HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Pharmaceutical Care Department		
Document:	Multidisciplinary Policy And Procedure (MPP)		
Title:	Aseptic Technique and IV Manual		
Applies To:	Medical, Nursing And Pharmacy Staff		
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1. PURPOSE:

1.1 To define the policy of aseptic technique in the IV room, which decrease the events of infection and provide products that are free from microbial and pyrogenic contaminants.

2. DEFINITONS:

2.1 **Aseptic technique**: Procedure used to maintain the sterility of pharmaceutical dosage form.
2.2 **Sterile Products**: pharmaceutical dosage form that are sterile (free of microorganism).
2.3 **Cleaning**: A process that is intended to physically remove microorganisms (and the organic material on which they thrive) and other contaminants from objects.
2.4 **Disinfection**: A process that is intended to kill or remove pathogenic microorganisms but which cannot usually kill bacterial spores.

3. POLICY:

3.1 All intravenous admixtures that are prepared within the hospital must be prepared using aseptic technique. All personnel who prepare these products must possess a through base knowledge, understanding, and level of proficiency to assure adherence to the procedures and objectives of the IV admixture service. This knowledge, understanding, and level of proficiency will be determined by the employee aseptic technique certification process, employee-training program, and ongoing evaluation of aseptic techniques, respectively.

4. PROCEDURES:

4.1 The personnel who prepare IV product are responsible for ensuring compliance with the following:
- 4.1.1 Remove watches and other hand, wrist or fingers jewellery.
- 4.1.2 Wear shoe cover.
- 4.1.3 Wear head cover and face mask.
- 4.1.4 The operator should wear a clean, gown. The gown must be knee-long with sleeves that cover the elbows and closed front and cuffs.
- 4.1.5 Wash hands (refer to I.P.C. manual) for surgical hand scrub.
- 4.1.6 Wear sterile disposable gloves (gloves shall be worn at all times while working within the hood. These gloves should be changed as often as necessary).

4.2 Aseptically prepare the IV preparations:
- 4.2.1 All intravenous admixtures are to be prepared in a laminar flow hood and using strict aseptic technique.
- 4.2.2 Products and supplies used in preparing sterile products should be removed from container outside the controlled area before aseptic processing is begun, and should be cleaned outside the controlled area from dust or dirt.

4.2.3 Examine the large volume Parenteral and medication containers before use for defects, including cracks in glass bottles, leaks in plastic bag, expiration date and cloudiness.

4.2.4 Unessential material (labels, calculators, excess syringes or needles, pens, etc.) should not be placed inside the laminar flow hood.

4.2.5 All syringes, needles, alcohol swab, aluminium foil (sealer), beaker (to discard the excess volume), alcohol sprayer, gauze, should be placed outside the hood near to the operator.

4.2.6 During work items should be placed no closer than 3 inches from the very back of the hood (nothing should touch the filter) and it should be limited to maximum of 3-4 items.

4.2.7 Preparing IV syringe medications with good aseptic technique as follows:

4.2.1 All work must be performed at a distance not less than 6 inches from the front edge of the work surface.

4.2.2 The work surface of the laminar flow hood should be cleaned with 70% isopropyl alcohol (using side to side motion starting at the back and working forward).

4.2.3 Swab all surfaces that require puncture with 70% isopropyl alcohol.

4.2.4 Don't remove the hand from the hood until the compounding procedure is complete otherwise spray the hands with 70% isopropyl alcohol.

4.2.5 Never cough, sneeze, or talk directly into the hood.

4.2.6 The number of personnel preparing sterile products in the preparation area at one time should be minimized.

4.2.7 Don't allow objects or liquids to contact HEPA filter.

4.3 Measuring drugs with a syringe:

4.3.1 The appropriate size syringe is selected based on the volume of solution to be measured; it should not be filled to capacity because the plunger can be dislodged too easily.

4.3.2 Disposable needles and syringes should be used as single use only.

4.3.3 Remove the protective cover over the syringe tip by twisting. Leave the needle guard in place until just before use, to remove the guard pull it straight off or twist very gently.

4.3.4 Insert the tip of the syringe into the hub of the needle by a locking mechanism. To remove the needle from the syringe, insert the needle back into the needle guard and twist sharply.

4.3.5 When pulling back the plunger of syringe, the fingers should not come in contact with any part of the plunger except the flat knob at the end, the barrel of the syringe should be held in the other hand. Contamination of the medication can occur if the plunger is touched with the fingers.

4.4 The presence of the air bubbles in the syringe prevents accurate measurement of the solution. To remove the air bubbles:

4.4.1 Hold the syringe in a vertical position so that needle is pointed upward.

4.4.2 Pull the plunger back a short distance so that some air enters the syringe and solution is drawn in from the needle.

4.4.3 Firmly tap the barrel of the syringe with the fingers or knuckles so that air bubbles clinging to the side are freed and float to the top of the syringe.

4.4.4 Expel all the air in the syringe by slowly pushing in the plunger until the solution is at the tip of the syringe.

4.4.5 Read the volume of solution by aligning the rubber end of the plunger with the graduation marks on the barrel of the syringe.

4.5 Transferring drugs from ampoules using needles and syringe:

4.5.1 To open an ampoule:

4.5.1.1 Hold the ampoule upright and tap the top to remove solution in the headspace.

4.5.1.2 Swab the neck of the ampoule with an alcohol swab.

4.5.1.3 Grasp the top with the thumb and index finger of one hand, with other hand grasp the bottom of the ampoule.

4.5.1.4 Quickly snap the bottom of the ampoule toward of the hood, and away from the operator and HEPA filter. If the ampoule does not snap easily, rotate it slightly so that pressure is exerted at a weaker point.

4.5.1.5 To transfer the drug solution from an ampoule:

4.5.1.5.1 Tilt the ampoule to about a20-degree angle.

4.5.1.5.2 Insert the needle (bevel) into the ampoule, taking care not to touch the ampoule with the needle point around the neck where it is broken.

4.5.1.5.3 Withdraw solution from the ampoule by:

4.5.1.5.3.1 Pull the plunger back with the thumb and index finger of one hand.

4.5.1.5.3.2 Push the plunger up with the thumb of the same hand in which the syringe is held.

4.5.1.5.3.3 Hold the ampoule and barrel of the syringe in the same hand and pull the plunger back with thumb and index finger of the other hand.

4.5.1.5.4 It is important to maintain a clear pathway between the HEPA filter and the area where the aseptic procedure is performed (hands should not obstruct this pathway).

4.5.1.5.5 Remove all air bubbles from the syringe as previously described in and check the volume.

4.6 Transferring drugs from vials using a needle and syringe:

4.6.1 Remove the protective tab, and swab the top surface of the rubber closure with an alcohol swab.

4.6.2 Determine the correct volume of suitable diluent to reconstitute the powdered drug.

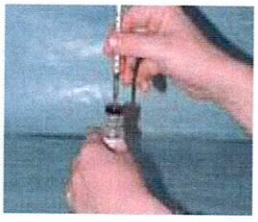
4.6.3 To insert a needle through the rubber closure:

4.6.3.1 Lay the needle on the surface of the rubber closure so that the opening of the needlepoint is facing upward and the needle is at about a 45 - 60 degree angle to the closure surface.

4.6.3.2 Exert downward pressure on the needle while rotating it upward. This action forces the rubber closure away from the bevel of the needle to minimize the chances of coring. The needle will penetrate the rubber at angle just before penetration is complete; the needle should be at a vertical (90 degree) angle.

4.6.3.3 Invert the vial (use one hand to hold the vial, and the other hand to hold the syringe). Inject a volume of air equal to the volume of solution to be removed from the diluent vial, then remove the diluent from the vial.





4.6.3.4 Inject the diluent into the medication vial.

4.6.3.5 Remove the needle and shake the vial until the drug is dissolved, unless shaking is not recommended.

4.6.3.6 Reinsert the needle and remove the proper volume of drug solution. Do not inject air before withdrawing at this point unless air was withdrawn before the needle was removed.

4.6.3.7 Remove all air bubbles from the syringe as previously described in so the volume can be read accurately.

4.6.3.8 Withdraw the needle from the vial.

4.6.4 Multi-dose containers may be used until the expiration date listed in the multi-dose vial stability book available in the pharmacy and at the nursing stations.

4.6.5 Single dose containers should be only once and the rest discarded after use.

5. MATERIAL AND EQUIPMENT:

5.1 Shoe cover.
5.2 Head cover.
5.3 Face mask.
5.4 Gown.
5.5 Sterile disposal gloves.
5.6 Syringe (1ml, 3ml, 5ml, 10ml, 20ml & 50ml).
5.7 Alcohol spryer filled with 70% isopropyl alcohol.
5.8 Alcohol swab.
5.9 Training Form

6. RESPONSIBILITIES:

6.1 Pharmacy staff
6.2 Nursing staff
6.3 Medical staff

7. APPENDICES:

7.1 N/A

8. REFERENCES:

8.1 MOH, General administration of pharmaceutical care.
8.2 CBAHI Standards.

9. APPROVALS:

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