

Procedure #6: Fluid & Electrolyte

Body fluids ; 60% of Body consist from fluid

Purpose

- 1-**To supply fluid when clients are unable to take adequate volume of fluids by mouth.
- 2-** To provide salts and other electrolytes needed to maintain electrolyte balance.
- 3-** To provide glucose (dextrose), the main fuel for metabolism.
- 4-** To provide water-soluble vitamins and medications.
- 5-** To establish a lifeline for rapidly needed medications

Equipment

- . Infusion set & Iv pole
- Sterile parenteral solution
- IV Cannula
- Non-allergenic tape
- Clean gloves
- Tourniquet
- Antiseptic swabs

Performance

1. Prior to performing the procedure:

- introduce yourself and verify the client's identity using agency protocol.
- Explain the procedure to the client .

Venipuncture can cause discomfort for a few seconds, but there should be no ongoing pain after insertion .If possible, explain how long the IV will need to remain in place and how it will be used.

2. Perform hand hygiene and observe other appropriate infection prevention procedures.

3. Position the client appropriately.

- Assist the client to a comfortable position, either **sitting or lying**. Expose the limb to be used but provide client privacy.

4. Apply a medication label to the solution container if a Medication is added.



① Inserting the spike.

Fundamentals of Nursing -Practices -1st Stage -2st Semester
Tutor M.Sc.N Hassanain Al-Mamoori



② Squeezing the drip chamber.



③ Apply a tourniquets.



④ Blood is noted in the flashback chamber once the styles has entered the vein.

**Fundamentals of Nursing -Practices -1st Stage -2st Semester
Tutor M.Sc.N Hassanain Al-Mamoori**



⑤ Stabilize the catheter hub and occlude the vein with finger(s) while removing the stylet .

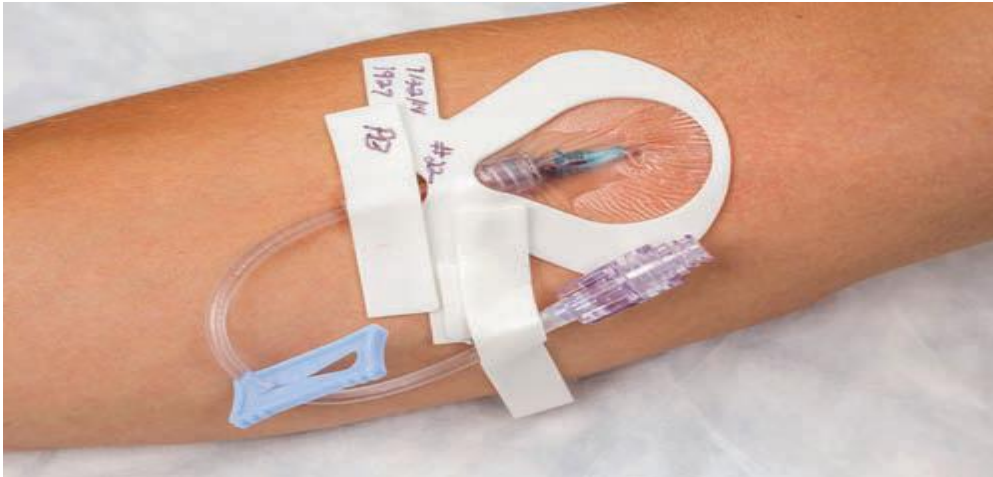


⑥ The catheter is stabilized while gently flushing it to determine patency.



⑦ Applying a sterile one-piece IV stabilization and dressing device.

Fundamentals of Nursing -Practices -1st Stage -2st Semester
Tutor M.Sc.N Hassanain Al-Mamoori



⑧ IV site is labeled with date, time, size of catheter.

Types of intravenous fluids

1- Isotonic

2-Hypotonic

3-Hypertonic

- This classification Depended on The osmolality
 - * **Osmolality** ; is the concentration of solution is measured by **MOSM/ L**
 - * **Normal range of osmolality**
(270 ----- 310 mosm / L)

Fundamentals of Nursing -Practices -1st Stage -2st Semester

Tutor M.Sc.N Hassanain Al-Mamoori

- **N/S----- Normal Saline (sodium chloride) (0.9%)**
- **G/W----- Glucose Water (Dextrose) (5%)**
- **G/S ----- Glucose Saline (sodium chloride & Dextrose)
(0.9% & 5%)**
- **Ringer(Hartmann's) ----(Na , K, Ca, Cl)**
- **Ringer Lactate ----(Na. K, Ca , Cl , Hco3)**
- **Mannitol**

Fluid calculation formula

Total fluid * Drop factor (gtt)

Total time * Minute

Drop Factor (gtt)

- **Fluid**
 - * Drop factor (gtt) ---- **1 ML = 15 drop**
 - * Macro-drip (gtt) ---- **1ML = 20 drop**
 - * Micro-drip (gtt) ----- **1ML = 60 drop**
- **Blood (gtt) ----- 1ML = 10 drop**

For Examples

1- If the requirements are **1,000 mL** in **8 hours** and the **drip factor is 20 drops/mL**, the drops per minute should be ?

2- if **3,000 mL** is infused in **24 hours**, the drops per minute should be ?

Complication of I.V fluid

1- Systemic

- A- Fluid over lode
- B- Air Embolism
- C- Septicemia

2- local

A- phlebitis: Is inflammation of the vein.

B-Thrombophlebitis: Is inflammation of the vein with clot formation.

C- Hematoma: Is accumulation of blood OR fluid under the skin.

Terminology

- **Increasing fluid---- Hypervolemia**
- **Decrease fluid----- Hypovolemia**
- **Increasing Na----- Hyponatremia**
- **Decreasing Na----- Hyponatremia**
- **Increasing K----- Hyperkalemia**
- **Decreasing K----- Hypokalemia**
- **Increasing Ca----- Hypercalcemia**
- **Decreasing Ca ---- Hypocalcemia**