DEDER GENERAL HOSPITAL

AIRBORN AND DROPLET PRECUATIONS PROTOCOL

PREPARED BY*: *HSQU

JULY 2016 E.C

DEDER, EASTERN ETHIOPIA

PROTOCOL APPROVAL SHEET

NAME OF PROTOCOL: AIRBORN AND DROPLET PRECUATIONS PROTOCOL

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THIS PROTOCOL IS EFFECTIVE FROM JULY 2016 E.C TO JUNE 2018 E.C

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1. Airborne Precautions Protocol

Airborne transmission occurs through small particles that remain suspended in the air and can be inhaled by others. Airborne precautions are used to prevent the spread of **highly infectious diseases transmitted by air.** These diseases are caused by **tiny microorganisms (5 micrometers or smaller)** that can stay **viable and suspended** in the air for a long time. When we breathe in those tiny microorganisms or the dust that carries them, we can quickly get infected and become ill. Moreover, we can even spread it to other people through **sneezing, coughing, talking,** or any activity that might produce **aerosolized particles.**

Many serious diseases occur because of airborne pathogens, which various microorganisms, including, viruses, and fungi, cause them**. Here are some examples of these diseases**:

- Measles
- Mumps
- Anthrax
- Disseminated herpes zoster
- Tuberculosis
- Chickenpox
- Severe acute respiratory syndrome (SARS)
- Rotavirus
- Influenza
- Rhinovirus
- Pneumonia
- Middle East Respiratory Syndrome (MERS)
- Coronavirus Disease 2019 (COVID-19)

1.1. Airborne Precautions Methods

1. **Patient Placement**:

   - **Airborne Infection Isolation Room (AIIR):**
     - ☞ Place the patient in an AIIR immediately upon suspicion of an airborne-transmitted infection.
     - ☞ Ensure that the room has negative pressure ventilation, meaning air flows into the room but does not escape into adjacent areas.
     - ☞ Air within the AIIR should undergo a minimum of **12 air exchanges per hour** for optimal removal of airborne particles.

- **Door Management:**
  - ☞ Keep the patient's door closed at all times, except for entry and exit by authorized personnel.
  - ☞ In facilities where AIIR is unavailable, consider transferring the patient to a facility with proper isolation capabilities.

2. Personal Protective Equipment (PPE):

- **Respirators:**
  - ☞ All healthcare personnel must wear a **fit-tested N95 respirator** or a higher-level respirator (e.g., powered air-purifying respirators or PAPR) before entering the patient's room.
  - ☞ Perform a seal check each time a respirator is donned to ensure no air leaks.
  - ☞ Remove and dispose of the respirator after exiting the room and perform hand hygiene immediately.

- **Visitors:**
  - ☞ If visitors are allowed, they should wear surgical masks or N95 respirators based on the hospital policy and patient's condition.
- **PPE Disposal:**
  - ☞ Remove all PPE (respirator, gown, gloves) in the anteroom or just outside the patient's room, ensuring safe disposal into designated containers.

3. Hand Hygiene:

- ❖ Use **alcohol-based hand rub** or wash with soap and water before and after patient contact, after contact with potentially contaminated surfaces, and immediately after removing PPE.
- ❖ Ensure handwashing stations or sanitizers are readily available in rooms and common areas.

4. Patient Transport:

- **Minimize Transport:**
  - ○ Restrict patient movement outside the isolation room to medically necessary reasons only.
- **Masking During Transport:**
  - ○ If transport is required, the patient should wear a **surgical mask** to reduce the spread of airborne particles.
- **Designated Pathway:**
  - ○ Use a pre-determined route to limit exposure to other patients or staff. Notify the receiving area of airborne precautions prior to transfer.

- **PPE for Transport Personnel:**
    - Personnel transporting the patient should wear an N95 respirator while in close contact with the patient.

5. Environmental Cleaning:

- **Frequent Surface Cleaning:**
    - Clean and disinfect frequently touched surfaces in the patient's environment at least daily.
- **Terminal Cleaning:**
    - After patient discharge, the AIIR should remain vacant for a sufficient time to allow airborne particles to clear based on the room's air exchange rate, followed by terminal cleaning with hospital-approved disinfectants.

2. Droplet Precautions Protocol

Droplet precautions are used for infections like influenza, pertussis (whooping cough), meningococcal disease, and COVID-19. Droplets are larger respiratory particles that travel about 3-6 feet from an infected person when they talk, cough, or sneeze.

1. Patient Placement:

- **Single Room:**
    - Whenever possible, place the patient in a private room to prevent exposure to others.
- **Cohorting:**
    - If a private room is unavailable, patients with the same infection may be cohorted in the same room.

- **Spatial Separation:**
    - Maintain a distance of at least **3-6 feet** between the infected patient and other patients if cohorting is not an option.
- **Curtaining:**
    - Use physical barriers (curtains) to reduce the spread of droplets in shared rooms.

2. Personal Protective Equipment (PPE):

- **Surgical Mask:**
    - Healthcare workers must wear a **surgical mask** when within 3-6 feet of the patient or upon entering the patient's room.
    - Remove and dispose of the mask immediately after leaving the room and perform hand hygiene.
- **Eye Protection:**
    - For infections with a higher risk of transmission via ocular contact, such as COVID-19, use **eye protection** (e.g., goggles or face shield) in addition to the surgical mask.
- **Gown and Gloves:**
    - Wear gowns and gloves if there is a risk of contact with the patient's respiratory secretions, contaminated surfaces, or fluids.

3. Hand Hygiene:

- Perform hand hygiene frequently, especially:
    - Before touching the patient or their immediate environment.
    - After contact with the patient or their environment.
    - After removing PPE.

4. Patient Transport:

- **Minimize Transport:**
  - Limit patient transport to only when medically necessary.
- **Masking During Transport:**
  - Ensure the patient wears a **surgical mask** when leaving the room to prevent droplet spread during transit.
- **PPE for Transport Personnel:**
  - Staff involved in patient transport should continue to observe droplet precautions, including wearing surgical masks.

5. Environmental Cleaning:

- **Routine Disinfection:**
  - Regularly disinfect high-touch surfaces such as bed rails, doorknobs, and light switches with hospital-grade disinfectants.
- **Terminal Cleaning:**
  - After the patient is discharged or transferred, conduct a thorough cleaning of the room, with a focus on surfaces that may have come into contact with respiratory droplets.

3. General Guidelines for Both Precautions

1. Signage and Communication:

- Post **appropriate signage** on the door of the patient's room indicating the type of precaution (airborne or droplet) being followed.
- Ensure that all staff, visitors, and patients understand the precautions and their role in preventing transmission.

- Educate the patient and their family about proper hygiene, respiratory etiquette, and the importance of adhering to isolation measures.

2. Respiratory Hygiene and Cough Etiquette:

- Encourage all patients and visitors to:
    - **Cover their nose and mouth** with a tissue or elbow when sneezing or coughing.
    - **Dispose of tissues** in appropriate receptacles.
    - Perform **hand hygiene** immediately after coughing, sneezing, or contact with respiratory secretions.

3. Monitoring and Training of Staff:

- Ensure healthcare workers are trained in the proper use of PPE, hand hygiene, and protocols for entering and exiting isolation rooms.
- Conduct routine monitoring to ensure compliance with precautions and intervene with corrective action if noncompliance is observed.

4. Visitor Management:

- Limit visitors to those necessary for the patient's well-being.
- Educate visitors on the use of PPE and hand hygiene when in the patient's room, and restrict their movement within the healthcare facility.

4. Conclusion

Following airborne and droplet precautions protocols is critical to reducing the spread of infectious diseases within healthcare settings. These measures protect patients, healthcare workers, and the general population from the transmission of potentially life-threatening infections.

5. REFERENCES

1. WHO IPC GUIDLINE 2018
2. FMOH IPC GUIDELINE 2022