Module 2: Standard & additional Precautions on infection prevention and control in health care facilities.

Session 4: Isolation Precautions

4.1 Learning objectives

- By the end of this session, participants will be able to:
  - Identify the two tier system of isolation precautions
  - Define source/strict and protective isolation
  - Describe standard precautions and transmission-based isolation precautions
  - Identify isolation precautions based on disease causing agent mode of transmission
  - List special measures used for each of the additional precautions
  - Describe the characteristics of an isolation room

4.2 Introduction

- Isolation is the use of Infection Prevention and Control precautions aimed at controlling and preventing the spread of infection.
- There are two types of isolation
  - Source Isolation (barrier nursing) where the patient is the source of infection
  - Protective Isolation (reverse barrier nursing) where the patient requires protection i.e. they are immunocompromised.

- Isolation precautions are the preventative steps needed to be taken by healthcare workers and staff to prevent the spread or transmission of infections and diseases.

What is Isolation?

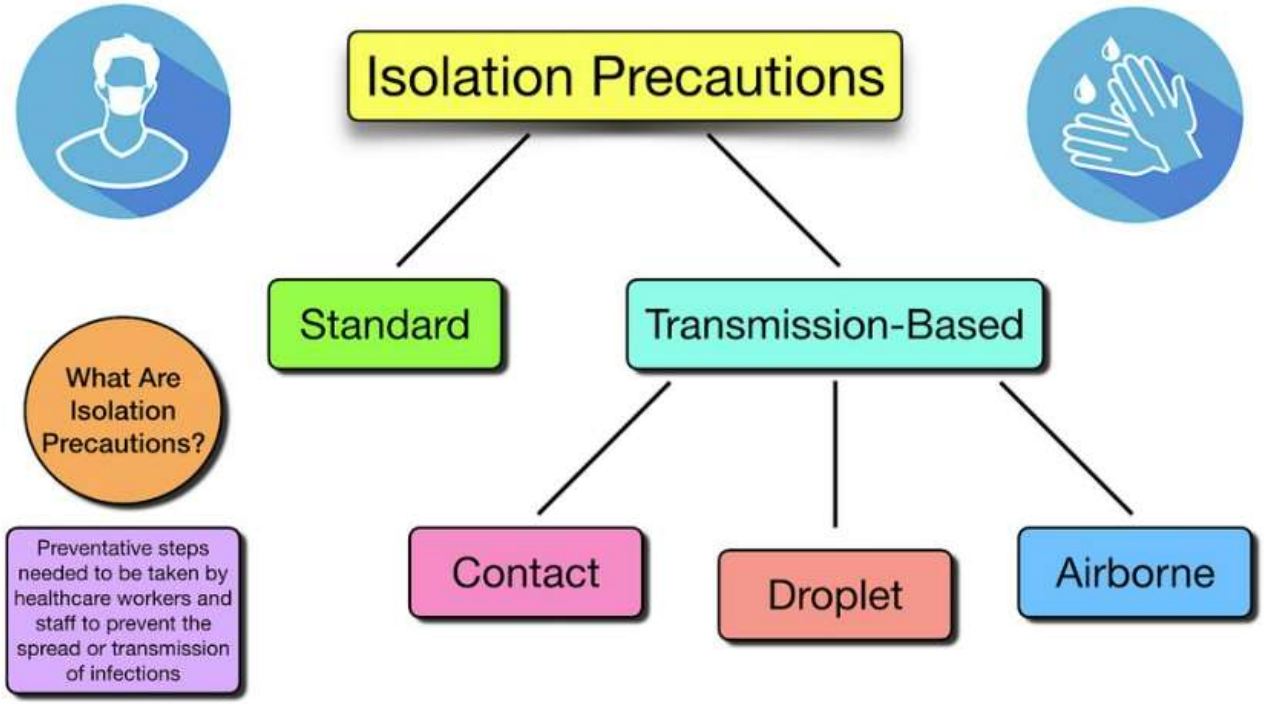
- **Isolation: is** the separation of a person with an infectious disease from non-infected people.

4.3 Types of Isolation

- **Source Isolation**
  - Isolating a patient with a confirmed or suspected infectious condition/disease
  - Examples: suspected or confirmed TB patients, Suspected/confirmed COVID-19 cases, Cholera, chickenpox, measles cases etc.

- **Protective Isolation**
  - Isolating a patient who is immunosuppressed from infectious organism that might be carried by staff or other patients
  - Examples: Cystic Fibrous patients, chemotherapy patients, transplant patients

4.4 Two tiers of isolation precautions:



4.4 Two tiers of isolation precautions cont…

- **Standard Precautions** are intended to be applied to the care of all patients in all healthcare settings, regardless of the suspected or confirmed presence of an infectious agent

- Hand hygiene
- Personal Protective Equipment (PPE)
- Respiratory hygiene/cough etiquette
- Cleaning, disinfection and sterilization
- Environmental hygiene
- Health care waste management
- Linen and laundry management

4.4 Two tiers of isolation precautions cont.

Transmission-Based Precautions are for patients who are known or suspected to be infected or colonized with infectious agents, including certain epidemiologically important pathogens, which require additional control measures to effectively prevent transmission.

There are 3 main types of transmission-based precautions:

- Contact Precautions
- Droplet Precautions
- Airborne Precautions

A. Contact precautions

- **Contact Precautions** are intended to prevent transmission of infectious agents, including epidemiologically important microorganisms, which are spread by direct or indirect contact with the patient or the patient's environment.

- Examples of diseases that require contact precautions: Methicillin Resistant Staphylococcus Aureus (MRSA), Vancomycin Resistant Enterococcus (VRE), diarrheal illnesses, open wounds, RSV

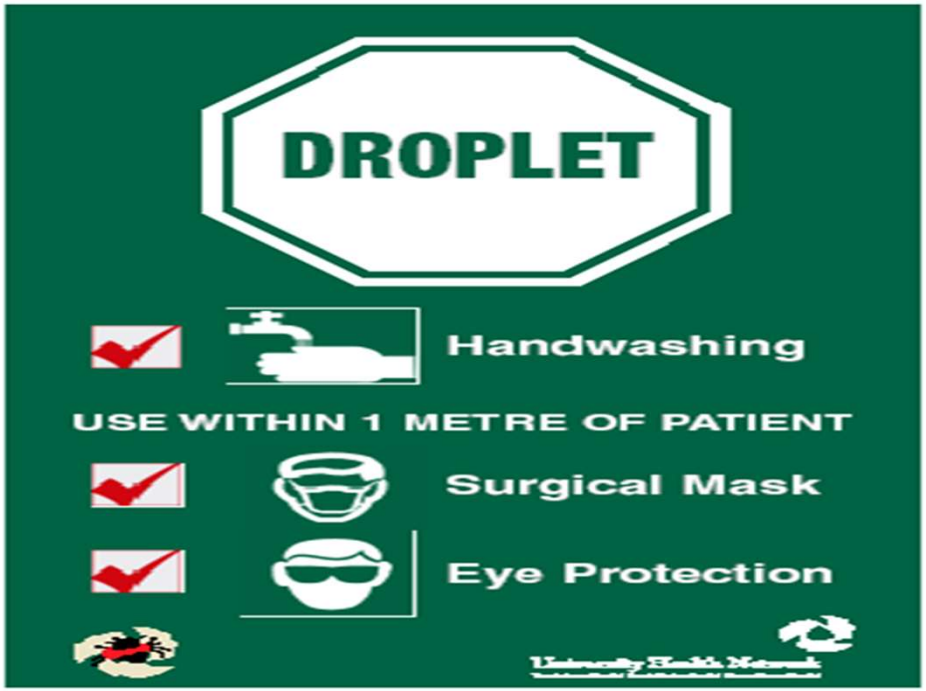
Signage for contact precaution

B. Droplet precautions

Droplet Precautions are intended to prevent transmission of pathogens spread through close respiratory or mucous membrane contact with respiratory secretions

The diseases that require airborne precautions include:

- Measles (Rubeola)
- Tuberculosis
- Varicella-Zoster (Chickenpox and Disseminated Herpes Zoster)



C.Airborne precautions.

- **Airborne Precautions** prevent transmission of infectious agents that remain infectious over long distances when suspended in the air (e.g., rubeola virus [measles], varicella virus [chickenpox], M. tuberculosis, and possibly SARS-CoV).
- Examples of Airborne Precautions signage

Transmission-Based Precautions

Isolation Precautions

	Mode of Transmission	Personal Protective Equipment (PPE)	Room Type
Contact	Prevent transmission of infections spread by direct or indirect contact with the patient or patient's environment	Gown and Gloves	Single-Patient Room
Droplet	Prevent transmission of infections spread via air droplets by coughing, sneezing, talking, or close contact with respiratory secretions/mucous membranes	Surgical Mask	Single-Patient Room
Airborne	Prevent transmission of infections that remain infectious over long distances when suspended in the air	N95 or Higher Level Respirators	Airborne Infection Isolation Room (AIIR) Negative Pressure, Special Ventilation

4.5 Preparation of Isolation Room/Area

- Ensure that appropriate handwashing facilities and hand-hygiene supplies are available.
- Ensure adequate room ventilation.
- Post signs on the door indicating that the space is an isolation area.
- Ensure that visitors consult the health-care worker in charge before being allowed into the isolation areas.
- Keep a roster of all staff working in the isolation areas, for possible outbreak investigation and contact tracing.

4.5 Preparation of Isolation Room/Area cont..

- Remove all non-essential furniture and make sure the furniture and items inside are easy to clean and/or disinfect
- Isolation area should have a toilet or dedicated latrine
- Stock the PPE supply and linen outside the isolation room or area
- Place appropriate waste bags in a bin and puncture-proof container for sharps disposal inside the isolation room or area.
- Keep the patient's personal belongings to a minimum. Keep water pitchers and cups, tissue wipes, and all items necessary for attending to personal hygiene, within the patient's reach.

4.5 Preparation of Isolation Room/Area cont..

- Dedicate non-critical patient-care equipment (e.g. stethoscope, thermometer, blood pressure cuff and sphygmomanometer) to the patient, if possible.
- Thoroughly clean and disinfect patient-care equipment that is required for use by other patients before use.

- Place an appropriate container with a lid outside the door for equipment that requires disinfection or sterilization.
- Keep adequate equipment required for cleaning or disinfection inside the isolation room or area, and ensure scrupulous daily cleaning of the isolation room or area.

4.5 Preparation of Isolation Room/Area cont..

- Set up a telephone or other method of communication in the isolation room or area to enable patients, family members or visitors to communicate with health-care workers.
- This may reduce the number of times the workers need to don PPE to enter the room or area.
- Staff trained in isolation precautions allocated to patient care and cleaning/disinfection.

4.6 Isolation Process

- Inform and explain isolation procedure to the patient and relatives (without bleaching patient's confidentiality)
- Have sufficient trained staff to provide care (rotational)
- Wear appropriate PPE to escort and care for patients in isolation
- Notify other staff when there is a patient in isolation
- Restrict movement of patients from isolation area and inform receiving departments prior to patient departure from isolation area
- Establish a regular schedule for cleaning the area
- Disinfect the area when suspect case has been discharged

4.6.1 Leaving Isolation Area

- Removing PPE is a risky activity
- PPE must be removed slowly and deliberately in the correct sequence
- Used PPE must be disposed appropriately
- Hand hygiene must follow immediately after taking off the PPE

4.7 Session summary

- Isolation precautions should be used for patients who are either known or suspected to have an infectious disease, are carrying a multi-resistant organism or are particularly vulnerable to infection.
- It is important however, that staff ensure that standard Infection Prevention control precautions are used for all patients regardless of their status.

Thank You
Questions ?