

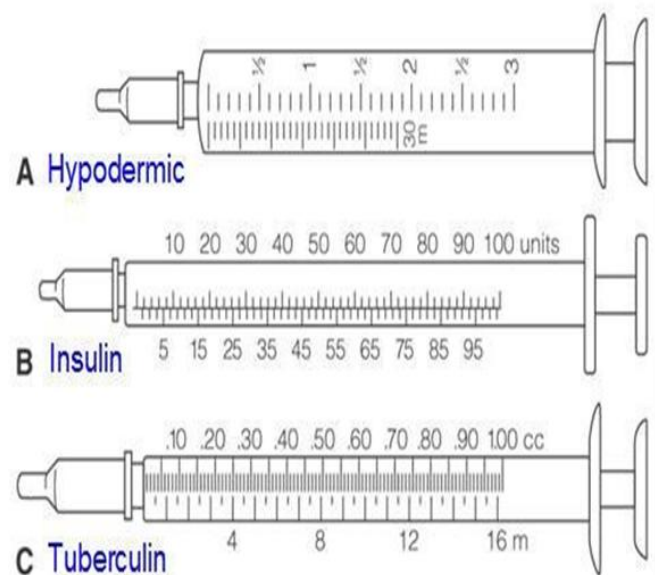
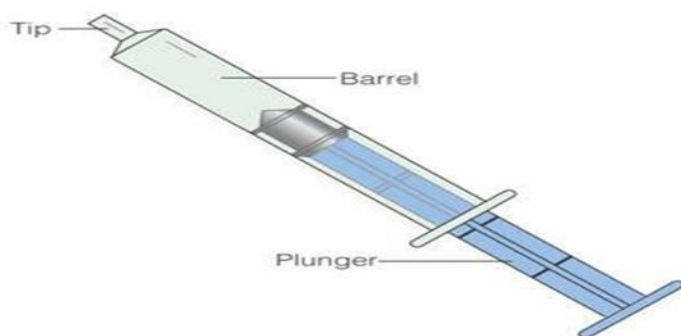
Parenteral routs (injections)

1. Intradermal (ID)
2. Subcutaneous (SQ)
3. Intramuscular (IM)
4. Intravenous (IV)

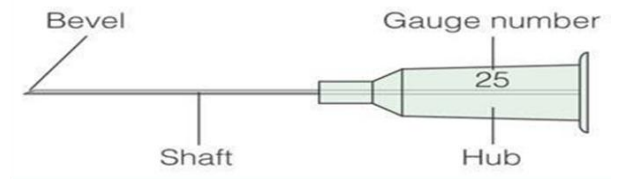
Equipments Syringes

Types

1. Hypodermic syringe
2. Insulin syringe (100 unit/ 1ml)
3. Tuberculin syringe (1 ml)
4. Regular syringe (5, 10, 20, and 50 ml)
5. Prefilled unit-dose system



Equipments needles

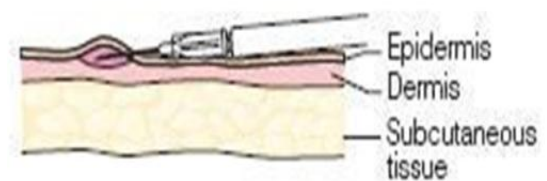


Needle characteristics

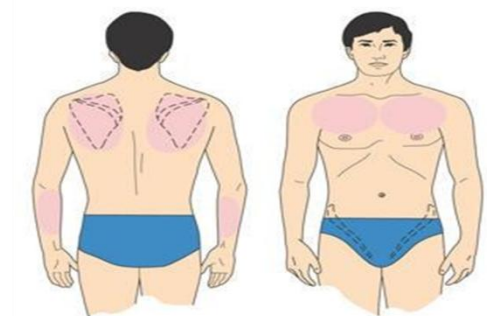
- Bevel (short/ long)
- Shaft (1/2- 2 inches)
- Gauge (diameter) = 18- 28

Intradermal injection(ID): in to the dermal layer of the skin

- Small doses 0.1 ml
- Used for diagnostic purposes
- 15 degrees angle insertion of the needle
- The drug produce a bleb (wheal
- Common site: inner aspect of the arm. upper chest, beneath scapula
- Do not massage the site of the injection
- Need time to interpret



Intradermal Injections



Subcutaneous injection (SC)

- Just beneath the skin
- Usage (Vaccination , Preoperative ,Insulin ,Heparin)
- Only small doses(0.5- 1ml)
- Needle size and length based on the client body mass
- 45 degree angle of insertion
- SQ injection sites need to be rotated to minimize tissue damage
- Common sites: outer aspect of the upper arm, anterior aspect of the thigh, abdomen, scapular area the ventroglutea, dorsogluteal area

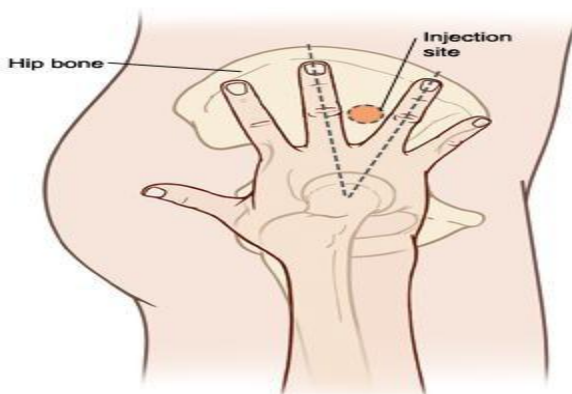


Intramuscular injection (IM)

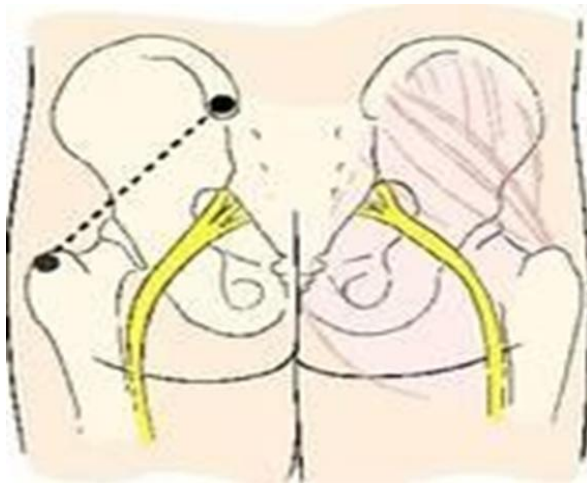
- Absorbed more quickly than SQ
- 1-2 ml used for less developed adult muscle
- Use safe site located away from large blood vessels, nerves and bone.
- 0.5-1 ml in the deltoid muscle
- 90 degrees angle insertion of the needle
- Adult with well developed muscle 4 ml in the gluteal medius and gluteal maximus muscle

Ventrogluteal

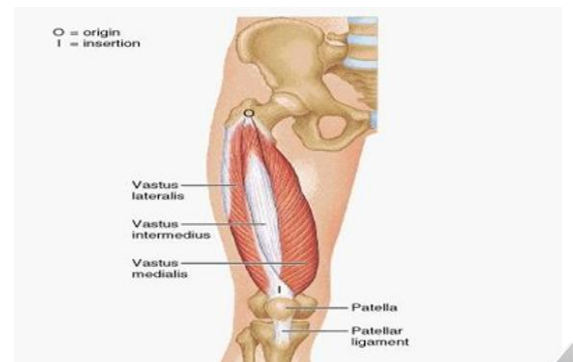
vastus lateralis



Dorsogluteal



rectus femoris



Deltoid

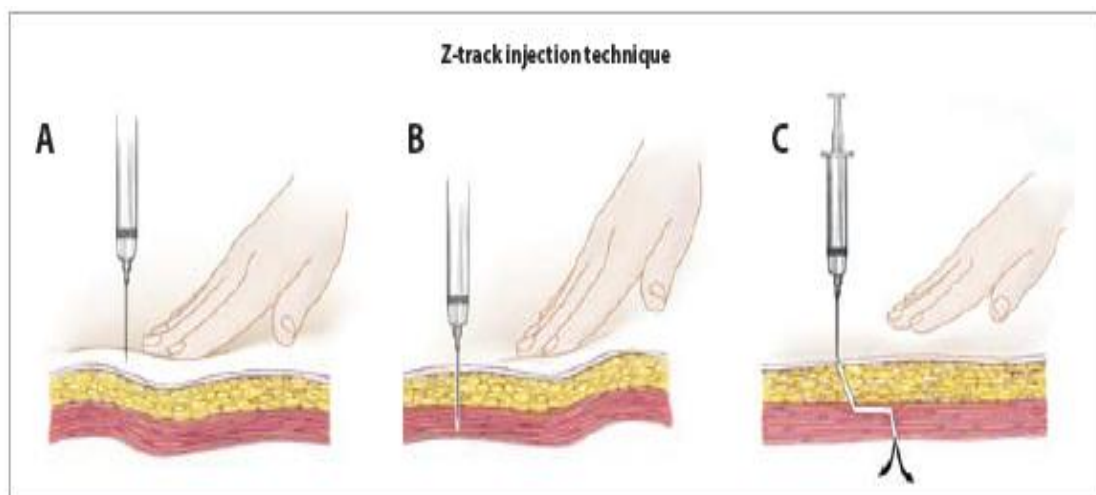


FIGURE 2. Z-track injection technique prevents leakage into subcutaneous tissue and decreases the chance of local irritation. (A) Pull or push the skin 2 to 3 cm away from the injection site with the nondominant hand. (B) Pierce the skin at 90° and depress the plunger slowly. If resistance occurs, pause then resume depressing the plunger. (C) Withdraw the needle, then release the skin.

Intravenous injection (IV)

- Drug enter the blood stream directly
- For rapid effect is required
- Used when medication irritate the tissues
- Large volume of IV fluid
- 15-30 degrees angle insertion of the needle
- Observe client closely for signs of adverse reactions

Preparing injectable medication

- Ampule
- Vials
- Single dose vial
- Multi dose vials



Preparing Medications From Vials





6. Rights of the Drug

SIX RIGHTS OF MEDICATION

