

CLINICAL PROCEDURES

Injections

Intramuscular (IM) Injections

IM injections deposit medication deep into muscle tissue. This route of administration provides rapid systemic action and absorption of relatively large doses (up to 5 ml in appropriate sites). IM injections are recommended for drugs that are altered by digestive juices. Because muscle tissue has few sensory nerves, injecting IM allows for a less painful administration of irritating drugs.

Z-Track Injection

The Z-track method of IM injection prevents leakage, or tracking, into the subcutaneous tissue. It is typically used to administer drugs that irritate and discolor subcutaneous tissue. Lateral displacement of the skin during injection helps to seal the drug in the muscle. This procedure requires careful attention to technique because leakage into subcutaneous tissue can cause significant discomfort for the patient.

1. Equipment

- Kendall Monoject Bluntip 3ml syringe to draw medication from vial
- 22 gauge safety needle for injection (needle must be long enough to reach the muscle)
 - 1 ½ inch safety needle for patients weighing up to 199 pounds
 - 2 inch needle for patients weighing 200 pounds or more

NOTE: 2 inch needles are NOT available with a safety feature. Nurses MUST use care in handling this needle, DO NOT recap; dispose of properly.¹

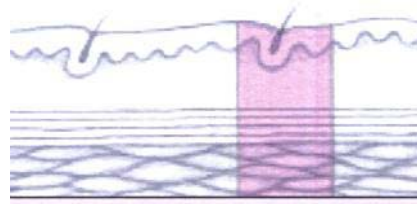
- Single use vial of 17-P (17 alpha Hydroxyprogesterone Caproate in Oil, 250 mg/ml)
- Non-sterile gloves
- Alcohol sponges

2. Procedure

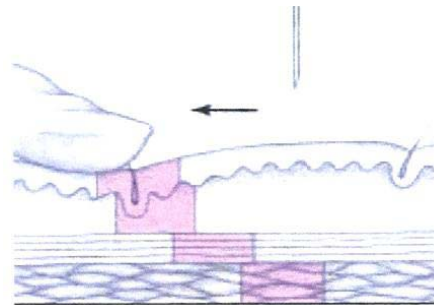
- a. Verify order.
- b. Confirm patient's identity, explain the procedure, and provide privacy.
- c. Assemble equipment on clean work surface.
- d. Wash hands before and after patient contact.^{2, 3, 4}
- e. Clean top of vial with alcohol wipe and puncture diaphragm with blunt tip of syringe (inside orange cap).
- f. Remove yellow cap from syringe and using straw, draw up 1 ml of medication. Then draw 0.2 to 0.5 ml of air into the syringe.
- g. Remove straw from syringe and attach safety needle of appropriate size (see above). *This prevents tracking the medication through the subcutaneous tissue as the needle is inserted.*
- h. Place the patient in the lateral or prone position, exposing the gluteal muscle, locate injection site using appropriate anatomical landmarks. Encourage the patient to relax the muscle you will be using for the injection *because injections into tense muscle are more painful than usual and may bleed more readily.*

1. Clean an area on the upper outer quadrant of the buttock with an alcohol wipe. Allow to dry.
2. Put on gloves.
3. Displace the skin laterally by pulling it away from the injection site (see below).

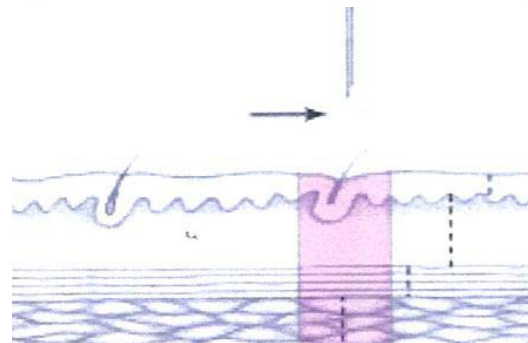
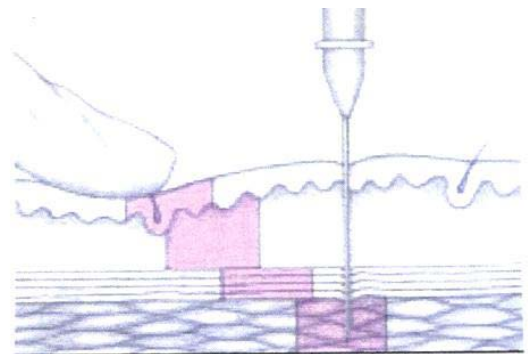
- Before the injection, the skin, subcutaneous fat, and muscle lie in their normal positions.



- To begin, place your finger on the skin surface, and firmly pull the skin and subcutaneous layers out of alignment with the underlying muscle. You should move the skin about ½ inch (1 cm).



4. Insert the needle into the muscle at a 90 degree angle.
5. Aspirate for blood return; if none appears, inject the medication slowly (2-5 minutes), followed by the air. *Injecting air after the medication helps clear the needle and prevents tracking the medication through subcutaneous tissues as the needle is withdrawn.*
6. Wait ten seconds before withdrawing the needle to ensure dispersion of the medication.
7. Withdraw the needle activating safety feature. Then release the displaced skin and subcutaneous tissue to seal the needle track.
8. Place alcohol wipe over injection site. Do **NOT** massage the injection site or allow the patient to wear a tight fitting garment over the site *because it could force the medication into subcutaneous tissue.*
9. Encourage the patient to walk or move around in bed to facilitate absorption of the medication from the injection site.



10. Discard the needle and syringe in an appropriate container.¹
11. Remove and discard gloves.
12. Document the medication, dose, date, time, site of injection, and the patient's response on the Nursing Visit Summary form.²

NOTE: Discomfort and tissue irritation may result from drug leakage into subcutaneous tissue. Failure to rotate sites in patients who require repeated injections can interfere with the absorption of medication. Unabsorbed medications may build up in deposits. Such deposits can reduce the desired pharmacologic effect and may lead to abscess formation or tissue fibrosis.

References:

Lippincott Williams & Wilkins. Intramuscular injection technique. In: Nursing Procedures. 2000: 243-247.

Wilson, C. Medication administration techniques/injections [online]. Available from URL: http://wps.prenhall.com/chet_wilson_drugguides_1/0,5513,403564-,00.html [Accessed 6/26/2003].