4. Airborne Precautions

4.1 Introduction

Airborne Precautions are required for patients diagnosed with, or suspected of having an infectious microorganism transmitted by the airborne route. Refer to 3.3, Airborne transmission, for a description of airborne transmission.

Airborne Precautions are followed in addition to Routine Practices. Routine Practices shall be adhered to at all times by all healthcare workers.

4.2 Indications for Airborne Precautions

Airborne Precautions are implemented according to the Clinical Presentation/Microorganism/Infectious Disease Table. Refer to this table for specific disease/microorganism information. Refer to Implementation of Additional Precautions on page 5.1.

4.3 Accommodation

Single room with negative pressure ventilation in relation to surrounding areas.

NOTE: When a negative pressure isolation room is not available, or in the event of an outbreak or exposure where large numbers of patients require Airborne Precautions, consult Infection Prevention and Control before patient placement to determine room placement and/or cohorting of patients.
• The door shall remain closed whether or not the patient is in the room
  - The door shall remain closed for one hour following the discontinuation of precautions

• The patient shall be confined to the room
  - When exiting the room for medically essential purposes, the patient shall wear a surgical/procedure mask
  - The patient shall perform hand hygiene after removal of the mask
  - When there are exceptional circumstances, the patient may leave the room in consultation with Infection Prevention and Control

Rooms should have dedicated toilet, hand hygiene, and bathing facilities.

Facilities that cannot provide properly ventilated (e.g., negative pressure) rooms should transfer a patient with infectious forms of tuberculosis to a facility with such accommodation. These arrangements shall be coordinated in advance, with receiving facilities. The following directives are implemented until the patient can be transferred to a facility with adequately ventilated negative pressure rooms

• Single room with door closed
• Physical separation of the patient if a single room is not available
  - Mask the patient with a surgical/procedure mask, and
  - Provide N95 respirators for everyone entering the room

For Measles or Varicella, facilities without negative pressure rooms and where transfer is not feasible, maintain patient in a single room with the door closed. These patients should be placed on wards where there are no susceptible, immunocompromised patients.

If numbers of negative pressure rooms are limited, set priority for use according to the impact of potential airborne transmission (e.g., infectious Tuberculosis > Measles > Varicella > disseminated zoster > extensive localized zoster).

4.4 Healthcare Workers

Healthcare workers should be aware of their immunity status

• Non-immune healthcare workers should not care for patients with vaccine-preventable airborne diseases (e.g., measles, chickenpox) unless absolutely necessary. If it is absolutely necessary to care for one of these patients then they must wear a N95 respirator to enter the isolation room.
4.5 Hand Hygiene

Healthcare workers shall perform hand hygiene before leaving the isolation room, and after removal of their N95 respirator.

4.6 Personal Protective Equipment (PPE)

Masks/Respirators

N95 respirators* shall be available for persons entering the isolation room.

Individuals who are immune to vaccine-preventable diseases (e.g., measles, chickenpox) do not need to wear N95 respirators to go into the isolation room. This should be documented in the Additional Instructions section of the Airborne Precautions sign.

Individuals who are not immune or are uncertain of their immunity shall not enter the room unless absolutely necessary. If it is absolutely necessary to enter the room, then they shall wear a N95 respirator.

N95 respirators shall be:
- Fit-tested for healthcare workers, as directed by Occupational Health
- Seal-checked by healthcare workers prior to each use. Seal checking procedure is as follows:
  - Cover respirator with both hands
  - Perform one of the following:
    - Inhalation Test: If respirator collapses slightly there is an adequate seal
    - Exhalation Test: If no air escapes respirator, there is an adequate seal
- Worn once
  - Changed:
    - When wet
    - If the front of the N95 respirator has been touched, and/or
    - When contaminated with patient secretions
  - Removed in a manner preventing contamination. Refer to Removal of Personal Protective Equipment in Appendices 6 and 7
  - Removed after exit of the isolation room/cubicle

N95 respirators shall never dangle around the neck.

*N95 respirators shall be certified by the National Institute of Occupational Safety and Health (NIOSH) with an N95 efficiency rating or better.
4.7 Patient Transport

Patient transport out of the room is for medically essential purposes only.

In advance of the procedure, notify the Patient Transport Services and the receiving department regarding the need for Airborne Precautions.

Maintain Airborne Precautions while the patient is outside the isolation room

- Healthcare workers wear N95 respirators when transporting patients requiring Airborne Precautions
- The patient wears a surgical/procedure mask and performs hand hygiene prior to leaving the room
- The patient with skin lesions associated with varicella, smallpox, or draining wounds caused by *M. tuberculosis* shall have them securely covered
- Consult Respiratory Therapy if the patient (adult and small child) has an artificial airway (e.g., ETT) and transport according to these guidelines
  - **Oral/nasal pharyngeal airway**: Patient wears a surgical/procedure mask over their mouth and nose
  - **Oral/nasal pharyngeal airway manually ventilated**: N100 filter or N100 filter/Heat Moisture Exchanger (HME) between the resuscitation bag and the patient or a N100 filter on the exhalation port of the resuscitation bag
  - **Oral/nasal endotracheal tube**: N100 filter/HME on the ETT*
  - **Tracheostomy Tube**: N100 filter/HME on the tracheostomy tube*
- Consult Respiratory Therapy for guidance regarding the transport of infants in incubators
- The patient performs hand hygiene after removal of the surgical/procedure mask

*If an air leak is present, loosely cover the mouth or nose, around the tube with a facecloth or similar cloth. Cloths used to cover the site of the leak shall be considered contaminated.

4.8 Patient/Family

The patient, and/or family should be educated about the nature of the patient’s infectious disease, the precautions to adhere to, and the length of
time the precautions will be in place. Refer to the ‘Patient/Family Information Sheet on Airborne Precautions’ in Appendices 12.1 or 13.

Instruct the patient/family regarding Respiratory Hygiene/Cough Etiquette
• When coughing or sneezing, cover his/her nose and mouth with a tissue, or cough into his/her shoulder
• Immediately dispose of the tissue in the appropriate waste receptacle, and,
• Perform hand hygiene

Refer to the Cover Your Cough Pamphlet in Appendix 9

Instruct the patient about the appropriate use and management of PPE
• How to correctly apply and wear a surgical/procedure mask
• How to remove the surgical/procedure mask without contaminating oneself
• Know the procedure and the importance of hand hygiene prior to leaving the room and following removal of the surgical/procedure mask

The family shall be instructed about the appropriate use and management of PPE
• If required, instruct the family about assisting with application of the surgical/procedure mask for the patient
  – Instruct the family about how to correctly apply a N95 respirator, including seal check

Instruct the patient and family about preventing transmission of the infectious disease to his/her family, and friends during his/her hospital stay and upon his/her return to the community.

Instruct the patient and family about the procedure, and importance of performing hand hygiene.

4.9 Visitors

Visitors shall be informed about the precautions to adhere to.

Instruct the visitors about the procedure, and importance of performing hand hygiene.

If susceptible to the airborne microorganism requiring Airborne Precautions, visitors should not visit unless there are exceptional
circumstances. If this is the case, consult Infection Prevention and Control prior to the visit.

The nurse shall talk with visitors before they enter the isolation room, and

- Assess risk to the health of the visitor and the risk of the visitor transmitting infection
- Shall instruct the visitor about the appropriate use of respirators and other precautions

Keep the number of visitors to a minimum (at the discretion of the unit staff).