

IPAC for Health Care Workers in Hospital Settings

In-Person Training Course

Module 3: Additional Precautions in IPAC

Disclaimer

This learning module was developed by Public Health Ontario (PHO). PHO provides scientific and technical advice to Ontario's government, public health organizations and health care providers. PHO's work is guided by the current best available evidence. PHO assumes no responsibility for the results of the use of this learning module by anyone. This learning module may be reproduced without permission for non-commercial purposes only and provided that appropriate credit is given to Public Health Ontario. **No changes and/or modifications/edits may be made to this learning module without explicit written permission from Public Health Ontario.**

Course Overview

This course consists of four modules covering essential Infection Prevention and Control (IPAC) topics, with opportunities for practical application.

- Modules 1–3 include:
 - presentation slides
 - practice activities
- Module 4 includes:
 - practical scenarios with multiple-choice questions
 - final quiz

Module Overview

- Module 1: Introduction to IPAC and Routine Practices
 - Chain of Transmission and point-of-care risk assessments
 - Personal protective equipment (PPE)
- Module 2: Foundational Elements in Routine Practices
 - Hand hygiene
 - Environmental controls
 - Occupational health and safety programs
- **Module 3: Additional Precautions in IPAC**
- Module 4: Applying IPAC Principles in Hospital Settings

Learning Objectives

By the end of module three, you will be able to:

- Explain what Additional Precautions are and why they may need to be used in health care settings.
- Describe various modes of transmission of infectious agents and how these relate to different categories of Additional Precautions.
- Apply Additional Precautions appropriately based on the situation.

Additional Precautions

IPAC measures used to manage those with known or suspected infectious agents in hospitals. They are distinct from Routine Practices.



Modes of Transmission

How infectious agents move in order for infections to spread.

- Examples:
 - Contact Transmission (Direct or Indirect)
 - Transmission through the Air



Contact Transmission

There are two types of contact transmission:

- Direct transmission occurs through touching.
 - Example: the transfer of an infectious agent between a colonized or infected source directly to a susceptible host.
- Indirect transmission occurs through contact with contaminated equipment and/or surfaces.
 - Example: contaminated hands of a health care worker transferring infectious agents from a colonized patient to a susceptible host.

Transmission Through the Air

- Occurs when infectious respiratory particles enter into a susceptible host by:
 - Landing on mucous membranes (such as eyes, nose, and mouth of another person).
 - Entering into the respiratory tract through inhalation.
- Examples:
 - Influenza virus
 - SARS-CoV-2 (the virus that causes COVID-19)
 - *Neisseria meningitidis* (a bacterium that causes bacterial meningitis)
 - Group A *Streptococcus* (a bacterium that can cause strep throat and pneumonia)

Airborne Transmission

Occurs when certain infectious respiratory particles remain suspended in the air for longer periods of time and can travel on air currents for longer distances.

- Examples:
 - *Mycobacterium tuberculosis*
 - Varicella-zoster virus (i.e., Chickenpox and disseminated herpes zoster (i.e., disseminated shingles))
 - Measles virus



Additional Precautions Categories

The category of precautions depends on the modes of transmission of the infectious agents involved.

- The different categories of Additional Precautions include:
 - Contact Precautions
 - Droplet Precautions
 - Additional Precautions for Acute Respiratory Infections (also known as Droplet and Contact Precautions)
 - Airborne Precautions

Contact Precautions

Used when an infectious agent is spread by direct or indirect contact transmission. A health care worker must:

- Wear gloves.
- Wear a long-sleeved gown.
- Dedicate equipment to the patient or clean and disinfect equipment before use with another patient.



Droplet Precautions

Used when infectious particles exit the respiratory tract and enter into the eyes, nose, or mouth of a susceptible host. A health care worker must:

- Wear medical mask and eye protection within 2 meters of the patient.
- Dedicate equipment to the patient or disinfect before use with another patient.
- Require patient to wear a medical mask if they leave the room.

Droplet Precautions are often combined with Contact Precautions.



Additional Precautions for Acute Respiratory Infections

Used when infectious respiratory particles spread through the air over short distances with direct deposition on mucosal membranes. Also known as Droplet and Contact Precautions. A health care worker must:

- Wear a medical mask (or N95 respirator based on point-of-care risk assessment), and eye protection within 2 metres of the patient.
- Wear gloves and a gown.
- Dedicate equipment or clean and disinfect before use with another patient
- Require the patient to wear a medical mask when they leave their room, if tolerated.

Airborne Precautions

Used when an infectious agent is spread by infectious respiratory particles through airborne transmission.

A health care worker must:

- Accommodate the patient in an Airborne Infection Isolation Room (AIIR).
- Wear a fit-tested, seal-checked N95 respirator.
- Limit patient transport and have patient wear a medical mask, if tolerated.
- The health care worker must wear an N95 respirator during transport.



Combining Additional Precautions

- More than one type of Additional Precaution may be needed if:
 - An infectious agent causing an infection has more than one mode of transmission.
 - A patient is colonized or infected with more than one infectious agent that has different modes of transmission.
- When combining Additional Precautions, use all elements of each type.
- Invasive Group A *Streptococcus* is an example that requires both Droplet Precautions and Contact Precautions.
- Droplet Precautions and Contact Precautions require a medical mask, eye protection, gloves and a long-sleeved gown.

Measles

- The measles virus is an example of an infectious agent that requires Airborne, Droplet and Contact Precautions.
- Only staff with presumptive immunity to measles are to provide care to patients with suspected or confirmed measles.
- Fit-tested and seal-checked N95 respirators, eye protection, gloves and gowns are to be worn when entering the room and/or providing care to suspected or confirmed cases.
- Refer to up-to-date guidance.

Elements of Additional Precautions

- Elements of Additional Precautions include:
 - Accommodation
 - Signage
 - PPE
 - Cleaning
 - Equipment
 - Communication
 - Transport
 - Visitors
- The need for Additional Precautions must be communicated to anyone who may be interacting with or providing care to the patient.
- Necessary equipment and supplies need to be made available.

Accommodation

- Patients in Additional Precautions should be prioritized for a single room with dedicated toileting facilities to separate them from others who may be at risk of infection.
- If a room must be shared, all efforts to separate patients should be made to ensure some sort of separation, this may include:
 - Drawing a curtain in a multi-bed room.
 - Dedicating a washroom to a patient, while providing a commode to others.
- For airborne infections like Chickenpox or Tuberculosis, AIIRs are required.

Signage

- Signs and flags are two ways of alerting health care workers that a patient requires Additional Precautions.
- Post signs at entrances to exam rooms or patient rooms and put flags on medical charts to ensure proper communication.



Personal Protective Equipment (PPE)

- Depending on the mode of transmission of the infectious agent involved, specific types of PPE may be required.
- The type of PPE needed is based on the category of Additional Precautions.
- Regardless of the type of Additional Precautions Routine Practices should always be applied.



Environmental Cleaning

- Some types of Additional Precautions require additional or enhanced environmental cleaning and disinfection.
- *Clostridioides difficile* (*C. difficile*) requires Contact Precautions and a special environmental cleaning procedure using specific cleaners and disinfecting agents.



Equipment

- Any equipment that is shared between patients needs to be cleaned and disinfected.
- For patients on Additional Precautions, equipment should be dedicated rather than shared wherever possible.
- For Additional Precautions that require special cleaning and disinfection practices, dedicating equipment is especially important.



Communication

- Notify your patients as to why Additional Precautions are being initiated.
- Visitors must be informed that a patient is on Additional Precautions and instructed on how to reduce the risk of exposure and the safe use of PPE.
- Ensure other departments, facilities and transport service providers (i.e., porters) are aware of the need for Additional Precautions.
- Compliance with Additional Precautions does not require disclosure of personal health information as the type of Additional Precautions required to prevent infection is the only information that needs to be communicated.

Communicating Additional Precautions Discussion Questions

1. Can you think of a time when there was miscommunication between departments and Additional Precautions were missed?
2. Does your workplace have a strategy to help with this situation?



Transport

- Avoid transportation of a patient in Additional Precautions around the hospital unless necessary.
- If necessary, transportation staff (e.g., porters) may need to wear PPE.
 - Gowns and gloves are only used during direct contact (e.g., helping a patient into a wheelchair or onto a stretcher), but not during transport.
- Gloves should not be worn to avoid contaminating high touch surfaces (e.g., door handles, elevator buttons).
- If a medical mask is required, the transport staff needs to wear one for the duration of the interaction.

Visitors

- Familiarize yourself with your organization's visitor policies.
- If visitors are permitted, they may need to be shown how to:
 - properly put on and remove PPE
 - perform hand hygiene



Initiating Additional Precautions

- Any regulated health care professional (e.g., a registered nurse, registered practical nurse) or an IPAC professional can initiate Additional Precautions.
- Initiate Additional Precautions as soon as signs/symptoms appear.
- Do not wait for an infection to be diagnosed.
- Consider your hospital's specific policies.



Do These Scenarios Require Additional Precautions?



A patient falls and injures their back



A patient has a high fever, cough and sore throat



A patient feels faint and cannot walk without assistance

Initiating Additional Precautions Discussion Questions

1. Think of a time, when you were unsure of what Additional Precautions to use. How did you resolve it?
2. Have you encountered any challenges with implementing Additional Precautions? If so, how did you handle the situation?



Maintaining Additional Precautions

- Maintain Additional Precautions for as long as necessary.
- Ensure that all supplies and equipment needed for each element of Additional Precautions are readily available.
- Additional Precautions are maintained until reviewed by a physician, IPAC professional or designate with the decision to discontinue.
- Regular reviews by an IPAC professional ensures Additional Precautions are in place only as long as needed.

Discontinuing Additional Precautions

- The decision to discontinue Additional Precautions is based on:
 - Your organization's policies
 - Laboratory results
 - The diagnosis
- Discontinuation of Additional Precautions:
 - Can be done as soon as the risk of transmission is no longer present.
 - Must follow hospital policies.
 - Is done by the person responsible for IPAC or a designate.
 - May require discussion with the attending physician.

Summary

In this module, we discussed:

- There are different categories of Additional Precautions needed in different situations.
- Additional Precautions consist of various elements that are used in combination with Routine Practices to prevent and control the transmission of infectious agents.
- Additional Precautions are initiated and discontinued based on established criteria and consultation with IPAC professionals.

