Isolation Precautions

Isolation precautions are preventative ways utilized by healthcare facilities and staff to help prevent the spread of infections (Douedi, 2023).

Standard Precautions

Standard precautions are based on the principle that all blood, body fluids, secretions, excretions except sweat, non-intact skin, and mucous membranes may contain transmissible infectious agents. Standard precautions are the minimal protection that should be used to care for all patients at all times to protect healthcare workers and to prevent the spread from healthcare worker to patient. They apply to all patients, regardless of suspected or confirmed infection status, in all healthcare settings.

Hand Hygiene

- This is the most important step in preventing infection transmission.
- Either soap and water or alcohol-based hand disinfection (AHD) may be used.
 - Soap and water need to be used with known or suspected norovirus or *Clostridioides difficile (C. difficile)* infection, since alcohol does not kill *C. difficile* spores or norovirus.
- Perform after touching blood, body fluids, secretions, excretions, and contaminated items.
- Perform immediately after removing gloves and between patient contact.
- Perform upon entry and exit from a patient room.
- Keep nails short, clean, and free from artificial nails.

Personal Protective Equipment (PPE)

- Gloves: for touching blood, body fluids, secretions, excretions, contaminated items, mucous membranes, and non-intact skin
 - Gloves do not replace the need for hand hygiene
 - Gloves should be changed between patient encounters and sometimes with heavily contaminated gloves while caring for a single patient to prevent cross-contamination of body sites or contamination of medical equipment.
- Gown: during procedures and patient care activities with anticipated exposure of skin/clothes to body fluids, secretions, and excretions
- Mask/eye protection: during procedures and patient care activities with anticipated splashes or sprays of blood, body fluids, or secretions

Safe Injection

- Needles and syringes are single-use devices.
- Limit the use of multi-dose vials, and dedicate them to a single patient when possible.
- Dispose of needles and sharp instruments in impervious containers.

Safe Handling

- Safely handle potentially contaminated equipment or surfaces in the patient environment.
- Ensure environmental cleaning and disinfection, per facility policy.

Respiratory Hygiene

- Dispose of tissues in no-touch receptacles.
- Perform hand hygiene after soiling hands with respiratory secretions.

- Use spatial separation (ideally 3 feet) if possible in common waiting areas.
- During times of high prevalence of community spread of respiratory infections, offer masks at the entrance of the medical facility, especially to symptomatic patients and visitors.
- Wear a mask when caring for patients with respiratory secretions and when performing a sterile procedure.
- Patients with respiratory secretions should wear a mask when leaving their patient's room.

Transmission-based Precautions

Transmission-based precautions provide additional infection control measures based on disease-specific recommendations and should always be used in addition to standard precautions.

Contact Precautions

Contact precautions prevent transmission of infectious organisms spread by direct or indirect contact with the patient or the patient's environment. Contact precautions are recommended when the presence of excessive wound drainage, fecal incontinence, or other discharge from the body suggests an increased risk for environmental contamination and transmission of infection.

Contact precautions include:

- Private room or cohort, ensuring rooms are frequently cleaned and disinfected at least daily or prior to use by another patient, focusing on frequently-touched surfaces and equipment in the immediate vicinity of the patient
- Clean, nonsterile gloves when entering the room; remove before exiting
- Clean, nonsterile gown when entering the room if substantial contact with the patient or potentially contaminated areas in the patient's environment is anticipated; remove before exiting
- Limit transport to essential purposes and ensure precautions are taken to minimize contamination of environmental surfaces and equipment.
- When possible, dedicate the use of noncritical patient care equipment to a single patient and avoid sharing between patients.
- Indications:
 - Methicillinresistant Staphylococcus aureus (MRSA) (mask if respiratory infection)
 - Vancomycin-Resistant Enterococci (VRE)
 - Adenovirus*
 - Diarrhea
 - C. difficile
 - Rotavirus
 - Herpes simplex (until lesions are dried and healed)
 - Coxsackie*
 - Parainfluenza (mask if coughing)
 - Escherichia coli (E. coli)*
 - Enterovirus*

- Salmonella*
- Shigella*
- Hepatitis A and E*
- Herpes zoster (shingles, localized)
- Respiratory syncytial virus (RSV) (mask if productive cough)
- Head lice
- Scabies
- Poliomyelitis
- Varicella zoster (chicken pox; symptomatic, until all lesions crusted and dried)
- Norovirus (for a minimum of 48 hours after resolution of symptoms
- Human metapneumovirus

*if incontinent or diapered, or to control institutional outbreaks

Droplet Precautions

The goal of droplet precautions is to prevent transmission of infectious organisms spread by droplets (greater than 5 microns) through close respiratory or mucous membrane contact with respiratory secretions via coughing, sneezing, talking, or droplet-inducing procedures.

Droplet precautions include:

- Private room or cohort
- Special air flow is not needed, and the door may remain open.
- Wear a mask (surgical or isolation) if working within 3 feet of the patient (some facilities require a mask for all entries into the room).
- Droplet mask on the patient when leaving the room, if tolerated
- Limit transport to essential purposes only.
- Follow respiratory hygiene/cough etiquette.
- Gown and gloves as per standard precautions and facility policy
- Indications include known or suspected infections of the following organisms:
 - Pertussis
 - Influenza virus (seasonal)
 - MRSA (respiratory infection)
 - Neisseria meningitides (suspected or confirmed)
 - Rhinovirus
 - Streptococcus group A
 - Bacterial meningitides (for 24 hours after effective antibiotic therapy)
 - Mumps
 - Rubella
 - Adenovirus (PNA)

Airborne Precautions

Airborne precautions prevent transmission of infectious diseases that are spread by airborne droplets (less than or equal to 5 microns) that remain infectious and suspended in air for long periods of time over long distances and can be widely dispersed by air currents.

Airborne precautions include:

- Private room with monitored negative pressure ventilation of 6-12 air exchanges per hour; airborne infection isolation room (AIIR) preferred
- Discharge of air to the outside or HEPA-filtered before recirculation
- Door and windows must be kept closed at all times.
- Respiratory protection (N-95 mask) for susceptible persons must be worn prior to entering the room and removed after leaving the room.
- Droplet mask on patient when leaving the room if tolerated; follow respiratory hygiene/cough etiquette
- Limit transport to essential purposes only.
- If possible, non-immune healthcare workers should not care for patients with vaccinepreventable airborne diseases.
- Indications include known or suspected infections of the following organisms:
 - Measles
 - Smallpox
 - Varicella zoster (chicken pox)

- Varicella zoster (herpes, disseminated)
- Suspected or confirmed tuberculosis

Additional recommendations include:

 Airborne and contact precautions for disseminated zoster, immunocompromised patients with localized zoster, severe acute respiratory syndrome, and COVID-19 who are undergoing aerosolgenerating procedures.

Guidelines for Precaution Discontinuation (Anderson, 2025)

- Methicillin-resistant *Staphylococcus aureus* (MRSA): completion of antibiotic therapy, contact precautions may be discontinued after documentation of 1 to 3 negative weekly surveillance cultures. Extension of contact precautions may be warranted for patients with a draining wound, ongoing respiratory secretions associated with MRSA infection, or other evidence implicating risk of ongoing transmission.
- Vancomycin-resistant enterococcus (VRE): completion of antibiotic therapy, contact precautions
 may be discontinued after documentation of 1 to 3 negative weekly stool or rectal swab
 surveillance cultures. Extension of contact precautions may be warranted for patients who are
 highly immunosuppressed, are receiving broad-spectrum antibiotic therapy (without VRE
 activity), or receiving care in protected environments (such as burn units) or in institutions with
 high VRE rates.
- Clostridioides difficile: continue contact precautions for at least 48 hours after resolution of diarrhea. Extension of contact precautions beyond resolution of diarrhea (e.g., for remainder of hospitalization) is warranted in some situations, such as for incontinent patients.
- Extended-spectrum beta-lactamase (ESBL) and other multidrug-resistant gram-negative (MDR-GN) pathogens: Continue precautions for the duration of hospitalization. Guidelines recommend assessing discontinuation of precautions on a case-by-case basis related to time since onset of infection, need for ongoing antibiotic use, negative rectal screening samples, and specific pathogen.
- Carbapenem-resistant enterobacteriaceae (CRE) and extremely drug-resistant gram-negative (XDR-GN) pathogens: Maintain as long as patients are hospitalized or in a congregate living setting.
- Influenza: In immunocompetent hosts, the duration of droplet precautions is 7 days after illness onset or until 24 hours after resolution of fever and respiratory symptoms, whichever is longer.
- Varicella zoster virus (VZV) infection: As for localized and disseminated zoster, airborne and contact precautions should be continued until lesions are dry and crusted.
- Herpes Simplex Virus (HSV) infection: Contact precautions should be continued until lesions are dry and crusted.

Healthcare Team Interventions (Douedi, 2023)

- Physicians, nurses, and nursing assistants should pay close attention to proper PPE use and isolation precautions for the personal safety and safety of the patients.
- It is the responsibility of the healthcare team to enforce isolation precautions on visitors and other members not in compliance with standard protocols to reduce infection transmission within the workplace.

References:

Anderson, M.D. (2025, April 7), Infection Prevention: Practices for Preventing Transmission of Infection. Up to Date. <u>https://www.uptodate.com/contents/infection-prevention-precautions-for-preventing-transmission-of-infection</u>

Centers for Disease Control and Prevention (CDC), National Center for Immunization and Respiratory Diseases. (2021, May 13). Prevention Strategies for Seasonal Influenza in Healthcare Settings: Guidelines and Recommendations. <u>https://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm#</u>