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# Diploma in Pharmacy 2<sup>nd</sup> Year Hospital & Clinical Pharmacy Experiment

To perform the IV vaccination and injection techniques using mannequins.

#### Aim:

To perform the IV vaccination and injection techniques using mannequins.

### Reference:

'Dr. Gupta G.D., Dr. Sharma Shailesh, Dr. Sharma Anshu, "Practical Manual of Hospital & Clinical Pharmacy" Published by Nirali Prakashan, Page no 49 – 51

# **Materials Required**

- 1. Syringe and needle.
- 2. Forceps in a jar containing antiseptic solution
- 3. Sterile cotton swabs and gauze pieces in sterile containers.
- 4. Methylated spirit in a container
- 5. Bowl with water.
- 6. Tourniquet.
- 7. Water for injection.
- 8. Drug order sheet.
- 9. File to cut open the ampoules.
- 10.Small covered tray.



# Theory:

**Intravenous Vaccination and Injection Technique :** The process of injecting a medication into the vein to directly reach the bloodstream by venous puncture is known as intravenous injection. Intravenous injection gives 100% bioavailability.

# **Purpose**

- 1. To provide rapid onset of action, thus preferably used in emergency.
- 2. To deliver those medications that are ineffective or irritating through other routes
- 3. To provide therapeutic action directly in the bloodstream and blood vessels.

#### **Sites**

- 1. Ventral aspect of elbow or forearm median cubical, basilic and cephalic veins.
- 2. Dorsal parts of hand, ie, in bronchial, cephalic or metacarpal veins
- 3. Scalp vein (in infants).

#### **Procedure**

- 1. Selection of the medication should be done as ordered by the physician
- 2. The nurse should wash her hands thoroughly.
- 3. Syringe and needle in good working condition should be selected.
- 4. The ordered medication should be rechecked with the order, medicine card with the label of the medicine expiry date, etc.
- 5. The solution should be mixed well and required amount should be withdrawn by the syringe.
- 6. A tourniquet should be tied on the patient's upper arm.
- 7. The patient should be asked to clench or unclench the hand (as required).



- 8. The skin taut should be pulled and the needle should be placed parallel to the vein at an angle of 15-45 degrees.
- 9. The needle should be inserted below the point where needle will pierce the vein
- 10. The tourniquet should be released if back flow of blood occurs in the syringe and the medicine should be injected very slowly
- 11. To stop bleeding, after the needle has been withdrawn, pressure should be applied with cotton swab at the injection site.

**Special Considerations**: The following guidelines should be considered while administering intravenous injections:

- 1. Before the drug administration, air from the syringe should be expelled by holding it erect and gently pressing the piston until a drop of solution is pushed out from the needle tip. The injection should be held in upright position (needle should be at the top).
- 2. To minimise the risk of allergic reactions, the drug should be dissolved in the fluid in prescribed manner
- 3. The patient should be monitored for any symptoms of adverse reaction after the injection of medication.
- 4. If the injection site is inflamed, the medicine should not be injected to prevent further administration of medicine in the surrounding tissues
- 5. A sensitivity test should be performed before administration of iron preparation to avoid adverse effect of the drug.

#### Result:

vaccination and injection techniques using mannequins was performed.

