

ISOLATION PRECAUTION



MICROBIOLOGY UNIT -5

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DEFINITION OF ISOLATION PRECAUTIONS



- ✘ Special precautionary measures, practices, and procedures used in the care of patients with contagious or communicable diseases

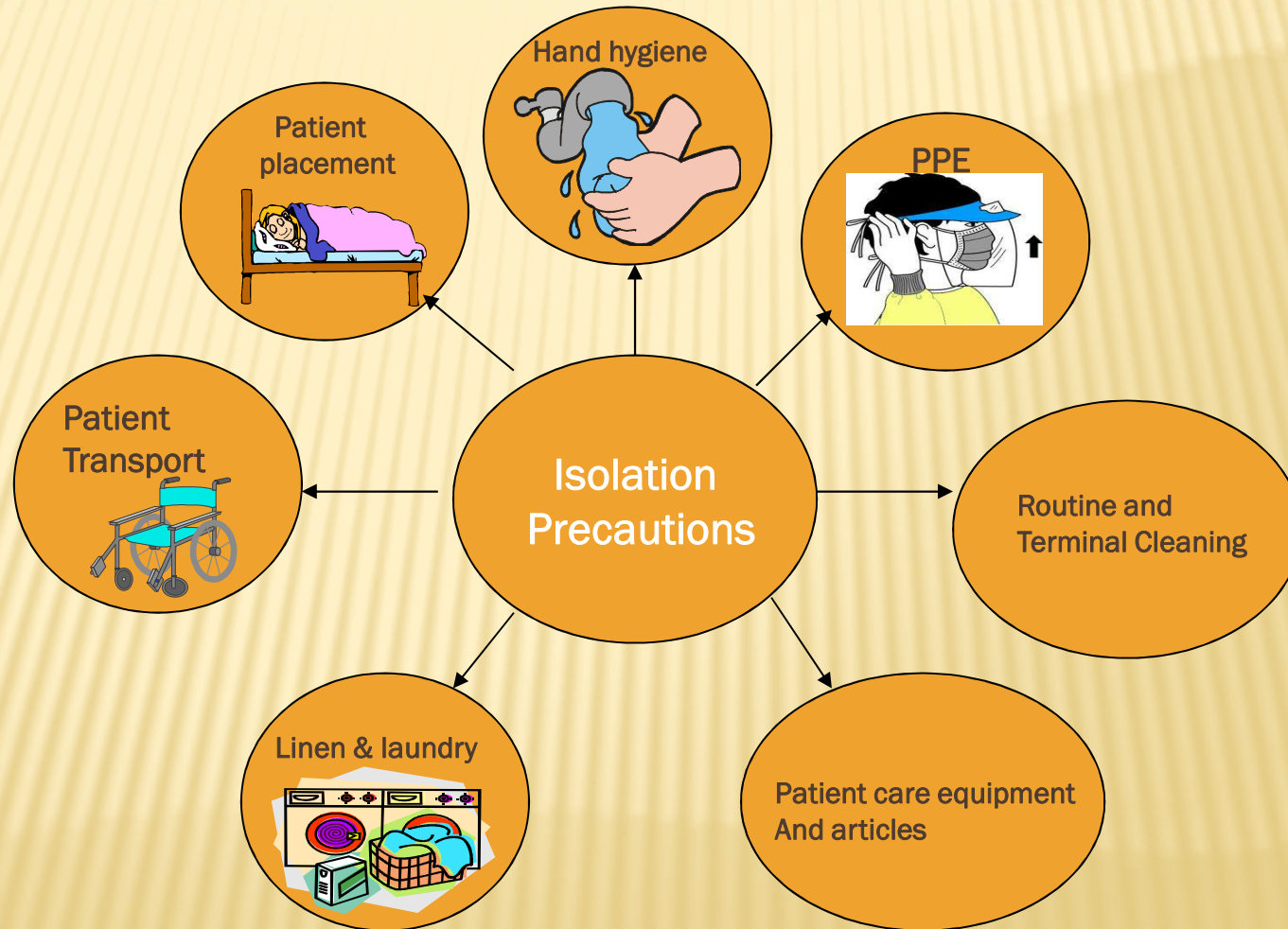


FUNDAMENTALS OF ISOLATION PRECAUTIONS

- ✘ Handwashing and gloving
- ✘ Personal protective equipments:
 - + Masks, respiratory protection, eye protection, face shields, gowns and protective apparel
- ✘ Patient-care equipment and articles
- ✘ Linen and laundry
- ✘ Routine and terminal cleaning
- ✘ Patient placement
- ✘ Transport of infected patients



Isolation Precautions





TYPES OF ISOLATION PRECAUTIONS

- ✘ Standard precautions

- ✘ Transmission-based precautions
 - + Contact precautions
 - + Airborne precautions
 - + Droplet precautions



DEFINITION OF STANDARD PRECAUTIONS

- ✘ Apply to all patients receiving care in hospitals regardless of their diagnosis or presumed infection status.
- ✘ Apply to (1) blood; (2) all body fluids, secretions, and excretions *except sweat*, regardless of whether or not they contain blood; (3) nonintact skin; and (4) mucous membranes.

Standard Precaution - Hand hygiene

Handwashing with either plain or antiseptic containing soap and water, and use of alcohol-based products (gels, rinses, foams) that do not require the use of water

Perform hand hygiene:

- + Before and after patient contact
- + After removing gloves or any other item
- + After touching blood, body fluids, secretions, excretions, and contaminated items, whether or not gloves are worn





STANDARD PRECAUTIONS PERSONAL PROTECTIVE EQUIPMENT (PPE)

- ✘ The selection of PPE based on
 - + The nature of patient interaction and/or
 - + The likely mode(s) of transmission
- ✘ Designated containers for used disposable or reusable PPE should be placed in a convenient to the site of removal
- ✘ Hand hygiene is always the final step after removing and disposing of PPE

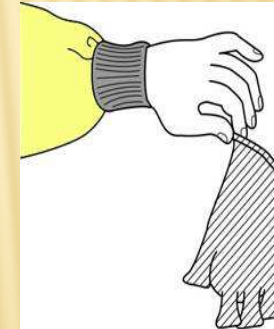
STANDARD PRECAUTIONS – GLOVES (PPE)



1. Exposure to blood, body fluids, secretions, excretions, mucous membranes and non-intact skin, and contaminated items



2. Change gloves when heavily contaminated



3. Perform hand hygiene immediately after glove removal



4. Disposable glove should not be reused

STANDARD PRECAUTIONS – GOWN (PPE)

1. When splashes or sprays of blood and body fluids, secretions and excretions to skin and working clothes are likely



2. When working clothes has substantial contact with patient, environmental surfaces or patient items

3. Select an appropriate gown for the procedure

STANDARD PRECAUTIONS – MASK AND EYE PROTECTION (PPE)

Surgical masks and eye protection:

- + When splashes or sprays of blood and body fluid, secretions and excretions are likely
- + Sterile technique
- + Respiratory etiquette

Change PPE promptly if heavily contaminated during the procedure



STANDARD PRECAUTIONS - PREVENT HCWS EXPOSURE TO BLOODBORNE PATHOGENS

- ✘ Prevent needles and other sharps instrument injuries
- ✘ Prevent mucous membrane exposures
- ✘ Safe work practices and PPE to protect mucous membranes and non-intact skin





STANDARD PRECAUTIONS: ENVIRONMENTAL MEASURES

- ✘ Clean and disinfect non-critical surfaces in patient-care areas are part of SP.
- ✘ Clean and disinfect all frequently touched surfaces in patient-care areas
- ✘ EPA-registered disinfectants or detergents



STANDARD PRECAUTIONS: PATIENT CARE EQUIPMENT AND INSTRUMENTS/DEVICES

- ✘ Clean and maintain medical equipment and instruments/devices according to the manufacturers' instructions



STANDARD PRECAUTIONS: TEXTILE AND LAUNDRY

- ✘ Key principles for handling of soiled laundry:
- ✘
 - + Don't shaking items or handle them in any way that may aerosolize infectious agents
 - + Avoid contact with one's body and personal clothing
 - + Contain soiled items in a laundry bag or designated bin

RESPIRATORY HYGIENE AND COUGH ETIQUETTE



- ✘ Three elements include:
 - + Educate healthcare workers, patients, and visitors
 - + Post signs in appropriate language(s)
 - + Source control measures:
 - ✘ Cover the nose/mouth when coughing or sneezing
 - ✘ Use tissue paper respiratory secretions and dispose in the waste receptacle
 - ✘ Perform hand hygiene after contact with respiratory secretions and contaminated objects
 - ✘ Place a surgical mask on the coughing person when tolerated and appropriate



SAFE INJECTION PRACTICES

- ✘ Large outbreaks of HBV and HCV among patients in the United States
- ✘ The primary breaches
 - + Reinsertion of used needles into a multiple-dose vial or solution container (e.g., saline bag)
 - + Use of a single needle/syringe to administer intravenous medication to multiple patients.



MASKS FOR SPECIAL LUMBAR PUNCTURE PROCEDURES OR CENTRAL LINE PLACEMENT

- ✘ Face masks limit dispersal of oro-pharyngeal droplets during:
 - + central venous catheters placement
 - + Placement of catheter or injection to epidural space
- ✘ . epidural space is the area between the dura mater (a membrane) and the vertebral wall,



TRANSMISSION-BASED PRECAUTIONS

TRANSMISSION-BASED PRECAUTIONS - PATIENT PLACEMENT

- ✘ Single patient rooms - always indicated for patients placed on airborne precautions and preferable for those who require contact or droplet precautions
- ✘ Cohort patients with same organism





TRANSMISSION-BASED PRECAUTIONS - MANAGEMENT OF VISITORS

- ✘ Visitors as sources of healthcare associated infections – e.g., pertussis, influenza, tuberculosis
 - + Cough etiquette
- ✘ Use of barrier precautions by visitors
 - + Educate patients and family members
 - + Follow signs for isolation precautions

TRANSMISSION-BASED PRECAUTIONS - CONTACT PRECAUTIONS



- ✘ Infections spread by direct or indirect contact with patients or patient-care environment – shigellosis,
- ✘ Limit patient movement
- ✘ Private/SINGLE room or cohort with patients with same infection
- ✘ Wear disposable gown and gloves when entering the patient room
- ✘ Remove and discard used disposable gown and gloves inside the patient room
- ✘ Wash hands immediately after leaving the patient room
- ✘ Clean patient room daily using a hospital disinfectant, with attention to frequently touched surfaces (bed rails, bedside tables, lavatory surfaces, blood pressure cuff, equipment surfaces)
- ✘ Use dedicated equipment if possible (e.g., stethoscope)



CONTACT PRECAUTIONS CONT.

GLOVES

- ✘ Use gloves when entering the room.
- ✘ Change gloves after contact with infective material.
- ✘ Remove gloves before leaving the room.
- ✘ Wash hands or use appropriate gel after glove removal.
- ✘ Do not touch infective material or surfaces with hands.
- ✘ Clean, non-sterile gloves are usually adequate.

GOWN

- ✘ Use protective gown when entering the room if
 - + direct contact with patient or
 - + potentially contaminated surfaces or
 - + equipment near patient is anticipated or
 - + if the patient has diarrhea or
 - + colostomy or wound drainage that is not covered by a dressing.

CONTACT PRECAUTIONS SIGNS



CONTACT PRECAUTIONS



Visitors must report to Nursing Station before entering.



Perform hand hygiene before entering and before leaving room.



Wear gloves when entering room or cubicle, and when touching patient's intact skin, surfaces, or articles in close proximity



Wear gown when entering room or cubicle and whenever anticipating that clothing will touch patient items or potentially contaminated environmental surfaces.



Use patient-dedicated or single-use disposable shared equipment or clean and disinfect shared equipment (BP cuff, thermometers) between patients.

PRECAUCIONES DE CONTACTO

Los visitantes deben presentarse primero al puesto de enfermería antes de entrar. Lávese las manos. Póngase guantes al entrar al cuarto.

CONTACT PRECAUTIONS

To prevent the spread of infection,

ANYONE* ENTERING THIS ROOM MUST WEAR:



Gloves ✓



Gown ✓

Applies whether or not contact with the patient or the patient's environment is anticipated.

*Patient visitors do not need to wear gloves and a gown, but must **wash hands** upon entering and leaving this room.

Questions? Please call the Department of Infection Control & Prevention at 936-0725

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DROPLET PRECAUTIONS

- ✘ Reduce the risk of transmission by large particle droplets (larger than 5 μ in size).
- ✘ Requires close contact between the source person and the recipient
- ✘ Droplets usually travel 3 feet or less
- ✘ E.g., influenza, rubella, parvovirus B19, mumps, *H. influenzae*, and *N. meningitidis*



DROPLET PRECAUTIONS CONT.

- ✘ A private/single room or
- ✘ Cohort with patient with active infection with same microorganism
- ✘ Use a mask when entering the room and definitely if within 3 feet of patient
- ✘ Limit movement and transport of the patient. Use a mask on the patient if they need to be moved and follow respiratory hygiene/cough etiquette
- ✘ Keep at least 3 feet between infected patient and visitors

DROPLET PRECAUTIONS SIGNS



DROPLET PRECAUTIONS



Visitors must report to Nursing Station before entering.



Perform hand hygiene before entering and before leaving room



Wear mask when entering room
Visitors and health care workers



Dietary may not enter
No debe entrar el dietista

PRECAUCIONES DE GOTAS DIMINUTAS

Los visitantes deben presentarse primero al puesto de enfermería antes de entrar. Lávese las manos. Póngase máscara al entrar al cuarto. No debe entrar el dietista.

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DROPLET PRECAUTIONS

To prevent the spread of infection,

ANYONE ENTERING THIS ROOM MUST WEAR:



Surgical Mask ✓

N-95 Respirators should **not** be used for personal protection of patients in droplet precautions.

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AIRBORNE PRECAUTIONS

- ✘ Tuberculosis, measles, varicella
- ✘ Place the patient in an airborne infection isolation room (AIIR)
- ✘ Pressure should be monitored with visible indicator
- ✘ Use of respiratory protection (e.g., fit tested N95 respirator) or powered air-purifying respirator (PAPR) when entering the room
- ✘ Limit movement and transport of the patient. Use a mask on the patient if they need to be moved
- ✘ Keep patient room door closed.

AIRBORNE PRECAUTIONS SIGNS



AIRBORNE INFECTION ISOLATION PRECAUTIONS

Visitors must report to Nursing Station before entering.



Perform hand hygiene before entering and before leaving room



Wear N95 respirator when entering room
Visitors see nurse for instruction on proper use.



Keep door closed



Dietary may not enter
No debe entrar el dietista

PRECAUCIONES AMBIENTALES

Los visitantes deben presentarse primero al puesto de enfermería antes de entrar. Lávese las manos. Póngase máscara N95 con filtro al entrar al cuarto. Mantenga la puerta cerrada. No debe entrar el dietista.

AIRBORNE PRECAUTIONS

To prevent the spread of infection,
ANYONE* ENTERING THIS ROOM MUST WEAR:



N-95 Respirator ✓

Also ensure that the **door** to the patient's room **remains closed at all times.**

*Patient visitors should wear a blue surgical mask while in the patient's room.

Questions? Please call the Department of Infection Control & Prevention at 936-0725



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THE END

THANK YOU STUDENTS