

## 7. Additional Precautions

Additional Precautions are based on the mode of transmission of the causative organism.

Contact

Droplet

Airborne

Or combinations of the above

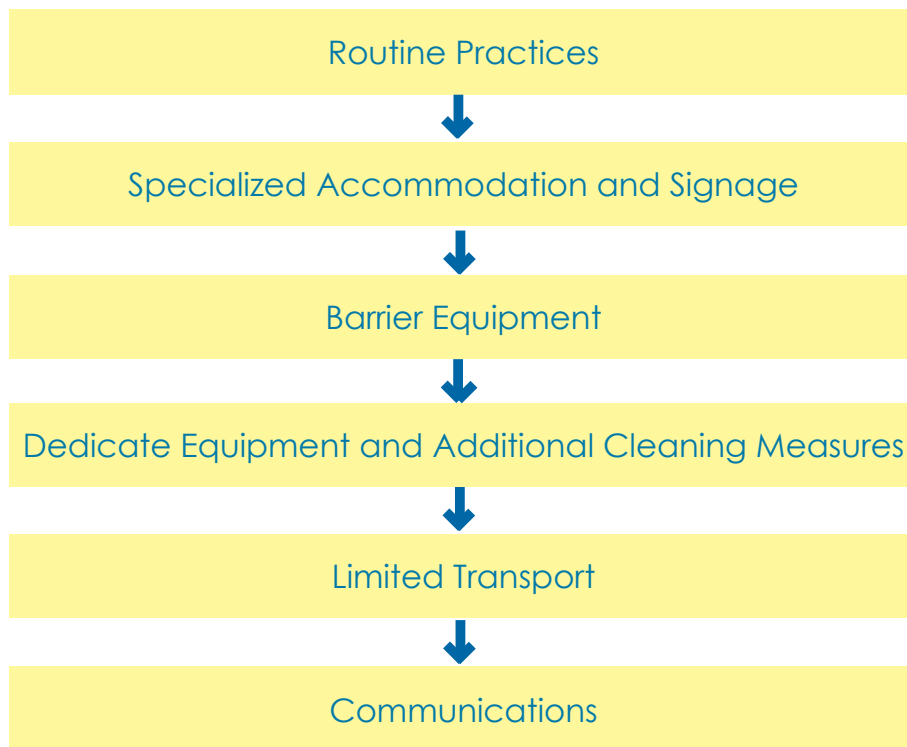
Additional Precautions are used as an adjunct to Routine Practices when microorganisms are:

- Highly infectious
- Known to create severe disease
- Difficult to treat (antibiotic resistant).

If a patient is showing symptoms that suggests an infection, start using appropriate Additional Precautions immediately. Waiting until lab confirmation or diagnosis may result in contamination of the environment or other people with the infectious agent.



## Elements of Additional Precautions



Additional Precautions includes:

- Use of barriers (e.g. closed room doors)
- Use of personal protective equipment
- Control of the environment (e.g. negative pressure ventilation, restriction of visitors)
- Dedicated equipment
- Extra cleaning procedures.

Communication is also an important element in assuring that health care providers, support workers, family and visitors are aware of the precautions. Precautionary door signage on inpatient rooms (see Appendix A) reminds staff of personal protective equipment required and informs visitors of precautions.

This information needs to be reinforced and supplemented with verbal teaching by the health care staff to all those interacting with the patient including family and visitors.

Specialized engineering controls may be required (e.g. airborne isolation room for a patient with tuberculosis) or enhanced cleaning protocols for the patient environment (e.g. Clostridium difficile).

## Contact Precautions

Infections spread by contact:

- Direct: skin to skin
- Indirect: skin to environmental

Contact Precautions are used for situations where the environment or skin may be contaminated, if there is:

- Diarrhea and vomiting
- Patient unable to control feces or vomit
- Infectious agents that spread easily in the environment (e.g. norovirus, rotavirus)
- Other microorganisms that may be transmitted by contact with intact skin or with contaminated environmental surfaces (e.g. MRSA, VRE, C. difficile).

**Hand hygiene is particularly important with contact precautions as the infection is spread by touch and often on caregivers' hands.**

**Accommodation:**

- Single room with a dedicated toilet and sink is necessary. If not available, the patient with these symptoms should use a dedicated commode chair and not share a toilet.
- The door may remain open. Limit patient movement from their room to reduce risk of contamination of others and the facility.



In Long Term Care and other residential settings, placement of residents requiring Contact Precautions should be reviewed on a case-by-case basis. A single room may not be available. Infection risk to other occupants of the room and facility must be considered when selecting roommates and activities for the resident. Consideration needs to be given to the immune status of other residents, the ability of the resident to comply with controlling secretions and the nature of the resident's symptoms.

In ambulatory settings, place patients who require Contact Precautions in an examination room or cubicle as soon as possible. Encourage the patient to perform good hand hygiene. If known to be infectious, appointments for these patients should be booked at the end of the day to allow for additional cleaning time and fewer patients being seen in that exam area over the balance of the day.

### Personal Protective Equipment:

In acute care:

- **Gloves:** worn when entering patient's room or bed space; remove gloves and perform hand hygiene when leaving room or bed space.
- **Gown:** worn if skin or clothing will come in contact with the patient or the patient's environment; if there is risk of drainage or other contamination.

A gown is required:

- In rooms of children who are incontinent or too immature to comply with hygiene
- In rooms of adults who soil the environment
- In crowded rooms where there is a likelihood of coming into contact with contaminated furnishings or equipment
- When providing direct care, such as physical examination, checking vital signs, bathing or turning the patient, changing clothing, incontinent care, dressing changes, and care of open wounds.

A gown is not required:

- When delivering a food tray

- When doing a visual check of a patient
- If not touching anything in the patient room and just talking to the patient.

If a health care provider enters a room with a patient in a Contact Precautions room without a gown and is then required to perform an activity that requires a gown, one must remove and discard gloves, clean hands, put on a gown and apply fresh gloves before returning to provide care.

In non-acute settings:

- Gloves: worn when there is direct care activities or risk of hands being contaminated in patient care or activities in the patient's bed space.
- Gown: worn if skin or clothing will come in contact with the patient or the patient's environment. If there is risk of drainage or other contamination of skin or clothing.
- Gloves and gown: if worn, must be removed and hands cleaned immediately following the activity for which they were used.

### Transport:

It is not appropriate for patients to wear gloves or isolation gowns while outside their room. Performing hand hygiene and assuring that body fluids are contained is sufficient for the patient.

### Cleaning:

Routine cleaning practices are acceptable for most rooms where the patient is on Contact Precautions.

Exceptions:

- Antibiotic resistant organisms: additional environmental cleaning procedures and precautions when transporting patients.
- C. difficile: additional cleaning must include a sporicidal agent due the cell structure of C. difficile.
- Vomiting or diarrhea: if there is frequent and copious body fluids, more frequent housekeeping may be necessary.



- Outbreak situations: more frequent cleaning may be part of the intervention.

## Visitors:

Visitors should be taught the importance of hand hygiene.

Personal protective equipment is required only if a visitor is providing direct care.

## Droplet Precautions

Droplet Precautions are used in addition to Routine Practices for patients known or suspected of having an infection that can be transmitted by large respiratory droplets (e.g. colds and influenza).

When you hear coughs and sneezes, think Droplet Precautions.

## Droplet Transmission:

Droplet transmission occurs when droplets carrying an infectious agent exit the respiratory tract of a person.

Droplets can be generated through:

- Talking
- Coughing
- Singing
- Sneezing
- Through some procedures performed on the respiratory system (e.g. suctioning, bronchoscopy or nebulized therapies).

Recent research suggests that droplets forcibly expelled by a cough or sneeze travel for up to six feet/two metres or more, depending on the amount of air movement in the immediate vicinity. Two metres has been accepted by Health Canada as the guideline for distance for Droplet Precautions.

Microorganisms contained in these droplets are then deposited on surfaces in the patient's immediate environment and some microorganisms remain viable

for extended periods of time. Therefore close and high touch surfaces may be contaminated with respiratory droplets requiring Contact Precautions to be implemented along with the Droplet Precautions.

Examples of microorganisms transmitted by droplet transmission include:

- Respiratory tract viruses (e.g. adenovirus, influenza and parainfluenza viruses, rhinovirus, respiratory syncytial virus (RSV), pertussis).
- Rubella
- Mumps.

**Accommodation:** A single room with a dedicated toilet and patient sink is necessary. The door to the room may remain open.

In Long Term Care, residents should remain in their room/bed space, with privacy curtains drawn.

### Personal Protective Equipment (PPE):

- Procedure mask and eye protection must be worn within six feet/two metres of the patient
- Gloves should be worn if there is uncontrolled secretions in the patient environment
- Gown should be worn if there is risk of contamination of skin or clothing.

### Transport:

In most cases, transport should be limited unless required for diagnostic or therapeutic procedures. The patient must wear a procedure mask while out of their room. If the patient cannot tolerate wearing a mask, the escorting staff should wear a mask and eye protection. The patient must perform hand hygiene before leaving his/her room.

### Cleaning:

Routine cleaning in the patient room is sufficient with additional attention to high touch surfaces and within six feet/two metres of the patient's bed space. Additional cleaning during outbreaks is necessary. Additional cleaning may be necessary if there is copious secretions contaminating the environment .



## Visitors:

Visitors should be taught the importance of hand hygiene. A procedure mask should be worn by visitors within two metres of the patient. For paediatrics, the household contacts of the ill child do not need to wear PPE, as they will have already been exposed in the household.

## Airborne Precautions

Airborne transmission occurs when small particles, which can remain suspended in the air, travel on air currents, and are then inhaled by others.

This exposure may also occur:

- In a different room or area depending on the air currents
- In the same room after the patient has left if there have not been sufficient air exchanges.

These particles can travel throughout the facility unless there are ventilation controls to remove them. If ventilation controls (negative pressure with direct ventilation to the outside of the building) are not available in the facility then N95 respirators are required by those entering the room.

Some microorganisms transmitted by the airborne route are:

- Mycobacterium tuberculosis (TB)
- Varicella virus (chicken pox virus)
- Measles (rubeola) virus.



Controls for preventing the transmission of airborne infections include:

- Immunity against measles and varicella
- Early identification of potential cases
- Prompt isolation in an airborne isolation room
- Rapid initiation of appropriate treatment the patient
- Appropriate use of a fit-tested, seal-checked N95 respirator for staff
- Identification and follow-up of exposed patients and staff.

### Accommodation in Airborne Precautions:

A single room with door closed with negative pressure ventilation is required. This requires exhausting the air from the room directly to the outside of the building. The room door must to be closed for this to work effectively.

### Personal Protective Equipment:

An N95 fitted respirator is the principal personal protective equipment in airborne precautions. Gowns, gloves and facial protection are not required unless the patient in airborne precautions has copious and uncontrolled secretions.

### N95 Respirators:

- A fit-tested, seal-checked N95 respirator must be worn by all staff when entering the room, transporting or caring for a patient with signs and symptoms or a diagnosis of active tuberculosis.
- An N95 respirator must also be worn if a non-immune staff or staff of unknown immunity, enters the room of a patient having symptoms of, or diagnosed with, measles or varicella.
- After the patient is discharged, N95 respirator must continue to be worn in the room until sufficient air changes have occurred to purge the room of airborne infectants.

See Section 9: Personal Protective Equipment



## Transport:

Patients on airborne precautions should remain in the negative pressure room with the door closed. If they need to leave the room for diagnostics or treatment they should wear a procedure mask and those around them providing transport or treatment should wear a fitted N95 respirator.

Patients should perform hand hygiene before leaving the room.

## Cleaning:

Additional cleaning is not required unless there is contamination of the environment with secretions. Terminal cleaning must include sufficient air exchanges to purge the air in the room of any possible remaining airborne infectious particles.

## Visitors:

For TB patients:

- Household contacts should be assessed for active tuberculosis prior to visiting the facility. An N95 respirator is not required, as they have already been exposed in the household.
- Visitors, other than household contacts, should be discouraged from visiting. If visiting, they should be counselled about their risk and must wear an N95 respirator with good fit characteristics. Instruction should be given on how to perform a seal-check.

For varicella and measles:

- Household contacts of patients with measles or varicella are not required to wear an N95 respirator when visiting, as they have already been exposed. They should be assessed for active infection prior to visiting. They should have limited contact with the rest of the facility when visiting.
- Visitors who are known to be immune do not need to wear an N95 respirator to visit.
- Non-household contacts that are not immune should not visit.

If a negative pressure room is not available, transfer the patient to a facility with appropriate accommodation as soon as medically feasible.

[See: CANADIAN TUBERCULOSIS STANDARDS 2013](#)

## Combinations of Additional Precautions

Most infectious agents have a primary mode of transmission but may also have a secondary mode of transmission. Where more than one mode of transmission exists for a particular microorganism, the precautions used must take into consideration both modes.

Example of combined Additional Precautions:

- Respiratory viruses may remain viable for extended periods of time in droplet form. These droplets may have settled on surfaces in the immediate environment of the patient and may be picked up on the hands of other patients or staff. These microorganisms then may be transmitted by Contact as well as by Droplet transmission and, therefore, both Contact and Droplet Precautions are required.
- If both tuberculosis and a respiratory virus are suspected in a single individual, a combination of Airborne, Droplet and Contact Precautions should be used.

## PROTECTIVE ENVIRONMENT PRECAUTIONS

Immunocompromised patients can be cared for using carefully followed Routine Practices. It is important that health care providers and others who are acutely ill with a communicable infection do not enter the room of immunocompromised patients.

Adapted from: [PIDAC- Routine Practices and Additional Precautions in All Health Care Settings November, 2012](#)

See:

- Communicable Disease Manual for details in the Infection Control and Occupational Health sections in specific disease sections.
- Community Health Nursing Program Standards and Protocols 2011, 10-003



# Appendix A: Isolation Door signs to be developed



## Appendix B: Symptom Table for Additional Precautions Considerations

Symptoms	Type of precaution	Infective material	Room	Actions and when caring for patient
Abscess or wound draining • MRSA	Contact	Drainage	Single	<ul style="list-style-type: none"> <li>• Contain drainage</li> <li>• Good housekeeping</li> <li>• Gloves, hand hygiene</li> <li>• Gown if risk of contamination of clothes or skin</li> </ul>
Acute diarrhea and/or vomiting If suspected infectious • Norovirus • C Difficile • E Coli • Salmonella	Contact	Stool, Vomit	Single	<ul style="list-style-type: none"> <li>• Gloves, hand hygiene</li> <li>• Increase cleaning of surfaces</li> <li>• Dedicated toilet and/or commode</li> <li>• Diapering if incontinent</li> <li>• Dedicated equipment</li> </ul>
Acute respiratory infection with fever, fatigue and muscle pain • Influenza	Contact Droplet	Sputum	Single	<ul style="list-style-type: none"> <li>• Gloves, hand hygiene</li> <li>• Procedure mask</li> <li>• Careful disposal of tissues</li> <li>• 2 metre separation of patients</li> </ul>
Bleeding • Hepatitis B • Hepatitis C • HIV	Contact	Blood		<ul style="list-style-type: none"> <li>• Contain bleeding</li> <li>• Gloves, hand hygiene</li> <li>• Gown if risk of contaminating clothes or skin</li> </ul>

Symptoms	Type of precaution	Infective material	Room	Actions and when caring for patient
Cough/sneeze (uncontrolled) • Coronavirus • RSV • Pertussis	Droplet Contact	Sputum	2 meter separation	<ul style="list-style-type: none"> <li>• Hand hygiene</li> <li>• Respiratory etiquette</li> <li>• Careful disposal of tissues</li> <li>• If uncontrolled then wear a procedure mask</li> </ul>
Cough/weight loss/fever • Tuberculosis	Airborne	Respiratory secretions	Single-with negative pressure	<ul style="list-style-type: none"> <li>• Isolate from others</li> <li>• HCWs to wear fitted N95</li> <li>• Patients to wear procedure mask when outside the room</li> </ul>
Meningitis (suspected) and or sepsis with a petechial rash	Droplet	Sputum	Single	<ul style="list-style-type: none"> <li>• Staff to wear procedure mask when within 2 metres/6 feet</li> </ul>
Rash, vesicular with drainage • Shingles	Contact	Drainage	No restriction if drainage contained	<ul style="list-style-type: none"> <li>• Cover rash if draining</li> </ul>
Rash without fever	Contact	Excretions	No restriction	<ul style="list-style-type: none"> <li>• Hand hygiene</li> <li>• Gloves</li> </ul>
Rash with fever • Rubella • Rubeola • Chicken pox • Mumps	Droplet or Airborne	Respiratory secretions	Single-with negative pressure	<ul style="list-style-type: none"> <li>• Check immunization history of HCW</li> <li>• HCW to wear correct PPE for category of Additional Precautions</li> <li>• If non-immune to MMR and varicella, HCW should not enter room; if HCW must enter room then wear N95</li> </ul>