

Infection Prevention & Control Best Practices in Mental Healthcare Settings

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وزارة الصحة
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

**In the name of ALLAH, Most Gracious,
Most Merciful**

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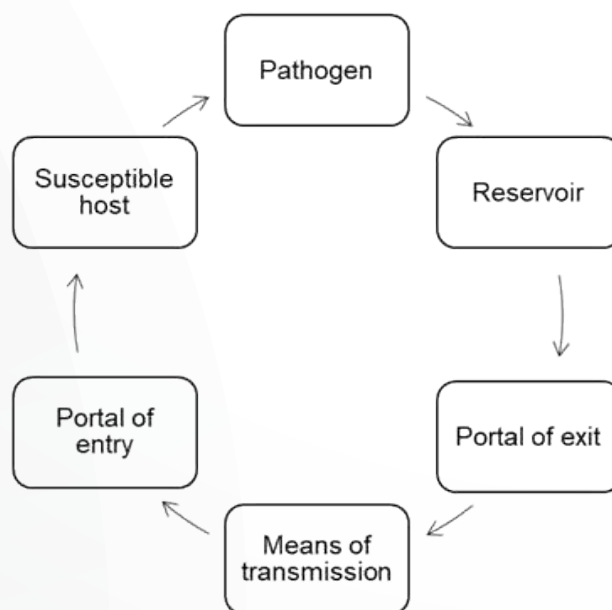
Introduction

Antimicrobial resistance is a global problem that makes infections harder to treat with existing medicines. High standards of infection prevention & control (IPC) reduce the opportunities for infections to spread and for resistance to develop. Infection prevention and control in mental healthcare settings is critical to ensuring patients' and staff's safety and well-being. Mental healthcare facilities present unique challenges for infection control due to the nature of the services provided, and the vulnerabilities of the population served. This guideline contains general infection prevention and control (IPC) principles to be used in combination with advice and guidance on managing specific infections.

Preventing Healthcare Acquired Infections (HAIs)

Chain of infection :

Understanding how infection is spread is crucial for effective IPC. The chain of infection contains 6 links (see the diagram below). There are opportunities to break the chain at any link, and the more links that are broken the greater the protection.



The 6 links are:

- Pathogen
- Reservoir
- Portal of exit
- Means of transmission
- Portal of entry
- Susceptible host

A pathogen is the micro-organism or germ that causes disease. For example, norovirus can cause diarrhea and vomiting, or the influenza virus can cause flu.

A reservoir is where pathogens live and replicate. For example, this could be a person, the environment or food and drink.

A portal of exit is how pathogens leave the reservoir. This could be through cough and sneeze of someone with a respiratory illness such as flu, or through the feces or vomit of someone with gastroenteritis (diarrhea and vomiting).

A means of transmission is how pathogens are moved from one person or place to another. This could be from one person's hands to another person, through touching a contaminated object, through the air, or contact with blood or body fluids.

A portal of entry is how pathogens enter another person. This could be by inhalation, through mucus membranes (linings of the nose and mouth), or via a wound or invasive device such as a catheter.

Susceptible host is the person who is vulnerable to infection. This could be for a variety of factors such as age, lack of immunity, or underlying health conditions.

Infection Prevention and Control Department

The infection prevention and control department is a specialized unit within healthcare facilities responsible for developing, implementing, and monitoring infection prevention and control programs. This department typically consists of trained professionals, such as infection control practitioners, nurses, epidemiologists, and microbiologists, who work together to prevent the spread of infections within the healthcare setting.

- There should be continuous medical education programs and scientific activities for IPC practitioners.
- The infection prevention & control team is given full authority to implement the IPC policies and procedures.
- Any outsourced functions (e.g., laundry or dietary services) should be supervised by the infection control team with support from facility leaders.

Infection Prevention and Control Program

- Infrastructure document related to infection prevention & control program should outline the three principal goals:
 - o Protect the patients.
 - o Protect healthcare workers (HCWs), visitors, and others in the healthcare environment.
 - o Cost-effectively accomplish the previous two goals whenever possible.
- Each mental healthcare setting is unique, and its specific needs must be considered when developing or reorganizing an IPC program.
- Factors include size, case mix, and types of care provided. The principal functions are generally similar, however, and include the following:
 1. To obtain and manage critical data and information, including surveillance for infections.
 2. To develop and recommend policies and procedures.
 3. To intervene directly to prevent infections and interrupt the transmission of infectious diseases.
 4. To educate and train HCWs, patients, and nonmedical caregivers.

- In mental healthcare facilities, an infection prevention and control team must construct IPC program for minimizing the risk of healthcare-associated infections (HAIs) and ensuring patient safety.
- The scope of services in the mental healthcare facilities should guide the development of an infection control program.
- The program is initiated and executed by the IPC department, approved and supported by the infection control committee and implemented through the following aspects:
 - Policies and procedures
 - Surveillance of healthcare-associated infections (HAIs)
 - Education and training:
 - Risk assessment and management
 - Collaboration
 - Compliance monitoring
 - Outbreak and exposure investigation
 - Environmental health
 - Occupational health and safety

Note

- Large mental healthcare facilities may establish goals for their system in addition to specific goals.
- The quality of IPC programs should be assessed routinely by evaluating satisfaction, appropriateness, efficacy, timeliness, availability, effectiveness, and efficiency.
- Annual evaluation of the IPC program is a required element for accreditation. It should outline the achievements and activities of the program and describe support requirements.

Infection Prevention & Control Team

Often the core of the infection prevention and control program is the infection preventionist (IP), and the chair of the infection prevention & control department. The team is responsible for carrying out all aspects of the IPC program. Authority to carry out these activities is designated by facility leadership. Team members must be qualified and guided by sound principles and current information. The team should set goals, collect and analyze data, and select interventions. The infection prevention & control staff must possess knowledge and expertise in microbiology, epidemiology, sterilization and disinfection, infectious diseases, antiseptic usage, clinical practices, and statistics. Infection prevention and control serve crucial roles as educators, investigators, researchers, patient advocates, change agents, consultants, statisticians, sanitarians, role models, coordinators, and diplomats.

Infection Prevention and Control Committee

- The Infection prevention & control (IPC) committee functions as a central decision & policy-making body for infection prevention and control and strengthening and improving patient outcomes through making recommendations on IPC matters and assess and identify risks within the infection prevention and control portfolio and escalate it as appropriate.
- There should be written approved terms of reference document for the IPC committee containing structure, rules, duties, and members' responsibilities.
- Meeting minutes are written in the manner of task force tables with a time frame for the actions needed, and the documented actions must be followed in the next meeting.
- The facility director or medical director chairs the IPC committee.
- The IPC committee meets regularly (at least quarterly) or when required on urgent demand.
- Functions of the IPC committee include but are not limited to (revision and evaluation of the IPC yearly plan, review and approval of IPC policies & procedures, review of surveillance data, & discussion of respiratory protection program-related activities & measures, etc.).

- The committee consists of multidisciplinary team members:
 - Chairman: chief executive officer or medical director
 - Deputy Chairman: (Nominated by Chairman)
 - Committee coordinator
 - Committee secretary
 - Permanent members
 - Guest members
- The IPC committee oversees the infection prevention and control program.
- The IPC committee coordinates, evaluates, and supports the Infection prevention and control program activities and communicates with all healthcare facility departments.
- The IPC committee ensures the engagement and full support of all stakeholders in the program.
- The IPC committee advocates for the program and ensures that all resources are available.

For more information, please refer to:

Infection Prevention and Control Committee Terms of Reference, General Directorate of Infection Prevention & Control (GDIPC), Ministry of Health (MOH), (2023).

Infection Prevention and Control Policy and Procedure

- Evidence-based infection prevention and control policies & procedures should be developed and implemented to reduce HAIs.
- Policies and procedures are based on approved MOH guidelines and scientific references, such as those from Gulf Cooperation Council (GCC), Centers for Disease Control & Prevention (CDC), World Health Organization (WHO), or Association for Professional in Infection Control & Epidemiology (APIC).
- The education and training of relevant HCWs on the internal policies & procedures and monitoring their adherence should be undertaken to achieve successful implementation.
- Policies and procedures should be developed for specific situations that are more likely to occur in mental healthcare facilities.

- For instance, a policy may be necessary for identifying and managing pediculosis and scabies, including monitoring for transmission, treatment (including staff monitoring of the application of therapy), follow-up, laundry handling, and housekeeping procedures.
- Develop policy and procedure for cleaning and decontamination of surfaces and therapeutic items.

Training and Education

- Education and training in infection prevention and control in mental healthcare settings are vital for HCWs to prevent the spread of infections, ensure safety, promote efficiency, comply with regulations, adapt to emerging threats, and contribute to public health goals.
- Proper education equips HCWs with the knowledge and skills to prevent the spread of infections and reducing the risk of HAIs outbreaks in mental healthcare settings.
- An annual infection prevention & control training program based on need assessment should be established, and it should include basic and specialized infection prevention and control training sessions for all HCWs in the mental healthcare facility.
- The IPC educational plan must be included: HCWs, patients, trainees, volunteers, families, and visitors on infection prevention and control.
- The IPC department offers orientation and training on infection prevention and control fundamentals for newly hired HCWs, which must be completed before or within one month of starting their job.
- Develop processes to ensure that all HCWs understand and are competent to adhere to infection prevention requirements as they perform their roles and responsibilities.
- The basic infection control skills license (BICSL) program is implemented for all HCWs in mental healthcare facilities, following national regulations and guidelines.

Respiratory Protection Program

- The RPP aimed to provide adequate protection from respiratory risks and to ensure that all HCWs, patients, and visitors are protected from respiratory hazards through the adoption of a systematic approach.
- Mental health care facilities should have a comprehensive respiratory protection program implemented effectively.

For more information, please refer to:

Respiratory Protection Program (RPP), V.3, GDIPC, MOH, (2023)

Staff Clothing

- Avoid wearing street clothes, as these can facilitate infection transmission.
- Wear clothing with short sleeves.
- Avoid wearing jewelry and watches.
- Wear a clean uniform for each shift.
- Choose footwear that helps protect you from dropped sharps or other objects and the risk of contamination with potentially infectious material.
- Follow the national regulation in regard of HCWs required uniform.

Standard Precaution

Hand Hygiene (HH)

- Hand hygiene involves antibacterial soap and water or alcohol-based hand rub and is used to remove or kill microorganisms that colonize the hands.
- Hand hygiene is crucial for preventing and controlling the spread of infectious diseases, particularly in environments where patients interact in shared spaces.
- The availability of alcohol, hand rubbing, and antimicrobial soap in inpatient areas within mental healthcare facilities can pose a risk to patients due to their mental state. Therefore, their distribution must be based on facility policies to ensure patient safety.

- Access to alcohol gel for hand hygiene must be strictly monitored.
- The use of bar soap should be prohibited due to the risk of microbial growth.
- **5 moments for HH (See Figure 1)**
 - Before patient contact
 - Before clean/aseptic tasks
 - After body fluid exposure risk
 - After patient contact
 - After contact with the patient's surroundings/environment
- **Other opportunities for hand hygiene:**
 - Whenever hands are visibly soiled
 - Moving from one contaminated body site to another body site during the care of the same patient
 - Before starting and finishing the duty shift
 - Before entering and leaving the patient's room
 - Before applying or removing personal protective equipment (PPE)
 - After handling contaminated waste
 - When preparing or handling food, drinks, or medication for patients
 - After leaving the bathroom

Your 5 Moments for Hand Hygiene

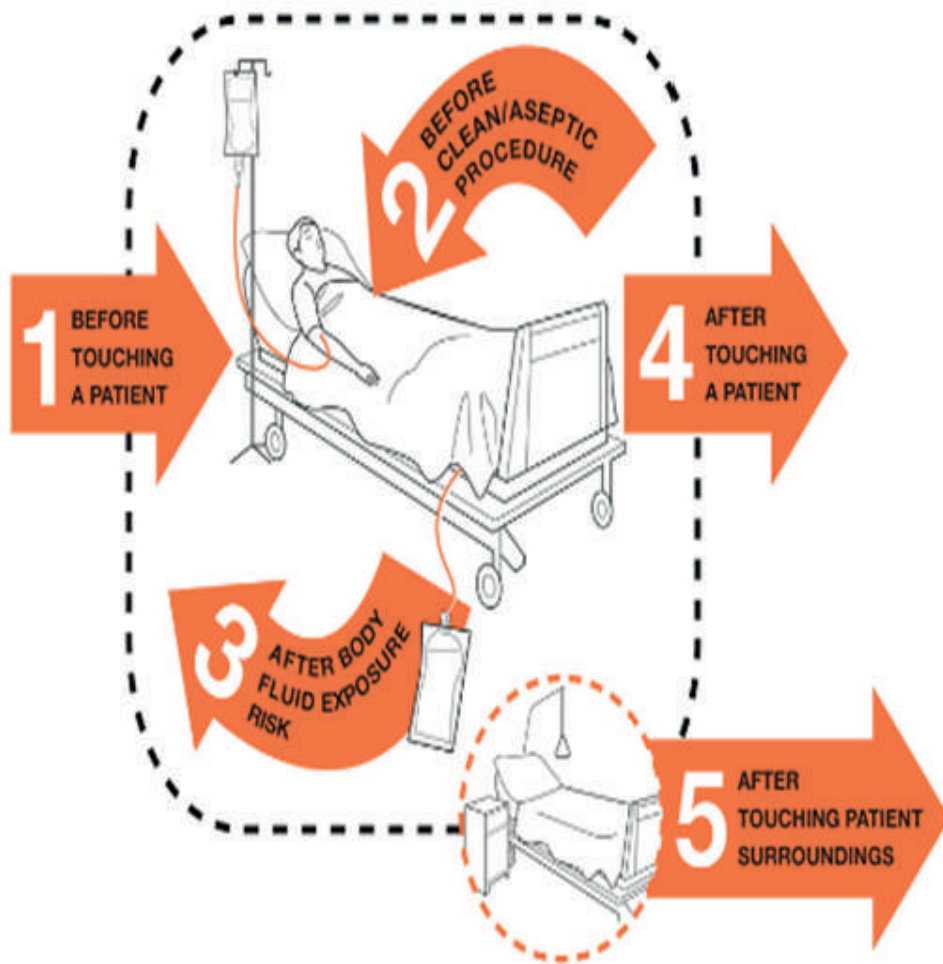


Figure 1 : 5 Moments for HH

- **HH techniques and duration:**

- 1. Alcohol-based hand rubs (See Figure 2)**

- **Duration: (20 - 30 Sec).**

- **Techniques:**

- A. Fill the palm of your hand with sanitizer, covering the entire surface.
- B. Rub palms together to distribute the gel in both hands.
- C. Rub the back of your left hand with your right hand, interlacing fingers, then vice versa.
- D. Rub the palms of your hands together, interlacing fingers.
- E. The backs of fingers with opposing palms, fingers interlocked.
- F. Rotational rubbing of left thumb, then right.
- G. Rotational rubbing, backward and forwards with clasped fingers of right hand in left palm and vice versa.
- H. Your hands are clean once they are dry.

How to Handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

⌚ Duration of the entire procedure: 20-30 seconds

<p>1a</p> 	<p>1b</p> 	<p>2</p> 
<p>Apply a palmful of the product in a cupped hand, covering all surfaces;</p>		<p>Rub hands palm to palm;</p>
<p>3</p> 	<p>4</p> 	<p>5</p> 
<p>Right palm over left dorsum with interlaced fingers and vice versa;</p>	<p>Palm to palm with fingers interlaced;</p>	<p>Backs of fingers to opposing palms with fingers interlocked;</p>
<p>6</p> 	<p>7</p> 	<p>8</p> 
<p>Rotational rubbing of left thumb clasped in right palm and vice versa;</p>	<p>Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;</p>	<p>Once dry, your hands are safe.</p>

 <p>World Health Organization</p>	<p>Patient Safety</p> <p><small>A World Alliance for Safer Health Care</small></p>	<p>SAVE LIVES</p> <p>Clean Your Hands</p>
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Figure 2: Techniques of Hand Rubbing

2. Hand washing with soap and water (See Figure 3)

- **Duration: 40-60 Sec.**
- **Techniques:**
 - A. Wet hands with water.
 - B. Apply enough soap to cover all hand surfaces and rub hands palm to palm.
 - C. Right palm over left dorsum with interlaced fingers and vice versa.
 - D. Palm to palm with fingers interlaced.
 - E. The backs of fingers to opposing palms with fingers interlocked.
 - F. Rotational rubbing of left thumb clasped in right palm and vice versa.
 - G. Rotational rubbing backward and forwards with clasped fingers of the right hand in the left palm and vice versa.
 - H. Rinse hands with water.
 - I. Dry hands thoroughly with a single-use towel.
 - J. Use a towel to turn off the faucet.
 - K. Your hands are now safe.
 - L. Your hands are clean once they are dry.


Note:

In order to ensure effective hand hygiene practices:

- You should use the appropriate HH products with appropriate technique and duration.
- Fingernails should be kept short.
- Artificial nails or nail enhancements should be avoided.
- Wrist and hand jewelry should be avoided.
- Cuts and abrasions should be covered with a waterproof dressing.

How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

 Duration of the entire procedure: 40-60 seconds



Wet hands with water;



Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.

Figure 3: Technique of Hand Washing with Soap and Water

Personal Protective Equipment (PPE)

Specialized clothing or equipment worn by an employee for protection against infectious materials.

- PPE must always be available in mental healthcare facilities in adequate amounts and with proper qualities.
- PPE must be available in all sizes to be suitable for all health practitioners in mental healthcare facilities.

Type of PPE Used

Gloves:

- **Types**
 - Sterile: Mostly used for surgical procedures, they are disposable, sterile, and individually wrapped items.
 - Non-sterile: Disposable single-use gloves (e.g., latex-free gloves). They protect against direct exposure to blood or other body fluids and before contact with contaminated equipment or surfaces.
- **General indications for the gloves use:**
 - The type of gloves used depends on the procedure performed.
 - Should be used for all patients under contact precautions.
 - Should be used for all patients when anticipating splashes of blood and body fluids.
 - Change the gloves between patients and procedures.
 - Moving from one contaminated body site to another body site during the care of the same patient.

Important Points:

- Medical gloves should be selected appropriate according to job tasks, patient care activities and hand size.
- Medical gloves should be discarded immediately after removal.
- Gloves should NOT BE washed, decontaminated, or reprocessed for any reuse purpose.
- The use of gloves does not replace the need for hand hygiene.
- In situations where gloves are removed because of a tear or a puncture and the HCW has had contact with blood or another body, hand washing with soap and water is necessary.

Gown:

- a. Protect from the contamination of clothing with potentially infectious material.
 - b. Gowns should be worn as part of Standards Precautions or Contact Precautions.
 - c. The type of gown to be used depends on the procedure performed.
 - d. It should be used for all patients under contact precautions.
 - e. It should be used for all patients when anticipating splashes of blood and body fluids.
 - f. Change the gown between patients and procedures.
 - g. Disposable gowns should be discarded after use.
- **Types:**
 - a. Clean Isolation gown: used for isolation.
 - b. Sterile gown: used for invasive procedures, such as inserting a central line or surgical procedures.

Face/Surgical Mask

- a. Surgical masks protect the nose and mouth from exposure to respiratory secretions and blood or body fluids sprays.
- b. Surgical masks should be worn as part of Standard Precautions or Droplet Precautions.
- c. Use the surgical mask if you expect blood or body fluids splash.
- d. Change the mask between patients
- e. Change the mask if it becomes soiled or moist or torn.

Filtering Facepiece Respirators

Indications:

- a. N95 respirators reduce the wearer's exposure to airborne particles, from small particle aerosols to large droplets. These respirators filter out **at least 95%** of very small (less than 0.3 microns) particles.
- b. Respirators should be worn as part of Airborne Precautions.

Note:

- Not everyone can wear a respirator due to medical conditions that may be made worse when breathing through a respirator. Before using a respirator or getting fit-tested, HCW must have a medical evaluation to make sure that they can wear a respirator safely.

Instructions for N95 respirator use:

- a. Fit testing must be done for all HCWs before using a respirator in the workplace.
- b. Achieving an adequate seal to the face is essential. Conduct a user seal check each time the respirator is used.
- c. A high-efficacy respirator should be used during aerosol-generating procedures regardless of the patient's condition, whether it is stable or critical.

- d. Clean hands with soap and water or an alcohol-based hand sanitizer before and after touching or adjusting the respirator.
- e. Discard N95 respirators outside the patient room appropriately & immediately following use.



1
Place both hands over the respirator, take a quick breath in to check whether the respirator seals tightly to the face.



2
Place both hands completely over the respirator and exhale. If you feel leakage, there is not a proper seal.



3
If air leaks around the nose, readjust the nosepiece as described. If air leaks at the mask edges, re-adjust the straps along the sides of your head until a proper seal is achieved.



4
If you cannot achieve a proper seal due to air leakage, ask for help or try a different size or model.

Figure 4: Technique of Seal Checking

Goggles/ Face shields

Indications:

- **Goggle:**

Protect only eyes from splashes of blood or body fluids.

- **Face shield:**

Protect the face, nose, mouth, and eyes when there is a risk of exposure to splashes and body fluids.

Instructions for the use of Goggle/Face shield:

- a) Goggles should be removed and reprocessed after each use based on the manufacturer's instructions.
- b) Eye protection should be discarded if damaged (e.g., the face shield can no longer fasten securely to the provider, if visibility is obscured and reprocessing does not restore visibility).
- c) HCW should take care not to touch their eye protection. If they touch or adjust it, they must immediately perform hand hygiene.

Putting on PPE (Donning): (see Figure 5)

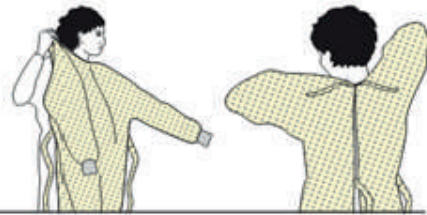
- a. The Sequence of PPE Donning:
 1. Gown
 2. Mask
 3. Goggles or Face Shield
 4. Gloves

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene



Figure 5: How to put on PPE

Sequence for Removing PPE (Doffing) (see Figure 6)

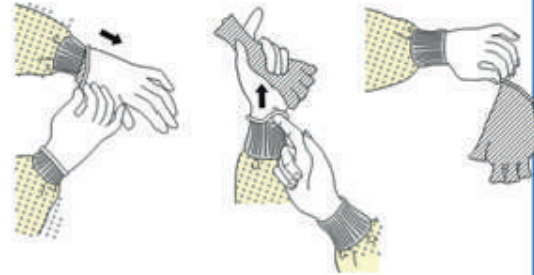
1. Gloves
 2. Face shield or goggles
 3. Gown
 4. Mask
- The order for removing PPE is to limit opportunities for self-contamination. The gloves are considered the most contaminated pieces of PPE and are removed first. The face shield or goggles are next because they are clumsier and would interfere with removing other PPE. The gown is third in the sequence, followed by the mask or respirator. Hand hygiene must be performed between sequences of each PPE.

SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)

Except for respirator, remove PPE at doorway or in anteroom. Remove respirator after leaving patient room and closing door.

1. GLOVES

- Outside of gloves is contaminated!
- Grasp outside of glove with opposite gloved hand; peel off
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist
- Peel glove off over first glovet
- Discard gloves in waste container



2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield is contaminated!
- To remove, handle by head band or ear pieces
- Place in designated receptacle for reprocessing or in waste container



3. GOWN

- Gown front and sleeves are contaminated!
- Unfasten ties
- Pull away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard



4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated – DO NOT TOUCH!
- Grasp bottom, then top ties or elastics and remove
- Discard in waste container



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE



CS250672-A

Figure 6: How to remove PPE

Respiratory hygiene/ Cough Etiquette

- All HCWs must practice cough etiquette when coughing or sneezing.
- Cover nose and mouth with a tissue when coughing or sneezing.
- Dispose of tissue after use in the waste receptacle and perform hand hygiene.

Safe Injection Practices

- Use an aseptic technique when preparing and administering injectable medications.
- Minimize distraction, always maintain focus on the task, Keep fingers/hands away from the point of injection.
- Use a sterile single-use disposable syringe and needle for each injection given.
- All injection equipment and medication vials should be free of contamination, turbidity, or discoloration.
- The sterile package should only be opened immediately before use on the patient and not before that.
- Disinfect the self-sealed rubber cap of a medication vial or an IV solution bottle with approved antiseptic wipes (e.g., %70 alcohol wipes) before access.
- Don't administer medications from the same syringe to multiple patients, even if the needle is changed.
- Don't reuse a syringe to enter a medication vial or solution.
- Use a fluid infusion or administration set (i.e., intravenous tubing) for one patient only.
- Used needles should never be recapped, bent, or broken.
- All used sharps should be placed immediately in a puncture-resistant container designated for sharp disposal.
- Dedicate multi-dose vials to a single patient whenever possible.
- Suppose multi-dose vials must be used for more than one patient. In that case, the vials should be restricted to a centralized medication area and not be brought into the immediate patient treatment area .

- Never administer medications from the same syringe to multiple patients, even if the needle is changed.
- Never reuse a syringe or needle when withdrawing medication or solutions from multiuse vials or other containers, even when obtaining additional doses for the same patient.
- Dispose of used sharps in a sharps container that is closable, puncture-resistant, and (3/4 or 75%) full.

Aseptic Technique

- Aseptic technique refers to practices designed to render and maintain objects and areas maximally free from microorganisms and aid in preventing bloodstream infections that may be procedure related.
- Clean technique refers to medical aseptic practices that use clean and disinfected or sterile equipment and supplies to reduce the number of microorganisms and minimize the risk of transmission from personnel or the environment to the patient.

Components of Aseptic Technique

Appropriate Attire:

- Appropriate attire is based on the risk of the procedure and the area of the mental healthcare facilities where the procedure is performed.
- Medical uniform are not considered personal protective equipment (PPE).
- HCWs performing procedures resulting in splashed or potential exposure to body fluids should wear impervious or fluid-resistant barriers as well as face and eye protection.
- Depending on the aseptic procedure being performed, barriers may include gloves, gown, and hair covering or as per mental healthcare facilities ' policy on PPE.

Hand Hygiene:

- Hand decontamination before any procedure is an integral step of the process that should be done by the team working in direct contact with the patient, equipment, instruments, and/or sterile field.

Skin Antisepsis:

- Use the appropriate recommended antiseptic for each procedure type as well as screening for contraindications such as allergies.
- Antiseptic agents should be used following the manufacturer's direction for use, including ensuring skin is clean before placement as well as antiseptic contact and drying time.

Single-use devices, Equipment, and Supplies:

- HCW should maintain the sterile packaging and/or container integrity to ensure an intact seal and confirm that sterilization indicators with an expiration date are verified.
- Before use, sterile packages should always be inspected for signs of contamination, such as moisture, tears, discoloration, and expiration.
- DO NOT reuse single-use items.

Medication Preparation

- A separate clean area is available for the preparation of medications and away from patients' treatment areas.
- Use only ready-made single-dose sterile solutions for preparation & dilution of medications.
- Single-dose or single-use vial is used for a single procedure/injection in a single patient.
- Single-dose or single-use vial is not stored for future use, even on the same patient.
- Whenever possible, a multi-dose vial is used for a single patient, with the recorded patient's name and date of the first use (when it has been accessed for the first time). It is discarded after 28 days unless the manufacturer specifies a different, shorter, or longer date (i.e., reuse life).
- If a multi-dose vial is used for more than one patient, it is exclusively kept and accessed in the area specified for the preparation of medications.
- Cartridge devices such as insulin pens are used for only one patient.
- Before access, the self-sealed rubber cap of a medication vial or an IV solution bottle is disinfected with approved antiseptic wipes (e.g., alcohol wipes).
- IV solution bottles are only accessed through the self-sealed rubber cap after being disinfected.
- Sterile solutions are used in nebulizers, humidifiers, or any aerosol-generating system. They are changed between patients and every 24 hours for the same patient unless the manufacturer of ready-made sterile solutions specifies different dates.
- A peripheral venous catheter must be fixed appropriately, with a written insertion date. If still needed, it is replaced, but not more frequently than every 72 to 96 hours, to reduce the risk of infection and phlebitis.

Handling/Disposal of Contaminated Items

Needles/Sharps

- All used sharp items should be disposed into an approved puncture-resistant container immediately after use, at or as close as possible to the point of use.
- Do not place used sharp items on any environmental surface.
- Do not recap or manipulate needles using both hands because this increases the risk of injury.
- If recapping or manipulating the needle is deemed essential, use either a one-handed scoop technique or a mechanical device designed to hold the needle sheath.
- Close sharps containers when $\frac{3}{4}$ full and remove them for incineration.

Transmission Based Precautions

- Isolation precautions contain two tiers: Standard Precautions and Transmission-based Precautions.
- Transmission-based precautions are designed for patients documented to be or suspected to be infected or colonized with highly transmissible or epidemiologically important pathogens, for which additional precautions beyond standard precautions are required.
- The infection preventionists should develop policies and procedures based on approved national and international references for isolation precautions.
- The policy should outline notification, immediate actions to take, location of isolation precautions, PPE, the types of isolation precautions that can be maintained in the facility, and how the patient should be handled in the event transfers are needed.

Types of Transmission-based Precautions

Contact Isolation Precautions:

- Contact isolation precautions must be used together with standard precautions.

- All HCWs in mental healthcare facilities must use contact isolation precautions when there is a suspected or confirmed diagnosis of an infectious disease that is transmitted by the contact route.
- The patient should be in a single room.
- All HCWs in mental healthcare facilities must wear the appropriate PPE (Gown-Gloves) and other PPE as needed when anticipating contact with the patient or the patient's environment.
- All HCWs in mental healthcare facilities must follow the correct sequences of donning and doffing of PPE.

Droplet Isolation Precautions:

- Droplet isolation precautions must be used together with standard precautions.
- All HCWs in mental healthcare facilities must use the droplet isolation precaution when there is a suspected or confirmed diagnosis of an infectious disease that is transmitted by the droplet route.
- The patient should be in a single room.
- All HCWs in the mental healthcare facilities must wear the appropriate PPE (Surgical Mask) and other PPE as needed. A surgical mask is required within three (3) feet of the patient.
- All HCWs in mental healthcare facilities must follow the correct sequences of donning and doffing of PPE.

Airborne Isolation Precautions:

- Airborne isolation precautions must be used together with standard precautions.
- All HCWs in mental healthcare facilities must use airborne isolation when a patient is suspected or confirmed to have any of the diseases that are spread by the airborne route.
- The patient should be in a single negative air pressure or in a single room with portable HEPA filter or transferred to the contracted near equipped hospital.
- All HCWs in mental healthcare facilities must wear the appropriate PPE when anticipating contact with a patient or the patient's environment.

- A fit-tested respirator particulate mask (N95 or Higher) is required for all HCWs who will potentially care for patients in respiratory isolation.
- All HCWs in mental healthcare facilities must follow the correct sequence of donning and doffing of PPE.

The following table shows the PPE selection based on the isolation precautions

Type of PPE	Standards Precautions	Transmission-Based precautions		
		Contact Precautions	Droplet Precautions	Airborne Precautions
Hand Hygiene				
Gloves	AS needed	At all times	AS needed	AS needed
Gown	AS needed	At all times	AS needed	AS needed
Surgical Mask	AS needed	AS needed	At all times	Never
Respirator	Never	Never	AGPs Only	At all times
Eye protection	AS needed	AS needed	AS needed	AS needed

Transfer Patient Under Transmission-Based Precautions:

- Restricted the transfer of patients under isolation precautions for medically necessary purposes.
- Notify the receiving unit/ward/department/ or facility (diagnosis, type of isolation precaution).
- Isolation transportation cards must be used and should be consistent with the patient diagnosis, color-coded, posted in Arabic and English, and indicating the type of precautions required for staff (it is preferable to use the MOH-approved isolation transportation cards) and through less crowded traffic routes.

Transfer Patient Under Contact Isolation Precautions:

- Contain and cover all skin lesions and infected or colonized wounds if available, with a clean bandage/dressing.
- Instruct patients to wear a clean gown, and clean linen should be used.
- HCW should wear clean gloves and perform hand hygiene after taking off.

Transfer Patient Under Droplet Isolation Precautions:

- Instruct the patient to wear a surgical mask.
- If the patient can not tolerate wearing a surgical mask during transportation, healthcare worker should wear a surgical mask.
- Cover exposed skin lesions (if any) with clean bandages and/or clean linens.
- Educate the patient about respiratory hygiene (Cough Etiquette).
- HCW should perform hand hygiene after patient transport.

Transfer Patient Under Airborne Isolation Precautions:

- Patients should wear a surgical mask.
- Educate the patient about respiratory hygiene (Cough Etiquette).
- HCW should perform hand hygiene after patient transport.
- If the patient can not tolerate wearing a surgical mask during transportation healthcare workers should wear the fitted N95 respirator.

Airborne Infection Isolation Room (AIIR):

- The number of AIIRs should be based on the mental healthcare facility' risk assessment.
- In case the mental healthcare facility does not have (AIIR), there must be an approved and signed agreement with another hospital for transferring patients infected or suspected with an airborne transmissible disease.

For more information, please refer to:

Prediction Guide for the Required Number of Airborne Infection Isolation Room, GDIPC, MOH. (2024)

Environmental Health

- There is increasing evidence that the healthcare environment is an important source of healthcare-associated infections.
- Every facility must thoroughly clean its environment to prevent it from developing into a reservoir for pathogens.

Environmental Surveillance Culturing:

- Is not routinely recommended except in the event of epidemiologically significant outbreaks.
- In some jurisdictions, routine culturing of water for the identification of Legionella is recommended. If culturing is recommended, an action plan should be developed in the event Legionella is identified.

Cleaning Products Used:

- Must be approved by the Ministry of Health (MOH).
- Must be compatible with the surfaces/equipment.
- Must be used according to the manufacturers' recommendations (e.g., for dilution, temperature, water hardness, contact time, etc.).
- It must be used according to the product's safety data sheet.
- It must be dedicated for healthcare facility use.

General Recommendations for Environmental Cleaning and Disinfection:

- There should be comprehensive policies and procedures for environment cleaning and disinfection.
- Environmental cleaning is under housekeeping responsibilities.
- There will be an appropriate written schedule for cleaning and decontamination of all areas of the mental healthcare facility.
- Cleaning must be performed systematically to ensure all surfaces are cleaned.
- The cleaning procedure should begin with the least soiled areas and move to the most soiled areas.
- Cleaning also proceeds from high to low surfaces.
- In the cleaning procedure, dust should not be dispersed into the air (wet mopping is the only permitted method).
- Scrubbing with a mop and an approved MOH disinfectant/detergent solution should be performed.
- Cabinet counters, work surfaces, and similar horizontal areas should be cleaned once a day or when required with an approved MOH disinfectant/detergent.
- Walls, windows, storage shelves, and similar non-critical surfaces should be scrubbed periodically with MOH-approved low-level disinfectant/detergent solution as part of the general housekeeping program.
- Friction cleaning is important to ensure the physical removal of dirt and contaminating microorganisms.
- High-touch surfaces need to be cleaned more frequently.
- Patient room and bathroom should be cleaned daily and as needed.
- Terminal cleaning should be done after patient discharge or transfer under the in-charge nurse supervised.

- Environmental terminal cleaning equipment (fogging or ultraviolet) is preferred to be used in terminal cleaning.
- In case of outbreaks, infection control practitioners should supervise the terminal cleaning and disinfection procedures.
- Environmental cleaning should be done according to the approved cleaning schedule and with a cleaning checklist to ensure the quality of the process.

For more information, please refer to :

- Best Practices of Environmental Health for Prevention & Control of Infections in Healthcare Facilities Guidelines, GDIPC, MOH. (2022)
- Best Guidance for Selecting, Evaluating & Monitoring of the Infection Prevention & Control Supplies & Equipment's, 2nd Version, GDIPC, MOH. (2022)

Biological Spill Management (For Mngement of Blood and Body Fluid Spills)

- Clean spills of blood or body fluids immediately, using the appropriate techniques.
- Control access to the area: prevent people from walking through the affected area.
- Use the wet floor sign.
- Put on appropriate Personal Protective Equipment (PPEs) .
 - a. Disposable gown.
 - b. Disposable face mask with a shield.
 - c. Disposable gloves.
- Use a plastic scoop or other mechanical means to remove broken glass or other sharp objects from the spill area and dispose of them in the sharp container.
- Contain spill: Use absorbent granules or absorbent pads to contain the spill. Sprinkle absorbent granules over the spill and leave for two minutes or as per the manufacturer's recommended contact time. Allow the spill to solidify before removing it.

- Remove the solidified waste material using the scoop and scraper and carefully dispose of all contaminated materials into the infectious waste bag.
- Add one tablet of chlorine disinfectant 2.5 gm/ 250 ml = 5000 ppm which is effective against any risky blood spill.
- Use a disposable wiping cloth to wipe up all the disinfectant, and then discard it into the yellow plastic bag.
- Place all items including PPE into a yellow biohazard plastic bag.
- Close the yellow biohazard bag securely with a fastener to prevent leakage.
- Finally, perform hand hygiene.

Note:

The urine & vomit spill kit is not chlorine-based, and it is ideally used in the management of these spill types because adding chlorine products to urine can produce particularly unpleasant odors. When used on vomit, chlorine-based chemicals may give off extra chlorine gas.

Medical Waste Management

- Healthcare waste (Medical Waste) refers to any waste generated by facilities that provide various healthcare services.
- Infectious waste refers to waste that contains biological agents (e.g., Bacteria, viruses, parasites, or fungi) in quantities or at concentrations sufficient to cause infectious disease to individuals susceptible to infection.
- Any items contaminated (i.e., Dripping) with blood or body fluid are considered infectious.
- Sharps waste refers to waste that contains sharp items such as vaccine glass vials, needles, syringes with needles, scalpels, lancets, razors, broken glass, or any other sharp object that has the potential to cut or puncture the body or skin.

- Infectious waste should always be (segregated, collected, transported, and stored) in a safe manner with consideration in accordance the national approved regulations.
- HCWs should be knowledgeable about the risks and safety operating procedures of the waste they are handling.
- Infectious waste will be collected in yellow plastic bags bearing the phrase Hazardous Medical Waste (in Arabic and English) along with the Bio-Hazard logo.
- Sharps Waste will be disposed of in yellow thick, leakproof, puncture-proof containers, bearing the phrase Hazard-Sharp Items (in Arabic and English) and the Bio-Hazard logo.
- The collection and transportation of bags and containers of infectious medical waste should be conducted using special trolleys and well-trained staff.
- HCWs who transport waste should be trained in proper procedures and spill management.
- Before collection and transportation of infectious waste, bags, and containers should be fully sealed and locked, and display the appropriate data sticker identifying content, as well as proper hazard identification and its related labelling, including the Bio-Hazard logo.
- Waste bags should not be filled to more than 3/4 of their capacity and should not be pressurized or compacted.
- Infectious waste will be transported within the facilities covered, specially designed leakproof, and easy to clean or disinfect trolleys.
- Trolleys for collecting and carrying hazardous medical waste will be cleaned, washed, and disinfected daily in special locations by trained staff under the supervision of the person responsible for hazardous medical waste.

For more information, please refer to:

Medical And Sharp Waste Management, General Directorate of Environmental Health, MOH. (2024).

Occupational Health Program

- All new HCWs undergo screening for latent tuberculosis infection (LTBI) using either:
 - Interferon Gamma Release Assay (IGRA) or
 - Two-Step Tuberculosis Skin Testing (TST) or Two-Step (PPD).
- In case of positive TST or PPD results, confirmation with IGRA is necessary.

Immunization Documentation

- HCWs expected to have direct or indirect contact with patients must be immune to specific infections.
- Vaccination programs are therefore an essential part of infection prevention and control for HCWs.
- Recommended vaccines help maintain immunity and safeguard HCWs from infection.
- Recommended immunization for HCWs :

Vaccine	Indication	Route/Schedule	Booster Dose/ Notes
Hepatitis B	All healthcare workers (HCWs)	3 doses intramuscular (I.M) -1 ,0month, 6 month	Not recommended
Influenza	All HCWs	1 I.M dose of inactivated injectable vaccine annually	Vaccine repeated annually
MMR (Measles, Mumps, Rubella)	HCW without serologic evidence of immunity or prior vaccination (Documented immunity)	2 doses of MMR 4 weeks apart are given Subcutaneous (S.C)	Persons vaccinated between 1963 and 1967 with a killed measles vaccine alone, killed vaccine followed by live vaccine, or a vaccine of unknown type should be revaccinated with 2 doses of the live measles vaccine
Varicella (Chickenpox)	HCW who has no serologic proof of immunity, prior vaccination or history of varicella disease (Documented immunity)	2 doses of varicella vaccine 4 weeks apart are given S.C	

Tdap (tetanus, diphtheria & pertussis)	HCW without documented immunity	3 doses I.M 2-1 ,0 months, 6 months	Td booster dose every 10 years If exposed to a dirty wound regardless of the last booster dose
Meningococcal	-HCWs participating in Hajj -Clinical research -Microbiologists who are routinely exposed to isolates of N. meningitides	Single dose	Repeated every 3 years if polysaccharide type Or Repeated every 5 years if conjugate type

Post Exposure Management

If a healthcare worker experiences a needle stick, sharps injury, or exposure to blood or other body fluids during work, they should promptly follow these steps:

1. Allow the wound to bleed freely without applying pressure.
2. Wash the wound thoroughly with soap and water.
3. Identify the patient involved for infection evaluation.
4. If exposed to the eyes, rinse them with sterile water for at least one minute.
5. Report the injury to the supervisor immediately.
6. Seek medical treatment and undergo a medical assessment without delay.
7. Follow any instructions for blood tests, vaccinations, or medications to prevent infection.

For more information, please refer to:

Occupational Health Clinics Program, MOH. (2019).

Emerging and Re-Emerging Infectious Diseases Preparedness Plan

- Mental healthcare facilities should implement policies and procedures for emerging or re-emerging infectious diseases in accordance with national guidelines and references.
- Protocols should be established for the early detection of patients with infectious diseases that are on national alert.
- Management protocols should be developed for patients with infectious diseases that are on national alert.
- Active surveillance must be implemented to monitor healthcare workers showing signs and symptoms of exposure to emerging or re-emerging infectious diseases.
- Continuous, job-specific training on emerging or re-emerging infectious diseases should be provided to all healthcare workers in the facility.

For more information, please refer to:

- Healthcare-Associated Outbreak Management Manual, Version 7.1, GDIPC, MOH. (2023).
- Standard Operating Procedure (SOP) for Rapid Response Teams in Infection Prevention and Control (IPC-RRT), Version 1.0, GDIPC, MOH. (2024).

Outbreak Management

- Outbreak management should be initiated when there is a significant rise in infections caused by a specific microbe. This involves identifying common risk factors for transmission or acquisition of the infection.
- Infection prevention procedures should be reviewed, including adherence to hand hygiene, aseptic techniques, and sterilization and disinfection practices.
- Infected or colonized patients should be promptly identified and either isolated or cohorted together.

- Mental healthcare facilities should establish a designated Outbreak Management Team (OMT), led by either the facility director or medical director. This team should have clearly defined roles and include all key members involved in outbreak management.
- A well-structured notification system should be in place between the Infection Prevention and Control (IPC) department, the laboratory, and all relevant departments in mental healthcare facilities for reporting critical values (e.g., MDROs, positive cultures). These values must be monitored regularly.

For more information, please refer to:

- Healthcare-Associated Outbreak Management Manual, Version 7.1, GDIPC, MOH. (2023).

Surveillance and Epidemiology Reporting

- Surveillance is a systematic approach involving the continuous collection, consolidation and analysis of data related to the distribution and determinants of a specific disease or event, followed by sharing this information with those who can enhance outcomes.
- Surveillance of healthcare-associated infections and multidrug-resistant organisms (MDROs) must be conducted within the facility to prevent both device-associated HAIs (such as CAUTI, CLABSI, and VAEs) and non-device-associated HAIs (including BSI, pneumonia, and UTIs).
- Staff at mental healthcare facilities must ensure rigorous adherence to all components of care bundles as part of process surveillance.

For more information, please refer to:

- Healthcare-Associated Infection Surveillance Manual, 2nd edition, GDIPC, MOH. (2023).

Other Aspects

Meals Gathering Considerations

- In many mental healthcare facilities, patients are served meals in a dining room or other group setting, which can increase the risk of pathogen transmission through the oral route.
- Patients should be educated on hand hygiene and respiratory etiquette, particularly during mealtimes. This education is a vital component of infection prevention and should be reinforced when entering and exiting the dining area to minimize the risk of pathogen transmission through the oral route.

Laboratory

- Samples should be transported to the laboratory by a trained healthcare worker.
- Samples must be placed in closed containers for transportation.
- HCW responsible for packaging and shipping these specimens must prioritize their safety as well as the protection and safety of those who handle them.
- Samples transported by local carriers must adhere to established packaging standards.
- The sample identification document should be placed outside the secondary containment and the outer container must clearly display labels indicating the biohazard level.
- Additional labels and information may be required depending on the biohazard level.
- If an on-site laboratory is unavailable, there must be a formal agreement or contract with a regional laboratory for handling the samples.

For more information, please refer to:

- Infection Control Guidelines in Clinical Laboratory, GDIPC, MOH. (2021).

References

- Best Practices of Environmental Health for Prevention & Control of Infections in Healthcare Facilities Guidelines. General Directorate of Infection Prevention and Control (GDIPC), Ministry of Health (MOH). (2022). Retrieved from (<https://jed-s3.blualt.com/psj-1ifn-s-3ifn01/files/06/Guidelines/Best-Practices-of-Environmental-Health-for-Prevention-Control-of-Infections-in-Healthcare-Facilities-Guidelines-Aug-2022-V1.1.pdf>)
- Best Guidance for Selecting Evaluating & Monitoring of the Infection Prevention & Control Supplies & Equipment. General Directorate of Infection Prevention and Control (GDIPC), Ministry of Health (MOH). (2022). Retrieved from (<https://jed-s3.blualt.com/psj-1ifn-s-3ifn01/files/06/Guidelines/Guidance20%for20%Selecting,20%Monitoring20%of20%Infection20%Prevention20%&20%Control20%Supplies20%nd20%Edition.pdf>)
- Healthcare-Associated Outbreak Management Manual, V 7.1, General Directorate of Infection Prevention and Control (GDIPC), Ministry of Health (MOH). (2023).Retrieved from (<https://jed-s3.blualt.com/psj-1ifn-s-3ifn01/files/04/Guidelines/Healthcare-Associated20%Outbreak20%Management20%Manual.pdf>)
- Healthcare-Associated Infection – Surveillance Manual (2nd ed.). General Directorate of Infection Prevention and Control (GDIPC), Ministry of Health (MOH).(2023). Retrieved from (https://jed-s3.blualt.com/psj-1ifn-s-3ifn01/files/07/Guidelines/MOH_Surveillance_Manual_2nd_Edition_5%2023B5%1D.pdf)
- Infection Control Guidelines in Clinical Laboratory. General Directorate of Infection Prevention and Control (GDIPC), Ministry of Health (MOH). (2021). Retrieved from (<https://jed-s3.blualt.com/psj-1ifn-s-3ifn01/files/03/Guidelines/Infection-Control-Guidelines-in-Clinical-Laboratory.pdf>)
- Infection Prevention and Control in Allied Health Practice. Allied Health Professional Australia. (2020). Available at: <https://ahpa.com.au/wp-content/uploads/200903/10/2020>

- Infection Prevention and Control Committee Terms of Reference, General Directorate of Infection Prevention and Control (GDIPC), Ministry of Health (MOH). (2023). Retrieved from <https://jed-s3.blualt.com/psj-1ifn-s3ifn01/files/03/Guidelines/Infection20%Prevention20%&20%Control20%ommittee20%Term20%of20%Reference202023%.pdf>
- Manual of Environmental Cleaning and Disinfection in Healthcare Facilities, General Directorate of Infection Prevention and Control (GDIPC), Ministry of Health (MOH). (2022). Retrieved from <https://jed-s3.blualt.com/psj-1ifn-s-3ifn01/files/06/Guidelines/Manual-of-Environmental-Cleaning-and-Disinfection-in-Healthcare-Facilities-Ver-1.0-GDIPC-.pdf>
- Medical and Sharp Waste Management: Medical Waste Program Administration. Ministry of Health. (2024). Retrieved from <https://jed-s3.blualt.com/psj-1ifn-s-3ifn01/files/06/Guidelines/Implementing-Regulations-for-the-Unified-Healthcare-Waste-Management-System-Arabic-Version.pdf>
- Standard Operating Procedure (SOP) for Rapid Response Teams in Infection Prevention and Control, General Directorate of Infection Prevention and Control (GDIPC), Ministry of Health (MOH). (2024). Retrieved from <https://psj-1ifn-s-3ifn01.jed-s3.blualt.com/files/Apri2024/IPC-RRT20%SOP29%282%20%.pdf>



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