HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER MATERNITY AND CHILDREN HOSPITAL

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Title:	Aseptic Technique		
Applies To:	Health Care Workers		
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1. PURPOSE:

1.1 To provide guidelines on practices to reduce the number of microorganisms on hands, supplies and equipment during patient care procedures.

2. DEFINITONS:

2.1 Aseptic technique refers to practices designed to render and maintain objects and areas maximally free from microorganisms and aid in the prevention of surgical site, urinary tract, bloodstream, and pneumonia infections that may be device or procedure-related

2.2 Clean technique refers to medical aseptic practices that sue clean and disinfected or sterile equipment and supplies to reduce the numbers of microorganisms and minimize the risk of transmission from personnel or the environment to the patient.

2.3 Surgical asepsis implies sterility and is applied to patients undergoing invasive procedures to prevent potential contamination of the operative or procedural field.

2.4 Asepsis or aseptic means the absence of germs, such as bacteria, viruses, and other microorganisms that can cause disease.

3. POLICY:

3.1 Aseptic technique involves using barriers, such as sterile gloves, sterile gowns, masks, and sterile drapes, to prevent the transfer of microorganisms from care providers and the environment to the patients during the procedure being performed.

3.2 Separate clean area is available and maintained for preparation of medications (i.e., away from patients' treatment areas).

3.3 For invasive procedures, sterile devices and supplies are used after patient's skin antisepsis (e.g., sterile syringes, needles and medications are used after skin antisepsis with approved antiseptics).

3.4 "Nursing staff scrub the access port or hub with friction immediately prior to each use with an appropriate approved antiseptic for at least 15 seconds."

3.5 No reuse of single use items.

4. PROCEDURE:

4.1 Sterile equipment and solutions are assembled immediately prior to use.

4.2 Sterile to sterile role is applied during any aseptic procedure.

4.3 Maximum sterile barrier precautions is applied during any interventional procedure, including cap, mask, sterile gown, sterile gloves, and sterile full-body drape.

4.4 Traffic should be kept minimum once the sterile field has been established.

4.5 Separate clean area is available for preparing medications.

4.5.1 Controlled ventilation with monitor for recording the temperature and humidity (temperature ranges from 22 °C to 24 °C / relative humidity up to 70%)

4.5.2 At least, one hand washing sink that is equipped with hot & cold water / plain and antimicrobial soap / towels

4.5.3 At least, one alcohol-based hand rub dispenser.

4.6 Only sterile devices and supplies are used for invasive procedures after patient's skin antisepsis (e.g., sterile syringes, sterile needles, sterile medications, sterile wound dressings, specific procedure kits, skin antiseptics, antiseptic wipes ...etc.)

4.6.1 Sterile single-use devices or items (sterile syringes, needles, wound dressing kits, singleuse medications ...etc..) are exclusively used for a single invasive procedure in a single patient. It should not be stored for future reuse even on the same patient (whether labeled with patient's name or not / whether labeled with date & time of the first use or not)

4.6.2 Supplies are brought to patient's care area only when needed and after treatment session or patient discharge, all remaining single-use items are discarded while reusable ones are sent to CSSD for reprocessing (even unused items with intact original wrap).

4.7 The patient's skin is disinfected with an appropriate antiseptic before injection or cannulation

4.7.1 A peripheral venous catheter is properly fixed, with a clearly written date of insertion, and to reduce risk of infection and phlebitis, it is replaced - if still needed - as follows:

4.7.1.1 In adults: it is not replaced more frequently than every 72 to 96 hours.

4.7.1.2 In children: it is replaced only when clinically indicated."

4.8 Preparation & dilution of medications are only done by ready-made single-dose sterile solutions.

4.8.1 Preparation & dilution of medications are only done by ready-made single-dose sterile solutions.

4.8.2 Single-dose or single-use vial is used for a single procedure/injection in a single patient and it is not stored for future use even for the same patient.

4.8.3 IV solution bottle should not be used for preparation & dilution of medications even for the same patient (whether labeled with patient's name or not / whether labeled with date & time of the first use or not)

4.9 Needles and syringes including prefilled syringes, and vacutainer holders are used for a single procedure/injection.

4.10 Single-dose or single-use vial

4.10.1 Single-dose or single-use vial is used for a single procedure/injection in a single patient and it is not stored for future use even for the same patient.

4.10.2 Single-dose or single-use vial should not be kept opened with any remaining dose whether labelled with any patient's name or not to avoid its reuse or storing for future use even on the same patient.

Preparation and dilution of medication is only done by ready-made sterile water ampoule.

4.11 Multi-dose vial

4.11.1 If multi-dose vial is used for more than one patient, they should only be kept and accessed in a dedicated clean medication preparation area away from immediate patient treatment areas

4.11.2 Date of the first use is recorded on a used vial, to be discarded after 28 days unless the manufacturer specifies a different shorter or a longer date (i.e., reuse life).

4.11.3 Multi-dose vials are exclusively kept and accessed in the medication's preparation areas (i.e., multi-dose vials used for more than one patient are never taken to patients' treatment areas)

4.11.4 If multi-dose vial is present or kept in patients' treatment areas, patient's name & medical record number is recorded on used vial to avoid its use for multiple patients

4.11.5 A multi-dose vial that is used for multiple patients (i.e., required supplies, correct storage while in use, proper technique with labeling with date & time and discarding when indicated).

4.11.6 Whenever possible, multi-dose vial is used for a single patient, with recorded patient's name and date of the first use (when it has been accessed for the first time), and discarded after 28 days unless the manufacturer specifies a different shorter or a longer date (i.e., reuse life).

4.11.7 **Multidose medication vials are accessed with a new needle and a new syringe, even when obtaining additional doses for the same patient.**

4.12 Cartridge devices such as insulin pens are used for only one patient.

4.12.1 Patient's name & medical record number to be used exclusively for only one patient

4.12.2 Date of the first use to be discarded after expiration of the reuse life recommended by the manufacturer.

4.13 Supplies are brought to the patient's care area only when needed and after patient discharge, all remaining single-use items are discarded while reusable ones are sent to CSSD for reprocessing (even unused items with intact original wrap).

4.13.1 Remaining disposable supplies or single-use medications are discarded, even unused ones with intact original wrap (i.e., they cannot be used on other patients or returned to clean areas, such as medical stores or central preparation areas)

4.13.2 All reusable items are sent for reprocessing, even unused ones with intact original wrap.

4.14 The self-sealed rubber cap of a medication vial or an IV solution bottle is disinfected with approved antiseptic wipes (e.g., alcohol wipes) prior to any access.

4.14.1 Sterile devices are only used to access medication vials and IV solution bottles with strict adherence to aseptic techniques

4.14.2 Prior to any access to a medication vial or an IV solution bottle, its self-sealed rubber cap is disinfected with approved alcohol antiseptic wipe (i.e., vigorously scrub the self-sealed rubber cap with antiseptic wipe for 10 – 15 seconds / never touch the access site after the application of antiseptic / wait the access site to dry before being penetrated with sterile device)

4.14.3 Exclusively, IV solution bottles should be accessed through their self-sealed rubber caps after being disinfected.

4.15 IV sets

4.15.1 IV sets (including secondary sets and add-on devices) that are continually used to infuse crystalloid solutions (hypotonic, isotonic, or hypertonic), are replaced at least every 7 days, but not more frequently than 96-hour intervals

4.15.2 IV sets that are used to administer blood, blood products, lipid emulsions, or dextrose/amino acid TPN solutions are replaced within 24 hours of initiating the infusion.

4.15.3 IV administration sets are labelled with dates & times of initiating treatment (e.g., dates & times of initiating infusion of crystalloid solutions (hypotonic, isotonic, or hypertonic solutions) or administration of blood, blood products, lipid emulsions or TPN solutions).

4.15.4 If an epidemic of infusion-associated BSI is suspected, change IV administration sets within 24 hours of initiating the infusion.

4.16 For a ventilated patient, the ventilation circuit is only changed when visibly soiled or mechanically malfunctioning.

4.17 Do not routinely replace CVCs, PICCs or pulmonary artery catheters If there is no evidence of infection. Replace them only when there is a clinical indication.

4.18 Remove the CVCs, PICCs or pulmonary artery catheters as soon as they are no longer needed.

4.19 **Sterile solutions are used in nebulizers, humidifiers, or any aerosol generating system and changed between patients and every 24 hours for the same patient unless the manufacturer of ready-made sterile solutions specifies different dates.**

4.20 Hand hygiene practiced before breast milk expression and sterile container is used for breastmilk collection and preservation.

4.21 Open feeding systems should be removed after 8 hours, whereas sterile closed systems may remain hanging for up to 24 to 48 hours or per manufacturer's recommendation.

4.22 Remove and do not replace umbilical artery or venous catheters if any signs of Catheter-related bloodstream infection (CRBSI], vascular insufficiency in the lower extremities, or thrombosis are present.

4.23 If guidewire is used to replace a malfunctioning non-tunneled catheter, infection should be ruled out.

4.24 Catheter Site Dressing Regimens:

4.24.1 Use either sterile gauze or sterile, transparent, semipermeable dressing to cover the catheter site

4.24.2 Replace dressings used on short-term central venous catheter (CVC) sites every 2 days for gauze dressing.

4.24.3 Replace dressing used on short-term CVC sites at least every 7 days for transparent dressing.

4.24.4 Replace transparent dressings used on tunneled or implanted CVC sites no more than once per week (unless the dressing is soiled or loose], until the insertion site has healed.

4.25 HCW wears mask during insertion of a catheter or injection into spinal or epidural space.

4.26 Aseptic Technique:

4.26.1 Appropriate attire

4.26.1.1 Appropriate attire is based on the risk of the procedure and the area of the hospital where the procedure is performed.

4.26.1.2 Scrubs are not considered personal protective equipment (PPE)

4.26.1.3 Personnel 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.

4.26.1.4 Depending on the aseptic procedure being performed, barriers may include gloves, gown, and hair covering or as per hospital policy on PPE.

4.26.1.5 Freshly laundered scrubs are worn in semi-restricted and restricted zones in the surgical areas to prevent microbial contamination from shed skin squames and particulate (e.g., lint) transference to the sterile field, including surgical site and patient.

4.26.1.6 Additional attire (e.g., sterile gowns) may also be required to reduce risk of occupational exposure to bloodborne pathogens and other potentially infectious materials, as well as, to maintain sterile field.

4.26.1.7 Head and facial hair covering and clean shoes should also be worn in semi-restricted and restricted areas of the operating room.

4.26.1.8 Mask should be worn in restricted areas when open sterile supplies and equipment are present.

4.26.2 Hand hygiene. See policy no. 13 Hand Hygiene Policy

4.26.2.1 Hand decontamination prior to 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.

4.26.3 Skin antisepsis

4.26.2.1 It is imperative to use the appropriate recommended antiseptic for each procedure type as well as screening for contraindications such as allergies.

4.26.2.2 Antiseptic agents should be used following manufacturer's direction for use, including
ensuring skin is clean before placement as well as antiseptic contact and drying time.

4.26.4 Single-use devices, equipment, and supplies

4.26.4.1 Personnel should maintain the sterile packaging and/or container integrity to ensure an intact seal and confirm that sterilization indicators with expiration date are verified

4.26.4.2 Before use, sterile packages should always be inspected for signs of contamination such as
moisture, tears, discoloration, and expiration.

4.26.5 Environmental cleaning

4.26.5.1 Clean and disinfect the environmental surfaces using hospital-approved disinfectants and the use of an efficacious germicidal agent for cleanup of blood or body fluid spills are recommended for controlling environment to reduce the risk of contamination and microbial transmission all patient care settings.

4.26.5.2 Use clean equipment and supplies (i.e., mops, water, cleaning cloths) for environmental hygiene

4.26.5.3 Use checklist for training and quality monitoring of operating room cleaning procedures.

4.27 Clean Technique

4.27.1 Wear clean gloves instead of sterile gloves after hand antisepsis where clean technique is indicated.

8.1 Gulf Cooperation Council-Center for Infection Control : http://gdipc.org/wp-contenffuploads/2018/07/TheGCC-Infection-Prevention-and-Control-Manual-3rd-Edition.pdf

8.2 INFECTION PREVENTION & CONTROL CORE COMPONENTS (IPCCC) https://jed-s3.bluvalt.com/psj1-ifn-s3-ifn01/files/01/Guidelines/IPCCC%20IN PATIENT%20CARE%20UNITS%202023%20Version%202.pdf

8.3 General Directorate of Infection Prevention and Control of Healthcare Facilities (GDIPC). ICA Version 4. 1444 – 2023

9. APPROVALS:

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4.27.2 Use the "no-touch" dressing technique to prevent contamination of sterile dressings, depending on the type and extent of the procedure.

4.27.3 Use clean gloves for routine changing of surgical site dressings, tracheostomy care, and maintenance of intravascular lines, as long as you use techniques that prevent the transfer of
new organisms or movement from one site to another patient.

4.27.4 Wear a clean gown to minimize contamination of clothing, following standard precaution guidelines

4.28 Surgical Aseptic Technique Outside the OR

4.28.1 Using environmental controls to maximize the reduction of microorganisms during surgical procedures is essential. Such strategies may include the following:

4.28.1.1 Use of special treatment or operating rooms.

4.28.1.2 Managing activities to reduce airborne transmission if procedures are performed at the bedside.

4.28.1.3 Keeping doors closed during procedures.

4.28.1.4 Using physical barriers such as screens.

4.28.1.5 Diverting traffic in open units.

4.28.1.6 Excluding visitors and unnecessary personnel.

4.28.1.7 Avoiding cleaning activities in the area during invasive procedures.

4.28.1.8 Providing environmental controls such as ventilation to further reduce contamination.

4.29 Aseptic Technique for Sterile Fields in the OR

4.29.1 Strictly adhere to sterile technique in the operating room when maintaining the sterile field, or the area surrounding the site of incision or perforation into tissue, or the site of introduction of an instrument into a body orifice that has been prepared for an invasive procedure.

4.29.2 Use barriers to decrease the risk of transmission from practitioner or environment to the patient by maintaining a sterile field with sterile drapes, sterile gloves, and sterile gowns. Use sterile drapes and drape accessories to cover all working areas, furniture, and equipment.

4.29.3 Wear sterile attire in the sterile field.

4.29.4 A higher rate of air exchanges and maintenance of positive pressure in relation to the adjacent corridors or spaces is appropriate.

4.29.5 It is required to have appropriate air duct filters checked and changed at appropriate intervals.

4.29.6 Maintain environmental controls in the operating room by monitoring temperature and humidity

5. MATERIALS AND EQUIPMENT:

5.1 **Forms and Records:**

5.1.1 N/A

5.2 **Materials and Equipment**

5.2.1 N/A

6. RESPONSIBILITIES:

6.1 All Health care workers must follow aseptic technique in performing patient care procedures.

6.2 IPC team to monitor and ensure compliance of this policy.

7. APPENDICES:

7.1 Recommendations for HCWs regarding hand and skin preparation of patient skin (site) ONLY. See attachment

8. REFERENCES:

7.1 Recommendations for HCWs regarding hand and skin preparation of patient skin (site) ONLY. See attachment

Procedure	Example	Hand hygiene	Gloves	Preparation of patient's skin	Comment
A. Medical Asepsis (Clean Procedures)					
Procedures in which instruments come in contact with intact mucous membranes	1. Bronchoscopy, gastrointestinal endoscopy, tracheal suction	Antibacterial soap and water or alcohol-based hand rub**	Clean	None is required	
	2. Peripheral Intravenous Insertion	Antibacterial soap and water or alcohol hand rub**	Clean	Hospital-approved antiseptics* should be used. Select appropriately for the patient's site.	
	3. Urinary tract catheterization	Antibacterial soap and water or alcohol hand rub**	Clean	Hospital-approved antiseptics* and rinse with sterile water	DO NOT use alcohol-containing antiseptic
B. Surgical Asepsis (Sterile Procedures)					
I. Procedures in which instruments go through sterile tissue or fluid	1. CVL insertion - CVL wire insertion - Cardiac pacemaker insertion	Surgical hand scrub with antibacterial soap and water or Alcohol surgical hand scrub**	Sterile	Hospital-approved antiseptics* should be used.	"Defatting" agents do not appear to decrease infections and can cause skin irritation
	2. Arterial line insertion	Surgical hand scrub with antibacterial soap and water or Alcohol surgical hand scrub**	Sterile	Hospital-approved antiseptics* should be used.	Most epidemics of infection associated with arterial pressure monitoring devices appear to be caused by hospital-associated contamination of components external to the skin, such as transducer heads or domes; "endemic" IV-related bloodstream infections are frequently associated with skin flora.
	3. Spinal tap Thoracentesis Abdominal paracentesis Bone marrow biopsy	Antibacterial soap and water or alcohol surgical hand rub**	Sterile	Hospital-approved antiseptics* should be used	
	4. Cystoscopy	Antibacterial soap and water or alcohol surgical hand rub**		Hospital-approved antiseptics* and rinse with sterile water	DO NOT use alcoholcontaining antiseptic
	5. Chest tube insertion Colposcopy Laparoscopy Peritoneal catheter insertion	Surgical hand scrub with antibacterial soap and water or Alcohol surgical hand scrub**	Sterile	Hospital-approved antiseptics* should be used If hair removal is considered necessary, clippers should be used immediately before the procedure	
II. Minor skin surgery	1. Skin biopsy, suturing of small cuts, lancing boils and mole removal 2. Circumcision	Surgical hand scrub with antibacterial soap and water or Alcohol surgical hand scrub**	Sterile	Hospital-approved antiseptics* should be used	
III. Other procedures (major and minor surgery) that enter tissue below the skin	1. Hysterectomy 2. Cholecystectomy 3. Herniorrhaphy	Surgical hand scrub with antibacterial soap and water or Alcohol surgical hand scrub**	Sterile	Antiseptic* should be used after the site has been scrubbed with detergent If hair removal is considered necessary, clippers should be used immediately before the procedure	Hand disinfection before surgical procedures that enter deep tissue is usually prolonged to ensure that all areas that harbor bacteria are adequately cleaned.

*Antiseptics available are:
1. 2% aqueous chlorhexidine gluconate swabs (for CVC insertion in neonates <2 wk and <1500 grams- avoid excessive skin exposure, remove excess CHG with sterile gauze & observe for skin reactions)
2. 2% chlorhexidine in 70% alcohol swabs
3. 10% povidone iodine (swabs or liquid)
4. 70% alcohol (swabs or liquid)

**Hand preparations available are:
1. Antibacterial soap
2. 62%-70% alcohol-based hand rub
3. 2% chlorhexidine in 70% alcohol surgical hand scrub (according to the manufacturer's recommendations)