



Infection Control and Prevention Plan

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This plan has been developed to ensure and compliance of best practices worldwide for infection control in hospital environment. Usage of this document is limited to provide general guidance and trainings to the hospital staff, medical professionals and students of Baqai Medical University.

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1. Infection Control Program

1.1. Scope:

This document provides basic guideline for infection control and prevention in Baqai medical University and Fatima hospital facility. It contains policies and procedures and minimum expectations of CDC for patient's health care and safety of staff handling infectious medical equipment's and dealing with infected patients. This document contains elementary guidelines for medical profession in the health care facility of Fatima Hospital.

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1.2. Safety of staff and faculty while handling biological and hazardous material:

Staff and students are required to use proper PPEs while handling biological and hazardous material. A detailed plan has been provided in Health and safety manual of Baqai Medical University.

1.3. Hepatitis B vaccination and policy for health care workers and students:

Baqai Medical University is committed to provide all basic facilities to their staff and workers. All workers and staff who are expected to come in contact of infectious elements including human blood, body and equipment use for the purpose of medical practices are provided hepatitis vaccine as per OSHA guidelines. OSHA mandates that hepatitis B vaccine, be made available to health-care providers who are susceptible to HBV infection and that they be urged to be vaccinated (Blood borne Pathogens Standard [29 CFR 1910.1030 and 29 CFR 1910.030f]) These guidelines stipulate that the employer make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure and that post exposure evaluation and follow-up be provided to all employees who have an exposure incident.

1.4. Hand hygiene postures, air borne precautions

Hand hygiene procedures include the use of alcohol-based hand rubs (containing 60-95% alcohol) and hand washing with soap and water. Alcohol based hand rub is the preferred method for decontaminating hands, except when hands are visibly soiled (e.g., dirt, blood, body fluids), or after caring for patients with known or suspected infectious diarrhea (e.g., *Clostridium difficile*, norovirus), in which case soap and water should be used. Hand hygiene stations should be strategically placed to ensure easy access.

Sample Procedures for Performing Hand Hygiene Using Alcohol-based Hand Rub (follow manufacturer's directions):

Dispense the recommended volume of product

- Apply product to the palm of one hand
- Rub hands together, covering all surfaces of hands and fingers until they are dry (no rinsing is required)
- Hand washing with Soap and Water:
 - Wet hands first with water (avoid using hot water)
 - Apply soap to hands
 - Rub hands vigorously for at least 15 seconds, covering all surfaces of hands and fingers
 - Rinse hands with water and dry thoroughly with paper towel
 - Use paper towel to turn off water faucet

Indications for Hand Hygiene Always perform hand hygiene in the following situations:

- Before touching a patient, even if gloves will be worn
- Before exiting the patient's care area after touching the patient or the patient's immediate environment
- After contact with blood, body fluids or excretions, or wound dressings
- Prior to performing an aseptic task (e.g., accessing a port, preparing an injection)
- If hands will be moving from a contaminated-body site to a clean-body site during patient care
- After glove removal

1.5. Airborne Precautions:

Apply to patients known or suspected to be infected with a pathogen that can be transmitted by airborne route; these include, but are not limited to:

- Tuberculosis
- Measles
- Chickenpox (until lesions are crusted over)
- Localized (in immune-compromised patient) or disseminated herpes zoster (until lesions are crusted over)
- Have patient enter through a separate entrance to the facility (e.g., dedicated isolation entrance), if available, to avoid the reception and registration area
- Place the patient immediately in an airborne infection isolation room (AIIR)
- If an AIIR is not available:
- Provide a facemask (e.g., procedure or surgical mask) to the patient and place the patient immediately in an exam room with a closed door
- Instruct the patient to keep the facemask on while in the exam room, if possible, and to change the mask if it becomes wet
- Initiate protocol to transfer patient to a healthcare facility that has the recommended infection control capacity to properly manage the patient
- PPE use: Wear a fit-tested N-95 or higher-level disposable respirator, if available, when caring for the patient; the respirator should be donned prior to room entry and removed after exiting room.
- If substantial spraying of respiratory fluids is anticipated, gloves and gown as well as goggles or face shield should be worn
- Perform hand hygiene before and after touching the patient and after contact with respiratory secretions and/or body fluids and contaminated objects/materials; note: use soap and water when hands are visibly soiled (e.g., blood, body fluids)
- Instruct patient to wear a facemask when exiting the exam room, avoid coming into close contact with other patients , and practice respiratory hygiene and cough etiquette
- Once the patient leaves, the exam room should remain vacant for generally one hour before anyone enters; however, adequate wait time may vary depending on the ventilation rate of the room and should be determined accordingly*
- If staff must enter the room during the wait time, they are required to use respiratory protection.

1.6. Washing stations and bathroom:

A washing stations and bathrooms should be attached with all wards and labs. A cleaning record must be maintained on monthly basis. Washing stations and bathrooms must be disinfecting on monthly bases. All hand wash stations must be equipped with hand soap dispensers and towel papers. Hand soap dispensers should be refilled as required.

2. Pest control management Policy:

To control vector borne disease in the hospital premises by pest control

- *To minimize use of hazardous chemicals/pesticides and optimize location-based pest control using tools, methods and techniques enclosing hospital premises for pests.*
- *To ensure regulatory control while using pesticides and hazardous chemicals with the aim of reducing risk to human health and environment.*
- *To prevent staff and patients from health effect of pesticides and vector borne diseases.*

Pest control is being provided in Baqai Medical University by 3rd party contractor pest control service Provider Company. As well as a cleaning and hazardous waste management staff is also trained to understand the importance of pest management. Baqai Medical University management is committed to provide pest free environment to their staff, students, faculty, visitors and Patients of Fatima hospital.

3. PPEs:

Personal Protective Equipment (PPE) use involves specialized clothing or equipment worn by facility staff for protection against infectious materials. The selection of PPE is based on the nature of the patient interaction and potential for exposure to blood, body fluids or infectious agents. A review of available PPE should be performed periodically (e.g., annually) due to new product developments and improvements. Please note that this section does not address issues related to PPE for the preparation and handling of antineoplastic and hazardous drugs. The recommended PPE for those procedures should be determined in accordance with OSHA and NIOSH.

3.1. Use of PPE Gloves Wear gloves when there is potential contact with blood

- Wear gloves that fit appropriately (select gloves according to hand size)
- Do not wear the same pair of gloves for the care of more than one patient
- Do not wash gloves for the purpose of reuse
- Perform hand hygiene before and immediately after removing gloves
- Gowns Wear a gown to protect skin and clothing during procedures or activities where contact with blood or body fluids is anticipated.
- Do not wear the same gown for the care of more than one patient
- Remove gown and perform hand hygiene before leaving the patient's environment (e.g., exam room)
- Facemasks (Procedure or Surgical Masks) Wear a facemask:
 - When there is potential contact with respiratory secretions and sprays of blood or body fluids (as defined in Standard Precautions and/or Droplet Precautions)
 - May be used in combination with goggles or face shield to protect the mouth, nose and eyes
 - When placing a catheter or injecting material into the spinal canal or subdural space (to protect patients from exposure to infectious agents carried in the mouth or nose of healthcare personnel)
 - Wear a facemask to perform intrathecal chemotherapy
- Goggles, Face Shields Wear eye protection for potential splash or spray of blood, respiratory secretions, or other body fluids.
- Personal eyeglasses and contact lenses are not considered adequate eye protection
- May use goggles with facemasks, or face shield alone, to protect the mouth, nose and eyes
- Respirators If available, wear N95-or higher respirators for potential exposure to infectious agents transmitted via the airborne route (e.g., tuberculosis).
- All healthcare personnel that use N95-or higher respirator are fit tested at least annually and according to OSHA requirements

3.2. Recommendations for Donning PPE

- Always perform hand hygiene before donning PPE
- If wearing a gown, don the gown first and fasten in back accordingly

- If wearing a facemask or respirator:
- Secure ties or elastic band at the back of the head and/or neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- If wearing goggles or face shield, put it on face and adjust to fit
- If wearing gloves in combination with other PPE, don gloves last

3.3. Recommendations for Removing PPE

- Remove PPE before leaving the exam room or patient environment (except respirators which should be removed after exiting the room)
- Removal of gloves:
 - Grasp outside of glove with opposite gloved hand; peel off
 - Hold removed glove in gloved hand
 - Slide ungloved fingers under the remaining glove at the wrist; peel off and discard
- Removal of gowns:
 - Remove in such a way to prevent contamination of clothing or skin
 - Turn contaminated outside surface toward the inside
 - Roll or fold into a bundle and discard
- Removal of facemask or respirator • Avoid touching the front of the mask or respirator
 - Grasp the bottom and the ties/elastic to remove and discard
- Removal of goggles or face shield
 - Avoid touching the front of the goggles or face shield
 - Remove by handling the head band or ear pieces and discard
- Always perform hand hygiene immediately after removing PPE

4. Respiratory Hygiene and Cough Etiquette:

To prevent the transmission of respiratory infections in the facility, the following infection prevention measures are implemented for all potentially infected persons at the point of entry and continuing throughout the duration of the visit. This applies to any person (e.g., patients and accompanying family members, caregivers, and visitors) with signs and symptoms of respiratory illness, including cough, congestion, rhinorrhea, or increased production of respiratory secretions. Additional precautions (e.g., Transmission-Based Precautions) can be found in Section V.

4.1. Identifying Persons with Potential Respiratory Infection:

- Facility staff remains alert for any persons arriving with symptoms of a respiratory infection
- Signs are posted at the reception area instructing patients and accompanying persons to:
- Self-report symptoms of a respiratory infection during registration
- Practice respiratory hygiene and cough etiquette (technique described below) and wear facemask as needed

4.2. Availability of Supplies:

The following supplies are provided in the reception area and other common waiting areas:

- Facemasks, tissues, and no-touch waste receptacles for disposing of used tissues
- Dispensers of alcohol-based hand rub

4.3. Respiratory Hygiene and Cough Etiquette:

All persons with signs and symptoms of a respiratory infection (including facility staff) are instructed to:

- Cover the mouth and nose with a tissue when coughing or sneezing;
- Dispose of the used tissue in the nearest waste receptacle
- Perform hand hygiene after contact with respiratory secretions and contaminated objects/materials

4.4. Masking and Separation of Persons with Respiratory Symptoms:

If patient calls ahead:

- Have patients with symptoms of a respiratory infection come at a time when the facility is less crowded or through a separate entrance, if available
- If the purpose of the visit is non-urgent, patients are encouraged to reschedule the appointment until symptoms have resolved
- Upon entry to the facility, patients are to be instructed to don a facemask (e.g., procedure or surgical mask)
- Alert registration staff ahead of time to place the patient in an exam room with a closed door upon arrival

If identified after arrival:

- Provide facemasks to all persons (including persons accompanying patients) who are coughing and have symptoms of a respiratory infection
- Place the coughing patient in an exam room with a closed door as soon as possible (if suspicious for airborne transmission, refer to Airborne Precautions in Section V.D.); if an exam room is not available, the patient should sit as far from other patients as possible in the waiting room
- Accompanying persons who have symptoms of a respiratory infection should not enter patient-care areas and are encouraged to wait outside the facility

4.5. Healthcare Personnel Responsibilities:

- Healthcare personnel observe Droplet Precautions (refer to Section V.C.), in addition to Standard Precautions, when examining and caring for patients with signs and symptoms of a respiratory infection (if suspicious for an infectious agent spread by airborne route, refer to Airborne Precautions in Section V.D.)
- These precautions are maintained until it is determined that the cause of the symptoms is not an infectious agent that requires Droplet or Airborne Precautions
- All healthcare personnel are aware of facility sick leave policies, including staff who are not directly employed by the facility but provide essential daily services
- Healthcare personnel with a respiratory infection avoid direct patient contact; if this is not possible, then a facemask should be worn while providing patient care and frequent hand hygiene should be reinforced
- Healthcare personnel are up-to-date with all recommended vaccinations, including annual influenza vaccine

4.6. Staff Communication:

Designated personnel regularly review information on local respiratory virus activity provided by the govt. health department and CDC to determine if the facility will need to implement enhanced screening for respiratory symptoms as outlined in content (5.7)

4.7. During Periods of Increased Community Respiratory Virus Activity (e.g., Influenza Season)

In addition to the aforementioned infection prevention measures, the following enhanced screening measures are implemented:

When scheduling and/or confirming appointments:

- Pre-screen all patients and schedule those with respiratory symptoms to come when the facility might be less crowded, if possible
- Instruct patients with respiratory symptoms to don a facemask upon entry to the facility
- If the purpose of the visit is non-urgent, patients with symptoms of respiratory infection are encouraged to schedule an appointment after symptoms have resolved
- Encourage family members, caregivers, and visitors with symptoms of respiratory infection to not accompany patients during their visits to the facility
- If possible, prepare in advance for the registration staff a daily list of patients with respiratory symptoms who are scheduled for a visit
- Upon entry to the facility and during visit:
- At the time of patient registration, facility staff identify pre-screened patients (from the list) and screen all other patients and accompanying persons for symptoms of respiratory infection
- Patients identified with respiratory symptoms are placed in a private exam room as soon as possible; if an exam room is not available, patients are provided a facemask and placed in a separate area as far as possible from other patients while awaiting care
- If patient volume is anticipated to be higher than usual with prolonged wait time at registration:
- A separate triage station is established to identify pre-screened patients (from the list) and to screen all other patients and accompanying persons immediately upon their arrival and prior to registration ii. Patients identified with respiratory symptoms are registered in a separate area, if possible, and placed immediately in a private exam room; if an exam room is not available, patients are provided a facemask and placed in a separate area as far as possible from other patients while awaiting care

- If possible, encourage family members, caregivers, and visitors with symptoms of respiratory infection to not enter the facility

5. Injection Safety:

Injection safety refers to the proper use and handling of supplies for administering injections and infusions (e.g., syringes needles, finger stick devices, intravenous tubing, medication vials, and parenteral solutions). These practices are intended to prevent transmission of infectious diseases between one patient and another, or between patient and healthcare personnel during preparation and administration of parenteral medications. To the extent possible, medication preparation should take place in pharmacy settings and dedicated medication rooms. All staff personnel who use or handle parenteral medications and related supplies should be aware of labeling and storage requirements and pharmacy standards. Additional recommendations for safe injection practices, including the appropriate use of single-dose (or single-use) and multi-dose vials and the proper technique for accessing intravascular devices, can be found in (Medication Storage and Handling), in (Central Venous Catheters),

5.1. General Safe Injection Practices

- Use aseptic technique when preparing and administering chemotherapy infusions or other parenteral medications (e.g., antiemetics, diphenhydramine, dexamethasone)
- Whenever possible, use commercially manufactured or pharmacy-prepared prefilled syringes (e.g., saline and heparin)
- Avoid pre-filling and storing batch-prepared syringes
- except in accordance with pharmacy standards
- Avoid unwrapping syringes prior to the time of use
- Never administer medications from the same syringe to multiple patients, even if the needle is changed or the injection is administered through an intervening length of intravenous tubing
- Do not reuse a syringe to enter a medication vial or solution
- Do not administer medications from single-dose or single-use vials, ampoules, or bags or bottles of intravenous solution to more than one patient (e.g, do not use a bag of saline as a common source supply for multiple patients)
- Cleanse the access diaphragms of medication vials with 70% alcohol and allow the alcohol to dry before inserting a device into the vial

- Dedicate multi-dose vials to a single patient whenever possible. If multi-dose vials must be used for more than one patient, they are restricted to a dedicated medication preparation area and should not enter the immediate patient treatment area (e.g., exam room, chemotherapy suite)
- Dispose of used syringes and needles at the point of use in a sharps container that is closable, puncture resistant, and leak-proof
- Do not use fluid infusion or administration sets (e.g., intravenous tubing) for more than one patient
- Use single-use, disposable finger stick devices (e.g., lancets) to obtain samples for checking a patient's blood glucose, PT/INR, etc. and dispose of them after each use; do not use a lancet holder or pen let device for this purpose
- Adhere to federal and state requirements for protection of healthcare personnel from exposure to blood borne pathogens

5.2. Spinal Injection Procedures

- Use aseptic technique and follow safe injection practices (e.g., dedicating single-dose vials to single-patient use)
- At a minimum, wear a facemask (e.g., procedure or surgical masks) and sterile gloves when injecting material or inserting a catheter into the epidural or subdural space (e.g., administration of intrathecal chemotherapy)
- For other spinal procedures (e.g., diagnostic and therapeutic lumbar punctures) or handling of devices to access the cerebrospinal fluid (e.g., Ommaya reservoir):
- At a minimum, use aseptic technique and follow safe injection practices
- Facemask can be considered as an additional precaution

5.3. Phlebotomy Procedures

- Phlebotomy procedures are performed in a dedicated area, if possible
- If the procedure has to be done elsewhere (e.g., exam room, chemotherapy suite), do not bring common trays of supplies for phlebotomy or intravenous device access to the patient's immediate treatment area; bring only the necessary supplies to the patient side
- Hand hygiene stations (e.g., alcohol-based hand rub dispensers) are readily accessible to the phlebotomist
- Use aseptic technique to perform the phlebotomy procedure
- Do not reuse vacutainer holders

- Sharps containers are strategically placed near the phlebotomist to ensure easy access and safe disposal of used supplies
- Minimize environmental contamination by performing the following:
- Label tubes before blood is drawn
- Avoid placing tubes on patient charts or other items or surfaces that cannot be properly cleaned
- Do not process or store blood specimens near medications or medication preparation area

6. Patient's specimens handling and transportation method:

6.1. Approved Specimen Transport Containers

- Specimen transport containers should be sufficiently robust to withstand reasonable stresses likely to be put upon them during transportation to the point of collection
- The containers should be insulated to avoid extremes of heat or cold and also be a secure rigid, robust and leak proof container with a handle and a tight fitting lid
- These boxes must not be used for any other purpose than carrying Pathology specimens, and must be labeled accordingly.

6.2. Dealing with Spillages & Container Cleaning

- All staff must be aware of what to do in the event of spillage and refer to the appropriate Nugent Care procedure and policy(s).
- Containers for transporting specimens should be cleaned daily to reduce the risk of transmission of micro organisms and this should be done by using hot water and detergent (or detergent wipe if available), and then rinsed and dried.

6.3. Specimen Container Type and Use

Specimens to be transported to the GP Practice or hospital site from a home must be bagged or contained in a way which is appropriate for the type of specimen, following the guidance / instruction supplied with this appropriate packaging type and then placed within a designated specimen transport container

6.4. The Safe Collection of Specimens

- Always follow infection control precautions when handling specimens e.g. ensure appropriate protective clothing (PPE) is used and waste, including sharps waste is disposed of safely and correctly.
- Write details on container immediately after taking the specimen, DO NOT take away and label prior to filling. Details should include patient's name, and date of birth, type of specimen. The specimen should then be placed directly into the clear bag and then into the specimen transport container.
- Ensure positive identification is displayed on the container / swab.
- Ensure correct specimen container / swab is used.
- Whenever possible always take specimen prior to commencing antibiotics.
- Where appropriate, obtain all specimens with sterile equipment and place in sterile containers, ensuring that the outside of these containers are always free from contamination with bodily fluids (stool and sputum specimens are not sterile specimens).
- Collect fresh specimen material which is as free from extraneous contamination as possible, take material only from the site of infection.
- Prior to taking swabs from a dry area; i.e. nasal screening, the tip should be moistened in sterile normal saline.
- Do not overfill containers especially faecal containers. These can 'explode' on opening.
- Any container containing a specimen that will be sent to a GP for analysis must be robust and not leak during normal use and be suitable for its purpose. Any failings of the integrity of these containers must be monitored and an incident form should be completed, where failure occurs.
- Secure the lids of containers immediately after their use, in order to avoid spillage and contamination during transportation.

- Store specimens in a cool place - some samples may require refrigeration (see 'The Storage of Specimens' on the next page).
- Do not allow the outside of the container to become contaminated.
- Enter individual details on both the container and the request form.
- Place the container into the accompanying specimen plastic bag, with one compartment containing the request form and the other containing the specimen.
- Wash hands after specimen handling and glove removal.

6.5. The Correct Labeling of Specimens

- Every specimen container and request form must describe the nature of the specimen and its source, full resident or service user information allows the receiving laboratory staff to identify the source quickly in the event of the specimen and form becoming separated.
- All specimens must be placed in a specimen bag with the request form in the separate pocket of the bag.
- An additional 'Danger of Infection' label must be attached to specimens and request forms for known or suspected "high risk" pathogens. If staff do not have access to such labels then the form and specimen must be clearly identified as 'high risk' (staff may wish to write in red or use a highlighter pen).

6.6. The Labelling of High risk "Biohazard" Specimens

High-risk micro-organisms include:

1. Human Immuno-Deficiency Virus (HIV) Viral haemorrhagic fevers
2. Hepatitis B Virus (HBV) Rabies
3. Hepatitis C Virus (HCV) Anthrax etc
4. Tuberculosis (TB) Prions
5. Hepatitis E E-Coli 0157

6. Salmonella Typhimurium

6.7. The Storage of Specimens:

- Any fridge that is used for the storage of specimens **MUST NOT** be used for the storage of any food items or drugs, including vaccines.
- The fridge should have a minimum / maximum thermometer and be regularly cleaned and serviced, as directed in the cleaning schedule and in line with recognised frequency standards
- Sputum should be sent to the laboratory as soon as possible on the daily specimen pick up. Respiratory pathogens will not survive for prolonged periods.
- Do not leave specimens, including Sputum, over the weekend or bank holidays.

6.8. The Designated Collection Points:

- All specimens are to be taken to the designated secure collection area identified within the workplace until they are ready for collection or transport.

Annexure-1

Baqal Medical University
Daily Checklist for Disinfection
Depatment Wise

[illegible]

Annexure-2

Baqai Dental College

Daily Washroom Checklist (2020)

Month: _____

Washroom # _____

Department: _____

Block: _____

DAYS	TIM E	SOA P	DUSTBI N	PAPER TOWEL	DISINFECTION	CLEANLINESS	SUPERVISOR
1							
2							
3							
4							
5							
6							
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27							
28							
29							
30							
31							

Tick the boxes if found appropriate

ITEMS TO BE CHECKED ON DAILY BASES








SUPERVISOR MUST BE DESIGNATED TO OVERSEE THE AS PER DEFINED SHEDULE AND VERIFY IT


ON THE BASES OF FOLLOWING POINTS:

- 1 disinfection of bathrooms using disinfection solution sprayed by a machine
- 2 availability of soap or liquid soap may be confirmed
- 3 availability of disposable paper towels must be confirmed
- 4 exhaust fan of the washroom must be in working order
- 5 cleaning must be done with phenylwater solution
wastebin must be made available and cleaned on daily
- 6 bases

Annexure 3

TYPES OF RESPIRATORY PROTECTION

 <p>Elastomeric Half Facepiece Respirators are reusable and have replaceable cartridges or filters. They cover the nose and mouth and provide protection against gases, vapors, or particles when equipped with the appropriate cartridge or filter.</p>	 <p>Elastomeric Full Facepiece Respirators are reusable and have replaceable canisters, cartridges, or filters. The facepiece covers the face and eyes, which offers eye protection.</p>	 <p>Filtering Facepiece Respirators are disposable half facepiece respirators that filter out particles such as dusts, mists, and fumes. They do NOT provide protection against gases and vapors.</p>	 <p>Powered Air-Purifying Respirators (PAPRs) have a battery-powered blower that pulls air through attached filters, canisters, or cartridges. They provide protection against gases, vapors, or particles, when equipped with the appropriate cartridge, canister, or filter. Loose-fitting PAPRs do not require fit testing and can be used with facial hair.</p>
 <p>Supplied-Air Respirators are connected to a separate source that supplies clean compressed air through a hose. They can be lightweight and used while working for long hours in environments not immediately dangerous to life and health (IDLH).</p>	 <p><small>Example of an open circuit SCBA.</small></p> <p>Self-Contained Breathing Apparatus (SCBAs) are used for entry into or escape from environments considered to be IDLH. They contain their own breathing air supply and can be either open circuit or closed circuit.</p>	 <p><small>Example of an SAA/SCBA.</small></p> <p>Combination Respirators can be either a supplied-air/SCBA respirator or supplied-air/air-purifying respirator. The SCBA type has a self-contained air supply if primary airline fails and can be used in IDLH environments. The air-purifying type offers protection using both a supplied-air hose & an air-purifying component and cannot be used for entry into IDLH environments.</p>	



Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

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5. CDC 2007 Guideline for Isolation Precautions (available at: <http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf>) CDC Clinical Reminder: Spinal Injection Procedures Performed without a Facemask Pose Risk for Bacterial Meningitis (available at: http://www.cdc.gov/injectionsafety/PDF/Clinical_Reminder_Spinal-Infection_Meningitis.pdf)
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