to person except through transfusion, rarely.
Roseola infantum (exanthem subitum; caused by HHV-6))	Standard		
Rotavirus infection (see gastroenteritis)			
Rubella (German measles; also see Congenital Rubella)	Droplet + Standard	For 7 days after onset of rash	Susceptible HCWs 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 [17, 33]. Administer vaccine within 3 days of exposure to susceptible men and susceptible non-pregnant women. Place exposed susceptible patients on Droplet Precautions; exclude susceptible healthcare personnel from duty from day 5 after first exposure to day 21 after last exposure, regardless of postexposure vaccine.
Rubeola (see Measles)			
Salmonellosis (see Gastroenteritis)			
Scabies	Contact + Standard	Until 24	
Scalded skin syndrome, staphylococcal (Ritter's disease)	Contact + Standard	Duration of illness	See Staphylococcal Disease, scalded skin syndrome below.
Schistosomiasis (bilharziasis)	Standard		
Severe Acute Respiratory Syndrome (SARS)-COV-1 (not including SARS-COV-2; see Appendix C)	Extended Respiratory	Duration of illness plus 10 days after resolution of fever, provided respiratory symptoms are absent or improving	See Emerging Infectious Disease Protocol. Airborne preferred; Droplet if AIIR unavailable. N95 or higher respiratory protection; surgical mask if N95 unavailable; eye protection (goggles, face shield); aerosol-generating procedures and "supershedders" highest risk for transmission via small droplet nuclei and large droplets [93, 94, 96]. Vigilant environmental disinfection (see [This link is no longer active: www.cdc.gov/ncidod/sars]. Similar information may be found at CDC Severe Acute Respiratory Syndrome (SARS) (https://www.cdc.gov/sars/index.html accessed September 2018).)
Shigellosis (see Gastroenteritis)			

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
Smallpox (variola; see vaccinia for management of vaccinated persons)	Airborne + Contact + Standard	Duration of illness	Until all scabs have crusted and separated (3-4 weeks). Non- vaccinated HCWs should not provide care when immune HCWs are available; N95 or higher respiratory protection for susceptible and successfully vaccinated individuals; postexposure vaccine within 4 days of exposure protective.
Sporotrichosis	Standard		
***Spirillum minus* disease** (rat-bite fever)	Standard		Not transmitted from person to person.
Staphylococcal disease (*S. aureus*); Not including MRSA or multi-drug Resistant S. aureus			
• Skin, wound, or burn			
◦ Major	Contact + Standard	Duration of illness	Until drainage stops or can be contained by dressing.
◦ Minor or limited	Standard		If dressing covers and contains drainage adequately.
• Enterocolitis	Standard		Use Contact Precautions for diapered or incontinent children for duration of illness.
• Multidrug-resistant (see multidrug-resistant org) • MRSA (see MRSA policy)			
• Pneumonia	Standard		
• Scalded skin syndrome	Contact + Standard	Duration of illness	Consider healthcare personnel as potential source of nursery, NICU outbreak.
• Toxic shock syndrome	Standard		
***Streptobacillus moniliformis* disease** (rat-bite fever)	Standard		Not transmitted from person to person.
Streptococcal disease (group A streptococcus)			
• Skin, wound, or burn			
◦ Major	Contact + Droplet + Standard	Until 24 hours after initiation of effective therapy	Until drainage stops or can be contained by dressing.
◦ Minor or limited	Standard		If dressing covers and contains drainage.
• Endometritis (puerperal sepsis)	Standard		
• Pharyngitis in infants and young children	Droplet + Standard	Until 24 hours after initiation of effective therapy	
• Pneumonia	Droplet + Standard	Until 24 hours after initiation of effective therapy	
• Scarlet fever in infants and young children	Droplet + Standard	Until 24 hours after initiation of effective therapy	

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
• Serious invasive disease	Droplet + Standard	Until 24 hours after initiation of effective therapy	Outbreaks of serious invasive disease have occurred secondary to transmission among patients and healthcare personnel. Contact Precautions for draining wound as above; follow recommendations for antimicrobial prophylaxis in selected conditions.
Streptococcal disease (group B streptococcus)**, neonatal**	Standard		
Streptococcal disease (not group A or B) **unless covered elsewhere**	Standard		
• Multidrug-resistant (see multidrug-resistant orgs)			
Strongyloidiasis	Standard		
Swine Influenza (see Influenza, swine)			
Syphilis			
• Skin and mucous membrane, including congenital, primary, secondary	Standard		
• Latent (tertiary) and seropositivity without lesions	Standard		
Tapeworm disease			
• *Hymenolepis nana*	Standard		Not transmitted from person to person.
• *Taenia solium* (pork)	Standard		
• Other	Standard		
Tetanus	Standard		Not transmitted from person to person.
Tinea (e.g., dermatophytosis, dermatomycosis, ringworm)	Standard		Rare episodes of person-to-person transmission.
Toxoplasmosis	Standard		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)	Standard		Droplet Precautions for the first 24 hours after implementation of antibiotic therapy if Group A *Streptococcu*s is a likely etiology.
Trachoma, acute	Standard		
Transmissible spongiform encephalopathy (see Creutzfeld-Jacob disease, CJD, vCJD)			
Trench mouth (Vincent's angina)	Standard		
Trichinosis	Standard		
Trichomoniasis	Standard		
Trichuriasis (whipworm disease)	Standard		
Tuberculosis *(M. tuberculosis)*			

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
• Extrapulmonary, draining lesion (including scrofula)	Airborne + Contact + Standard		Discontinue precautions only when patient is improving clinically, and drainage has ceased or there are 3 consecutive negative cultures of continued drainage. Examine for evidence of active pulmonary tuberculosis.
• Extrapulmonary, no draining lesion, meningitis	Standard		Examine for evidence of pulmonary tuberculosis. For infants and children, use Airborne until active pulmonary tuberculosis in visiting family members ruled out.
• Pulmonary, or laryngeal disease, confirmed	Airborne + Standard		Discontinue precautions only when patient on effective therapy is improving clinically and has 3 consecutive sputum smears negative for acid-fast bacilli collected on separate days (MMWR 2005; 54: RR-17) (https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5417a1.htm accessed September 2018).
• Pulmonary or laryngeal disease, suspected	Airborne + Standard		Discontinue precautions only when the likelihood of infectious TB disease is deemed negligible, and either 1. there is another diagnosis that explains the clinical syndrome, or 2. 2 negative MTB PCRs or the results of 3 sputum smears for AFB are negative. Each of the 3 sputum specimens should be collected 8-24 hours apart, and at least 1 should be an early morning specimen.
• Skin-test positive with no evidence of current pulmonary disease	Standard		
Tularemia			
• Draining lesion	Standard		Not transmitted from person to person.
• Pulmonary	Standard		Not transmitted from person to person.
Typhoid (*Salmonella typhi*) fever (see Gastroenteritis)			
Typhus, Rickettsia prowazekii (Epidemic or Louse-borne Typhus)	Standard		Transmitted from person to person through close personal or clothing contact.
Typhus, *Rickettsia typhi*	Standard		Not transmitted from person to person.
Urinary tract infection (including pyelonephritis)**, with or without urinary catheter**	Standard		
Vaccinia (vaccination site, adverse events following vaccination)	See bulleted list below		Only vaccinated HCWs have contact with active vaccination sites and care for persons with adverse vaccinia events; if unvaccinated, only HCWs without contraindications to vaccine may provide care.
• Vaccinated site (including autoinoculated areas)	Standard		Vaccination recommended for vaccinators; for newly vaccinated HCWs: semi-permeable dressing over gauze until scab separates, with dressing change as fluid accumulates, ~3-5 days; gloves, hand hygiene for dressing change; vaccinated HCW or HCW without

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
			contraindication to vaccine for dressing changes.
• Eczema vaccinatum	Contact + Standard	Until lesions dry and crusted, scabs separated	For contact with virus-containing lesions and exudative material.
• Fetal vaccinia	Contact + Standard	Until lesions dry and crusted, scabs separated	For contact with virus-containing lesions and exudative material.
• Generalized vaccinia	Contact + Standard	Until lesions dry and crusted, scabs separated	For contact with virus-containing lesions and exudative material.
• Progressive vaccinia	Contact + Standard	Until lesions dry and crusted, scabs separated	For contact with virus-containing lesions and exudative material.
• Post-vaccinia encephalitis	Standard		
• Blepharitis or conjunctivitis	Contact + Standard		Use Contact Precautions if there is copious drainage.
• Iritis or keratitis	Standard		
• Vaccinia-associated erythema multiforme (Stevens-Johnson Syndrome)	Standard		Not an infectious condition.
• Secondary bacterial infection (e.g., S. aureus, Group A Beta hemolytic streptococcus	Standard + Contact		Follow organism-specific (strep, staph most frequent) recommendations and consider magnitude of drainage.
Varicella Zoster (chickenpox)	Airborne + Contact + Standard	Until lesions dry and crusted	Susceptible HCWs should not enter room if immune caregivers are available; no recommendation for face protection of immune HCWs; no recommendation for type of protection (i.e., surgical mask or respirator) for susceptible HCWs. In immunocompromised host with varicella pneumonia, prolong duration of precautions for duration of illness. Varicella Post-exposure Prophylaxis Update [May 2019]: Postexposure prophylaxis: provide postexposure 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 <5 days before delivery or within 48 hours after delivery) provide varicella zoster immune globulin as soon as possible after exposure and within 10 days. Use Airborne for exposed susceptible persons and exclude exposed susceptible healthcare workers beginning 8 days after

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
			first exposure until 21 days after last exposure or 28 if received varicella zoster immune globulin, regardless of postexposure vaccination.
Variola (see smallpox)			
***Vibrio* parahaemolyticus (see Gastroenteritis)**			
Vincent's angina (trench mouth)	Standard		
Viral hemorrhagic fevers (Lassa, Marburg, Ebola, Crimean-Congo Hemorrhagic Fever, and South American Hemorrhagic Fever viruses (i.e., those caused by Junin, Machupo, Chapare, Guanarito and Sabia viruses))	All Barrier	Duration of precautions should be determined on a case-by-case basis, in conjunction with local, state, and federal health authorities. Factors that should be considered include, but are not limited to, presence of symptoms, date symptoms resolved, other conditions that would require specific precautions (e.g. tuberculosis, Clostridium difficile) and available laboratory information.	See BCU protocol Viral hemorrhagic fevers [September 2024]: Precaution recommendations have been updated. Guidance on Personal Protective Equipment (PPE) in U.S. Healthcare Settings for: • Clinically Stable Patients Suspected to have VHF • Confirmed Patients and Clinically Unstable Patients Suspected to have VHF https://www.cdc.gov/viral-hemorrhagic-fevers/hcp/guidance/ppe-clinically-unstable.html?CDC_AAref_Val= https://www.cdc.gov/vhf/ebola/healthcare-us/ppe/guidance.html
Viral respiratory (if not covered elsewhere)			
• Adults	Standard		
• Infants / young children (see respiratory infectious disease, acute)			
Whooping cough (see pertussis)			
Wound infections			
• Major	Contact + Standard	Duration of illness	Until drainage stops or can be contained by dressing.
• Minor or limited	Standard		If dressing covers and contains drainage

Infection/Condition	Type of Precaution	Duration of Precaution	Precautions/Comments
***Yersinia enterocolitica* gastroenteritis** (see Gastroenteritis)			
Zika	Contact for L&D Standard in all other settings	Through delivery	
Zoster (varicella-zoster) (see Herpes Zoster)			
Zygomycosis (phycomycosis, mucormycosis)	Standard		Not transmitted person-to-person.

APPENDIX B: RESPIRATORY ISOLATION GUIDELINES FOR NEONATAL UNITS

Isolation Location:

Patients in the Neonatal Intensive Care Unit (NICU)should be placed in a private room on contact and droplet precautions. When a single patient room is not available, patients with the same viral infection may be cohorted together. For other situations, consultation with infection control personnel is recommended to assess the risks associated with other placement options.

Duration of Isolation:

Isolation precautions should be maintained based on the patient and the organism:

- **For Influenza or RSV** illness, precautions should be implemented at the onset of signs and symptoms. In NICU patients with Influenza contact precautions should be used in addition to droplet isolation precautions.
  Precautions should be maintained until the following conditions are met:
  - For a minimum of 14 days after onset of signs and symptoms AND improvement of symptoms.
  - Patient has 1 negative Influenza/RSV PCR collected after meeting the above conditions.
  - If positive, weekly PCR must be performed until 1 negative result.
- **For Rhinovirus illness detected by multiplex PCR,** precautions should be implemented at the onset of signs and symptoms.
  Precautions should be maintained until the following conditions are met:
  - For a minimum of 14 days after onset of signs and symptoms AND improvement of symptoms.
  - Patient has 2 negative respiratory viral multiplex PCR, obtained one week apart with the first collection after meeting the above conditions.
  - If positive, weekly PCR must be performed until 2 consecutive negative results are achieved.
- **For COVID illness,** precautions should be implemented at the onset of signs and symptoms, and or positive PCR test, or direct exposure has been identified (NICU only).
  Precautions should be maintained until the following conditions are met:
  - NICU only: all patients with direct exposure have been identified and should be isolated and cohorted for a minimum of 7 days from the date of exposure.
    - Isolation may be removed IF **two negative PCR tests** have been received on **day 1** and **day 5** post exposure AND no signs and symptoms have been identified.
    - In the event viral testing is not performed then isolation is indicated through day 10 AND no signs and symptoms have been identified.
  - Confirmed COVID patients.
    - Isolation may be removed IF one negative **antigen** test (do not order PCR for these patients) after isolation day 10 in patients who have substantially improved and have no other high-risk immune suppressive conditions.
- **For any other viral respiratory illness detected by multiplex PCR,** precautions should be implemented at the onset of signs and symptoms.
  Precautions should be maintained until the following conditions are met
  - For a minimum of 14 days after onset of signs and symptoms AND improvement of symptoms.
  - Patient has 1 negative Influenza/RSV PCR collected after meeting the above conditions.
  - If positive, weekly PCR must be performed until 1 negative result

In some cases, infection control staff may advise continued precautions for longer periods based on clinical judgment and outbreak situations.

Appendix C: Isolation Placement of SARS-COV-2 (COVID-19) Patients

Patient Type	Symptoms Suggestive of COVID-19	Test Status	Extended Respiratory Isolation Precautions	Personal Protective Equipment	Sign to post on patient door
Patient Undergoing Asymptomatic Testing for Admission	No	Unknown	No	Standard Precautions PPE	None
Patient Under Investigation (PUI)	Yes	Unknown	Yes	N95 mask eye protection gloves gown	Extended Respiratory Precautions
Patient with negative test	No	Negative	No	Surgical mask Standard Precautions PPE	None
	Yes* *clinical team has high suspicion for COVID-19 and/or no alternative diagnosis	Negative	Yes	N95 mask eye protection gloves gown	Extended Respiratory Precautions
Patient with a positive test who does NOT yet meet the time-based protocol for isolation precaution discontinuation **see isolation discontinuation criteria table	No	Positive	Yes	N95 mask eye protection gloves gown	Extended Respiratory Precautions
	Yes	Positive	Yes		
Patient with a PRIOR positive test within 90 days and who HAS met the time-based protocol for isolation precaution discontinuation **	No	Positive or Negative	No	Surgical mask Standard Precautions PPE	None
	Yes* *given new onset of symptoms	Positive	Yes	N95 mask eye protection gloves gown	Extended Respiratory Precautions
Patient with a PRIOR positive ≥ 90 days <u>had no</u> repeat test or repeat test was negative within 90 day of previous episode	No	Positive	Yes	N95 mask eye protection gloves gown	Extended Respiratory Precautions
	Yes	Positive	Yes		
Patient with a PRIOR positive ≥ 90 days and who has a test within past 30 days that is positive for the previous infection episode*	Yes	Positive	Yes	N95 mask eye protection gloves gown	Extended Respiratory Precautions
	No	Positive	No	Surgical mask Standard Precautions PPE	None

COVID-19 Isolation Discontinuation

Repeat COVID-19 viral testing after first positive is not recommended for the removal of precautions unless indicated in the COVID-19 Isolation Discontinuation Criteria.

Severity of illness	Criteria Elements			Action	
	Timeline Met Yes/No	Fever resolved >24 hours Yes/No	Symptoms Improved Yes/No	2 consecutive Negative Tests >24 hrs apart Yes/No	Discontinuation Instructions
Asymptomatic	Yes (10 days)	N/A	N/A	No	Discontinue
Mild to moderate illness	Yes (10 days)	Yes	Yes	No	Discontinue
Severe* to critical illness	Yes (< 20 days)	Yes	Yes	No	Discontinue
		No	No	Yes	**Discontinue when**: 2 negative results from at least 2 consecutive respiratory specimens collected ≥24 hours apart **Do NOT Discontinue**: If patients continue to test Positive. If alternate diagnosis present, review with Infection Control physician.
		Yes	No	Yes	
		No	Yes	Yes	
Severely Immunocompromised	Yes (> 20-30+ days)	Yes or No	Yes or No	Yes	**Discontinue when**: Minimum isolation 20 days and 2 negative results from at least 2 consecutive respiratory specimens collected ≥24 hours apart **Do NOT Discontinue**: If patients continue to test Positive. If alternate diagnosis present, review with Infection Control physician.
≥ 30 days: Severe* to critical illness (not severely immunocompromised)	Yes (≥ 30 days)	Yes	Yes or No	No	If stable, discontinue If unstable, discontinue when Alternate Diagnosis Documented and Met **Do Not Discontinue**: if patient is on COVID-19 treatment or immunosuppressant therapy and when alternate diagnosis is not met. Must obtain 2 consecutive Negative tests ≥24 hours apart to discontinue isolation.
		No	Yes	Yes	

*Severe illness is defined as any patient admitted to the hospital for COVID-19 illness and requiring supplemental oxygenation.
Note: Two negative antigen tests collected ≥24 hours apart are acceptable when follow-up tests are requested for isolation removal

TABLE 1. History of Guidelines for Isolation Precautions in Hospitals*

YEAR (REF)	DOCUMENT ISSUED	COMMENT
1970 [1099]	Isolation Techniques for Use in Hospitals, 1st ed	• Introduced seven isolation precaution categories with color-coded cards: Strict, Respiratory, Protective, Enteric, Wound and Skin, Discharge, and Blood • No user decision-making required • Simplicity a strength; over isolation prescribed for some infections
1975 [1100]	Isolation Techniques for Use in Hospitals, 2nd ed	• Same conceptual framework as 1st edition
1983 [1101]	CDC Guideline for Isolation Precautions in Hospitals	• Provided two systems for isolation: category-specific and disease-specific • Protective Isolation eliminated; Blood Precautions expanded to include Body Fluids • Categories included Strict, Contact, Respiratory, AFB, Enteric, Drainage/Secretion, Blood and Body Fluids • Emphasized decision-making by users
1985-88 [780, 896]	Universal Precautions	• Developed in response to HIV/AIDS epidemic • Dictated application of Blood and Body Fluid precautions to all patients, regardless of infection status • Did not apply to feces, nasal secretions, sputum, sweat, tears, urine, or vomitus unless contaminated by visible blood • Added personal protective equipment to protect HCWs from mucous membrane exposures • Handwashing recommended immediately after glove removal • Added specific recommendations for handling needles and other sharp devices; concept became integral to OSHA's 1991 rule on occupational exposure to blood-borne pathogens in healthcare settings
1987 [1102]	Body Substance Isolation	• Emphasized avoiding contact with all moist and potentially infectious body substances except sweat even if blood not present • Shared some features with Universal Precautions • Weak on infections transmitted by large droplets or by contact with dry surfaces • Did not emphasize need for special ventilation to contain airborne infections • Handwashing after glove removal not specified in the absence of visible soiling
1996 [1]	Guideline for Isolation Precautions in Hospitals	• Prepared by the Healthcare Infection Control Practices Advisory Committee (HICPAC) • Melded major features of Universal Precautions and Body Substance Isolation into Standard Precautions to be used with all patients at all times • Included three transmission-based precaution categories: airborne, droplet, and contact • Listed clinical syndromes that should dictate use of empiric isolation until an etiological diagnosis is established

*Derived from Garner ICHE 1996

TABLE 2: Clinical Syndromes or Conditions Warranting Empiric Transmission- Based Precautions in Addition to Standard Precautions

Disease	Clinical Syndrome or Condition†	Potential Pathogens‡	Empiric Precautions (Always Includes Standard Precautions)
Diarrhea	Acute diarrhea with a likely infectious cause in an incontinent or diapered patient	Enteric pathogens§	Contact Precautions (pediatrics and adult)
Diarrhea	Diarrhea in an adult with a history of recent antibiotic use until test results are available	*Clostridiodes difficile*	Extended Contact Precautions
Meningitis	Meningitis	Neisseria meningitidis	Droplet Precautions for first 24 hours of antimicrobial therapy; mask and face protection for intubation
Meningitis	Meningitis	Enteroviruses	Contact Precautions for infants and children
Meningitis	Meningitis	M. tuberculosis	Airborne Precautions if pulmonary infiltrate Airborne Precautions plus Contact Precautions if potentially infectious draining body fluid present
Rash or Exanthems, Generalized, Etiology Unknown	Petechial/ecchymotic with fever (general)	Neisseria meningitides	Droplet Precautions for first 24 hours of antimicrobial therapy
Rash or Exanthems, Generalized, Etiology Unknown	Petechial/ecchymotic with fever (general) If positive history of travel to an area with an ongoing outbreak of VHF in the 10 days before onset of fever	Ebola, Lassa, Marburg viruses	Droplet Precautions plus Contact Precautions, with face/eye protection, emphasizing safety sharps and barrier precautions when blood exposure likely. Use N95 or higher respiratory protection when aerosol- generating procedure performed. **Ebola Virus Disease Update [2014]:** Updated recommendations for healthcare workers can be found at Ebola: for Clinicians (https://www.cdc.gov/vhf/ebola/clinicians/index.html accessed September 2018).
Rash or Exanthems, Generalized, Etiology Unknown	Vesicular	Varicella-zoster, *herpes simplex,* variola (smallpox), vaccinia viruses	Airborne plus Contact Precautions. Contact Precautions only if Herpes simplex, localized zoster in an immunocompetent host or vaccinia viruses most likely
Rash or Exanthems, Generalized, Etiology Unknown	Maculopapular with cough, coryza and fever	Rubeola (measles) virus	Airborne Precautions
Respiratory Infections	Cough/fever/upper lobe pulmonary infiltrate in an HIV-negative patient or a patient at low risk for human immunodeficiency virus (HIV) infection	M. tuberculosis, Respiratory viruses, S. pneumoniae, S. aureus (MSSA or MRSA)	Airborne Precautions plus Contact precautions

Disease	Clinical Syndrome or Condition†	Potential Pathogens‡	Empiric Precautions (Always Includes Standard Precautions)
Respiratory Infections	Cough/fever/pulmonary infiltrate in any lung location in an HIV- infected patient or a patient at high risk for HIV infection	M. tuberculosis, Respiratory viruses, S. pneumoniae, S. aureus (MSSA or MRSA)	Airborne Precautions plus Contact Precautions. Use eye/face protection if aerosol-generating procedure performed or contact with respiratory secretions anticipated. If tuberculosis is unlikely and there are no AIIRs and/or respirators available, use Droplet Precautions instead of Airborne Precautions Tuberculosis more likely in HIV-infected individual than in HIV negative individual
Respiratory Infections	Cough/fever/pulmonary infiltrate in any lung location in a patient with a history of recent travel (10-21 days) to countries with active outbreaks of SARS, avian influenza	*M. tuberculosis,* severe acute respiratory syndrome virus (SARS- CoV), avian influenza	Airborne plus Contact Precautions plus eye protection. If SARS and tuberculosis unlikely, use Droplet Precautions instead of Airborne Precautions.
Respiratory Infections	Respiratory infections, particularly bronchiolitis, croup and pneumonia, in infants and young children	Respiratory syncytial virus, parainfluenza virus, adenovirus, influenza virus, *Human metapneumovirus*	Contact plus Droplet Precautions; Droplet Precautions may be discontinued when adenovirus and influenza have been ruled out
Respiratory Infections	Paroxysmal or severe persistent cough during periods of pertussis activity	*Bordetella pertussis*	Droplet Precautions
Multi-drug Resistant Infections	Risk of multidrug-resistant microorganisms‖	May utilize precautions in an outbreak situation	Contact Precautions or XDRO Precautions as needed
Multi-drug Resistant Infections	History of infection or colonization with multidrug-resistant organisms‖	Resistant bacteria	Contact Precautions
Multi-drug Resistant Infections	Skin, wound, or urinary tract infection in a patient with a recent hospital or nursing home stay in a facility where multidrug-resistant organisms are prevalent‖	Resistant bacteria	Contact Precautions
Skin or Wound Infection	Abscess or draining wound that cannot be covered	*Staphylococcus aureus* (MSSA or MRSA), group A streptococcus	Contact Precautions Add Droplet Precautions for the first 24 hours of appropriate antimicrobial therapy if invasive Group A streptococcal disease is suspected

* Infection control professionals should modify or adapt this table according to local conditions. To ensure that appropriate empiric precautions are implemented always, hospitals must have systems in place to evaluate patients routinely according to these criteria as part of their preadmission and admission care.

† Patients with the syndromes or conditions listed below may present with atypical signs or symptoms (e.g. neonates and adults with pertussis may not have paroxysmal or severe cough). The clinician's index of suspicion should be guided by the prevalence of specific conditions in the community, as well as clinical judgment.
‡ The organisms listed under the column "Potential Pathogens" are not intended to represent the complete, or even most likely, diagnoses, but rather possible etiologic agents that require additional precautions beyond Standard Precautions until they can be ruled out.
§ These pathogens include enterohemorrhagic Escherichia coli O157:H7, Shigella spp, hepatitis A virus, noroviruses, rotavirus, C. difficile.

Table 3. Infection Control Considerations for High-Priority (CDC Category A) Diseases that May Result from Bioterrorist Attacks or are Considered to be Bioterrorist Threats

Information may be found at CDC Bioterrorism Agents/Diseases (https://emergency.cdc.gov/agent/agentlist.asp accessed May 2016)]

Table 3A. Anthrax

Characteristics	Additional Information
Site(s) of Infection; Transmission Mode Cutaneous and inhalation disease have occurred in past bioterrorist incidents	**Cutaneous** (contact with spores); **Respiratory Tract:** (inhalation of spores); **Gastrointestinal Tract** (ingestion of spores - rare) **Comment:** Spores can be inhaled into the lower respiratory tract. The infectious dose of B. anthracis in humans by any route is not precisely known. In primates, the LD50 (i.e., the dose required to kill 50% of animals) for an aerosol challenge with B. anthracis is estimated to be 8,000–50,000 spores; the infectious dose may be as low as 1-3 spores
Incubation Period	**Cutaneous**: 1 to12 days; **Respiratory Tract**: Usually 1 to 7 days but up to 43 days reported; **Gastrointestinal Tract**: 15-72 hours
Clinical Features	**Cutaneous**: Painless, reddish papule, which develops a central vesicle or bulla in 1-2 days; over next 3-7 days lesion becomes pustular, and then necrotic, with black eschar; extensive surrounding edema. **Respiratory Tract**: initial flu-like illness for 1-3 days with headache, fever, malaise, cough; by day 4 severe dyspnea and shock, and is usually fatal (85%-90% if untreated; meningitis in 50% of Respiratory Tract cases. **Gastrointestinal Tract**: if intestinal form, necrotic, ulcerated edematous lesions develop in intestines with fever, nausea and vomiting, progression to hematemesis and bloody diarrhea; 25-60% fatal
Diagnosis	**Cutaneous**: Swabs of lesion (under eschar) for immunohistochemistry, polymerase chain reaction and culture; punch biopsy for immunohistochemistry, polymerase chain reaction and culture; vesicular fluid aspirate for Gram stain and culture; blood culture if systemic symptoms; acute and convalescent sera for ELISA serology **Respiratory Tract**: Chest X-ray or CT scan demonstrating wide mediastinal widening and/or pleural effusion, hilar abnormalities; blood for culture and polymerase chain reaction; pleural effusion for culture, polymerase chain reaction and immunohistochemistry; cerebrospinal fluid if meningeal signs present for immunohistochemistry, polymerase chain reaction and culture; acute and convalescent sera for ELISA serology; pleural and/or bronchial biopsies immunohistochemistry. **Gastrointestinal Tract**: blood and ascites fluid, stool samples, rectal swabs, and swabs of oropharyngeal lesions if present for culture, polymerase chain reaction and immunohistochemistry.
Infectivity	**Cutaneous**: Person-to-person transmission from contact with lesion of untreated patient possible, but extremely rare. **Respiratory Tract and Gastrointestinal Tract**: Person-to-person transmission does not occur. **Aerosolized powder, environmental exposures**: Highly infectious if aerosolized
Recommended Precautions	**Cutaneous**: Standard Precautions; Contact Precautions if uncontained copious drainage. **Respiratory Tract and Gastrointestinal Tract**: Standard Precautions. **Aerosolized powder, environmental exposures**: Respirator (N95 mask or Powered Air Purifying Respirators), protective clothing; decontamination of persons with powder on them

	(Notice to Readers: Occupational Health Guidelines for Remediation Workers at Bacillus anthracis-Contaminated Sites --- United States, 2001--2002 (https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5135a3.htm accessed September 2018). **Hand hygiene**: Handwashing for 30-60 seconds with soap and water or 2% chlorhexidene gluconate after spore contact (alcohol handrubs inactive against spores [Weber DJ JAMA 2003; 289:1274]). **Postexposure prophylaxis following environmental exposure**: 60 days of antimicrobials (either doxycycline, ciprofloxacin, or levofloxacin) and Postexposure vaccine under IND

Table 3B. Botulism

Characteristics	Additional Information
Site(s) of Infection; Transmission Mode	**Gastrointestinal Tract:** Ingestion of toxin-containing food, **Respiratory Tract**: Inhalation of toxin containing aerosol cause disease. **Comment:** Toxin ingested or potentially delivered by aerosol in bioterrorist incidents. LD50 (lethal dose for 50% of experimental animals) for type A is 0.001 µg/ml/kg.
Incubation Period	1-5 days.
Clinical Features	Ptosis, generalized weakness, dizziness, dry mouth and throat, blurred vision, diplopia, dysarthria, dysphonia, and dysphagia followed by symmetrical descending paralysis and respiratory failure
Diagnosis	Clinical diagnosis; identification of toxin in stool, serology unless toxin-containing material available for toxin neutralization bioassays
Infectivity	Not transmitted from person to person. Exposure to toxin necessary for disease.
Recommended Precautions	Standard Precautions.

Table 3C. Ebola Hemorrhagic Fever

Characteristics	Additional Information
Site(s) of Infection; Transmission Mode	As a rule, infection develops after exposure of mucous membranes or respiratory tract, or through broken skin or percutaneous injury
Incubation Period	2-19 days, usually 5-10 days
Clinical Features	Febrile illnesses with malaise, myalgias, headache, vomiting and diarrhea that are rapidly complicated by hypotension, shock, and hemorrhagic features. Massive hemorrhage in < 50% pts.
Diagnosis	Etiologic diagnosis can be made using respiratory tract-polymerase chain reaction, serologic detection of antibody and antigen, pathologic assessment with immunohistochemistry and viral culture with EM confirmation of morphology,
Infectivity	Person-to-person transmission primarily occurs through unprotected contact with blood and body fluids; percutaneous injuries (e.g., needlestick) associated with a high rate of transmission; transmission in healthcare settings has been reported but is prevented by use of barrier precautions.
Recommended Precautions	**Hemorrhagic fever specific barrier precautions**: If disease is believed to be related to intentional release of a bioweapon, epidemiology of transmission is unpredictable pending observation of disease transmission. Until the nature of the pathogen is understood and its transmission pattern confirmed, Standard, Contact and Airborne Precautions should be used. Once the pathogen is characterized, if the epidemiology of transmission is consistent with natural disease, Droplet Precautions can be substituted for Airborne Precautions. 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. In settings where AIIRs are unavailable or the large numbers of patients cannot be accommodated by existing AIIRs, observe Droplet Precautions (plus Standard Precautions and Contact Precautions) and segregate patients from those not suspected of VHF infection. Limit blooddraws to those essential to care. See text for discussion and Appendix A for recommendations for naturally occurring VHFs.

Plague

Pneumonic plague is not as contagious as is often thought. Historical accounts and contemporary evidence indicate that persons with plague usually transmit the infection only when the disease is in the end stage. These persons cough copious amounts of bloody sputum that contains many plague bacteria. Patients in the early stage of primary pneumonic plague (approximately the first 20–24 h) apparently pose little risk [1, 2]. Antibiotic medication rapidly clears the sputum of plague bacilli, so that a patient generally is not infective within hours after initiation of effective antibiotic treatment [3]. This means that in modern times many patients will never reach a stage where they pose a significant risk to others. Even in the end stage of disease, transmission only occurs after close contact. Simple protective measures, such as wearing masks, good hygiene, and avoiding close contact, have been effective to interrupt transmission during many pneumonic plague outbreaks [2]. In the United States, the last known cases of person-to-person transmission of pneumonic plague occurred in 1925 [2].

Table 3D. Plague

Characteristics	Additional Information
Site(s) of Infection; Transmission Mode	**Respiratory Tract**: Inhalation of respiratory droplets. **Comment**: Pneumonic plague most likely to occur if used as a biological weapon, but some cases of bubonic and primary septicemia may also occur. Infective dose 100 to 500 bacteria
Incubation Period	1 to 6, usually 2 to 3 days.
Clinical Features	Pneumonic: fever, chills, headache, cough, dyspnea, rapid progression of weakness, and in a later stage hemoptysis, circulatory collapse, and bleeding diathesis
Diagnosis	Presumptive diagnosis from Gram stain or Wayson stain of sputum, blood, or lymph node aspirate; definitive diagnosis from cultures of same material, or paired acute/convalescent serology
Infectivity	Person-to-person transmission occurs via respiratory droplets risk of transmission is low during first 20-24 hours of illness and requires close contact. Respiratory secretions probably are not infectious within a few hours after initiation of appropriate therapy
Recommended Precautions	Standard Precautions, Droplet Precautions until patients have received 48 hours of appropriate therapy. **Chemoprophylaxis**: Consider antibiotic prophylaxis for HCWs with close contact exposure.

1. Wu L-T. A treatise on pneumonic plague. Geneva: League of Nations, 1926. III. Health
2. Kool JL. Risk of person-to-person transmission of pneumonic plague. Clinical Infectious Diseases, 2005; 40 (8): 1166-1172 3.
3. Butler TC. Plague and other Yersinia infections. In: Greenough WB, ed. Current topics in infectious disease. New York: Plenum Medical Book Company, 1983.

Table 3E. Smallpox

Characteristics	Additional Information
Site(s) of Infection; Transmission Mode	**Respiratory Tract Inhalation** of droplet or, rarely, aerosols; and skin lesions (contact with virus). **Comment**: If used as a biological weapon, natural disease, which has not occurred since 1977, will likely result.
Incubation Period	7 to 19 days (mean 12 days)
Clinical Features	Fever, malaise, backache, headache, and often vomiting for 2-3 days; then generalized papular or maculopapular rash (more on face and extremities), which becomes vesicular (on day 4 or 5) and then pustular; lesions all in same stage

Diagnosis	Electron microscopy of vesicular fluid or culture of vesicular fluid by WHO approved laboratory (CDC); detection by polymerase chain reaction available only in select LRN labs, CDC and USAMRID
Infectivity	Secondary attack rates up to 50% in unvaccinated persons; infected persons may transmit disease from time rash appears until all lesions have crusted over (about 3 weeks); greatest infectivity during first 10 days of rash.
Recommended Precautions	Combined use of Standard, Contact, and Airborne Precautions until all scabs have separated (3-4 weeks). Transmission by the airborne route is a rare event; Airborne Precautions is recommended when possible, but in the event of mass exposures, barrier precautions and containment within a designated area are most important. [204, 212] Only immune HCWs to care for pts; Postexposure vaccine within 4 days. **Vaccinia:** HCWs cover vaccination site with gauze and semi-permeable dressing until scab separates (≥21 days). Observe hand hygiene . **Adverse events with virus-containing lesions**: Standard plus Contact Precautions until all lesions crusted. Vaccinia adverse events with lesions containing infectious virus include inadvertent autoinoculation, ocular lesions (blepharitis, conjunctivitis), generalized vaccinia, progressive vaccinia, eczema vaccinatum; bacterial superinfection also requires addition of contact precautions if exudates cannot be contained. [216, 217]

Table 3F. Tularemia

Characteristics	Additional Information
Site(s) of Infection; Transmission Mode	**Respiratory Tract:** Inhalation of aerosolized bacteria. **Gastrointestinal Tract**: Ingestion of food or drink contaminated with aerosolized bacteria. **Comment**: Pneumonic or typhoidal disease likely to occur after bioterrorist event using aerosol delivery. Infective dose 10-50 bacteria
Incubation Period	2 to 10 days, usually 3 to 5 days
Clinical Features	Pneumonic: malaise, cough, sputum production, dyspnea; Typhoidal: fever, prostration, weight loss and frequently an associated pneumonia.
Diagnosis	Diagnosis usually made with serology on acute and convalescent serum specimens; bacterium can be detected by polymerase chain reaction (LRN) or isolated from blood and other body fluids on cysteine-enriched media or mouse inoculation.
Infectivity	Person-to-person spread is rare. Laboratory workers who encounter/handle cultures of this organism are at high risk for disease if exposed.
Recommended Precautions	Standard Precautions

Table 4. Recommendations for Application of Standard Precautions for the Care of All Patients in All Healthcare Settings

Component	Recommendations
Hand hygiene	After touching blood, body fluids, secretions, excretions, contaminated items; immediately after removing gloves; between patient contacts.
Personal protective equipment (PPE) Gloves	For touching blood, body fluids, secretions, excretions, contaminated items; for touching mucous membranes and nonintact skin
Personal protective equipment (PPE) Gown	During procedures and patient-care activities when contact of clothing/exposed skin with blood/body fluids, secretions, and excretions is anticipated.
Personal protective equipment (PPE)	During procedures and patient-care activities likely to generate splashes or sprays of blood, body fluids, secretions, especially suctioning, endotracheal intubation. During aerosol-

Mask, eye protection (goggles), face shield	generating procedures on patients with suspected or proven infections transmitted by respiratory aerosols wear a fit-tested N95 or higher respirator in addition to gloves, gown and face/eye protection.
Soiled patient-care equipment	Handle in a manner that prevents transfer of microorganisms to others and to the environment; wear gloves if visibly contaminated; perform hand hygiene.
Environmental control	Develop procedures for routine care, cleaning, and disinfection of environmental surfaces, especially frequently touched surfaces in patient-care areas.
Textiles and laundry	Handle in a manner that prevents transfer of microorganisms to others and to the environment
Needles and other sharps	Do not recap, bend, break, or hand-manipulate used needles; if recapping is required, use a one-handed scoop technique only; use safety features when available; place used sharps in puncture-resistant container
Patient resuscitation	Use mouthpiece, resuscitation bag, other ventilation devices to prevent contact with mouth and oral secretions
Patient placement	Prioritize for single-patient room if patient is at increased risk of transmission, is likely to contaminate the environment, does not maintain appropriate hygiene, or is at increased risk of acquiring infection or developing adverse outcome following infection.
Respiratory hygiene/cough etiquette (source containment of infectious respiratory secretions in symptomatic patients, beginning at initial point of encounter e.g., triage and reception areas in emergency departments and physician offices)	Instruct symptomatic persons to cover mouth/nose when sneezing/coughing; use tissues and dispose in no-touch receptacle; observe hand hygiene after soiling of hands with respiratory secretions; wear surgical mask if tolerated or maintain spatial separation, >3 feet if possible.

(See Sections II.D.-II.J. and III.A.1)

Table 5: Transportation and Isolation Precautions Guide

Precaution Type	PPE in patient room	PPE during transport	Disinfection and Hand Hygiene
Contact 	**Transporter:** Gown Gloves *Surgical Mask*	**Patient:** Clean gown Covered with clean sheet *Surgical mask* **Transporter:** *No PPE*	Hand Hygiene: Alcohol-based hand sanitizer OR Soap and water Disinfectant: Any hospital-approved product
Extended Contact 	Same as contact	Same as contact	Hand Hygiene: **Hands must be washed with soap and water** Disinfectant: **Bleach Wipes**

XDRO (Extremely Drug-Resistant Organism) 	Same as contact	Same as contact	Hand Hygiene: Alcohol-based hand sanitizer OR Soap and water Disinfectant: **Bleach Wipes**
Extended Respiratory 	**Transporter:** N95 Goggles Gown Gloves	**Patient:** Surgical mask **Transporter:** *No PPE*	Hand Hygiene: Alcohol-based hand sanitizer OR Soap and water Disinfectant: Any hospital-approved product
Droplet 	**Transporter:** Surgical Mask	**Patient:** Surgical mask **Transporter:** *No PPE*	Hand Hygiene: Alcohol-based hand sanitizer OR Soap and water Disinfectant: Any hospital-approved product
Airborne 	**Transporter:** N95	**Patient:** Surgical mask **Transporter:** *No PPE*	Hand Hygiene: Alcohol-based hand sanitizer OR Soap and water Disinfectant: Any hospital-approved product

Notes:

- Gloves should **not** be worn in the hallway as they are assumed to be dirty. If there is a possibility a patient will need assistance during transport, bring extra PPE with you. But it should not be worn while transporting in the hallway.

Reference:

1. 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, Updated July 2023. Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007) (cdc.gov)

2. Infection Prevention and Control Recommendations for Patients in U.S. Hospitals who are Suspected or Confirmed to have Selected Viral Hemorrhagic Fevers (VHF) Updated Sept 11, 2023 Infection Prevention and Control Recommendations for Patients in U.S. Hospitals who are

Suspected or Confirmed to have Selected Viral Hemorrhagic Fevers (VHF) | Ebola Virus Disease | Clinicians | Ebola (Ebola Virus Disease) | CDC

3. Infection Prevention and Control for Candida auris. Updated Jan 17, 2023.
   Infection Prevention and Control for Candida auris | Candida auris | Fungal Diseases | CDC

4. Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic. Updated May 8, 2023
   Infection Control: Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) | CDC