

Injections



Injections – general rules

- Expiry dates
 - Check the expiry dates of each item including the drug.
- Drug
 - Make sure that the vial or ampoule contains the right drug in the right strength.
- Sterility
 - During the whole preparation procedure, material should be kept sterile.
 - Wash your hands before starting to prepare the injection.
 - Disinfect the skin over the injection site.
- No bubbles
 - Make sure that there are no air bubbles left in the syringe.
 - This is more important in intravenous injections.
- Prudence
 - Once the protective cover of the needle is removed extra care is needed.
 - Do not touch anything with the unprotected needle.
 - Once the injection has been given take care not to prick yourself or somebody else.
- Waste
 - Make sure that contaminated waste is disposed of safely.

Intramuscular injections

- Intramuscular means within the muscle tissue
- Most solutions to be administered by injection are introduced into the muscle to allow for better absorption



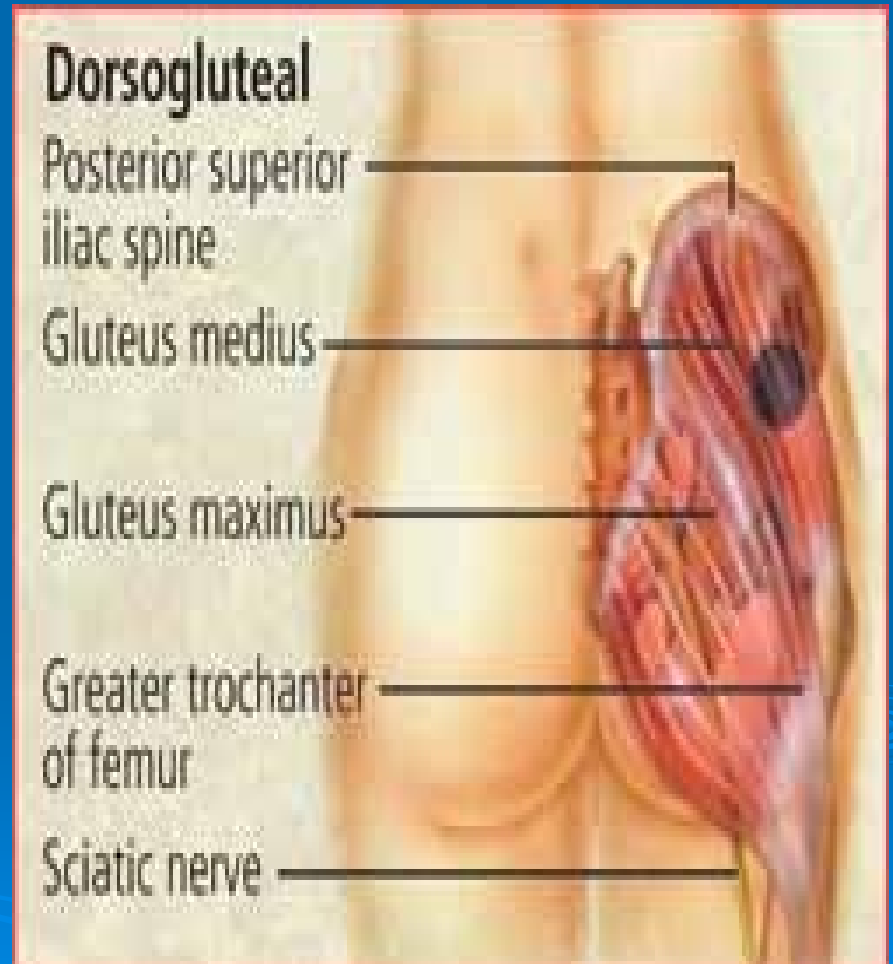
Intramuscular injections

- **Deltoid site**
- Locate the lower edge of the acromial process.
- Insert the needle 1" to 2" below the acromial process at a 90-degree angle.
- Only 1 ml or less should be injected into the deltoid
- This side may be more painful to the patient



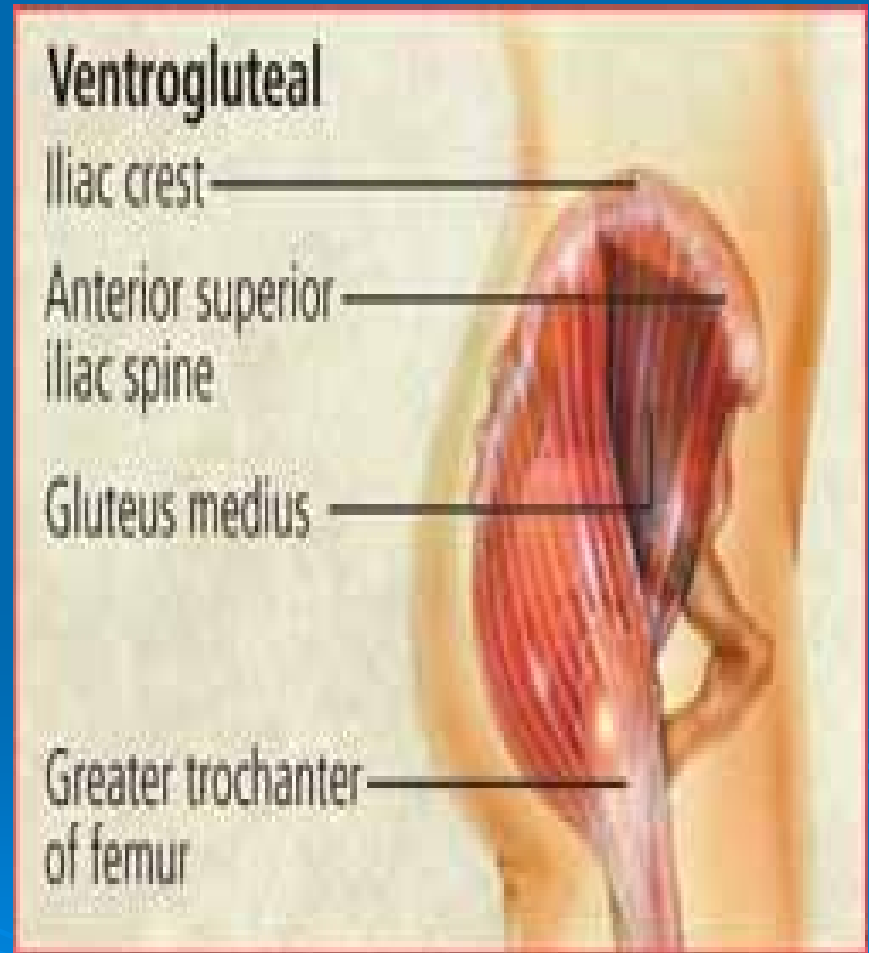
Intramuscular injections

- **Dorsogluteal site**
- Draw an imaginary line from the posterior superior iliac spine to the greater trochanter.
- Insert the needle at a 90-degree angle above and outside the drawn line.
- You can administer a Z-track injection through this site. After drawing up the drug, change the needle, displace the skin lateral to the injection site, withdraw the needle, and then release the skin.



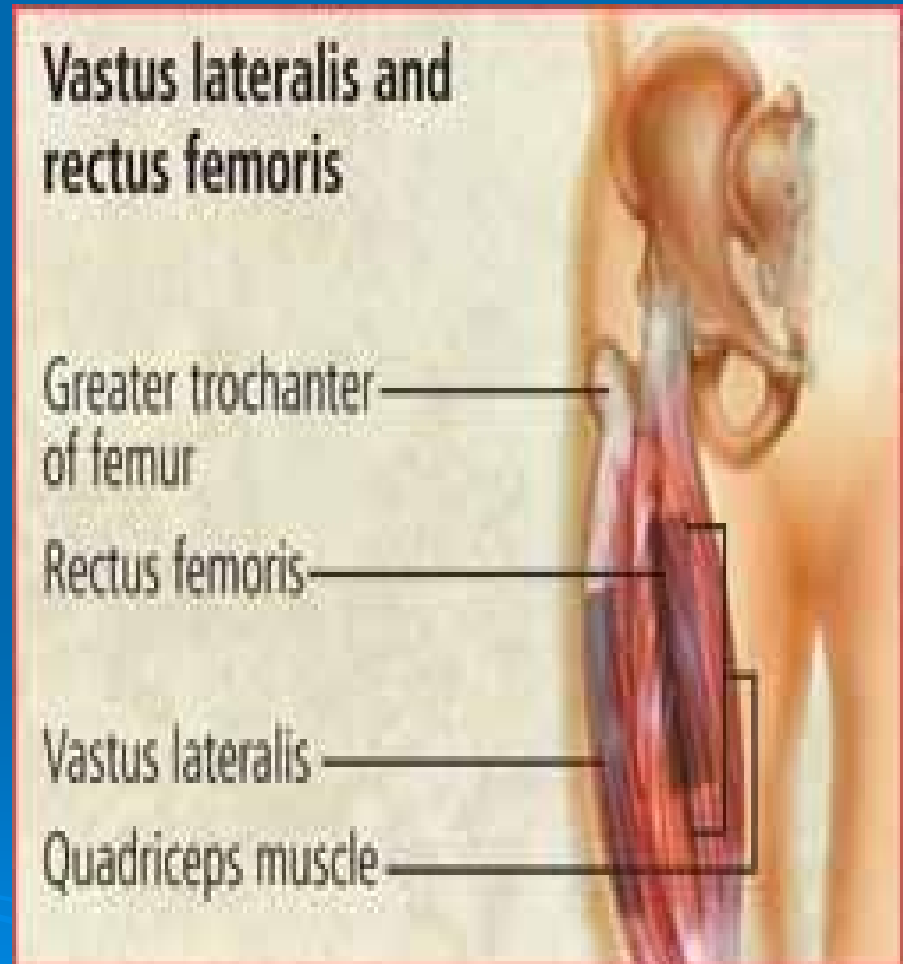
Intramuscular injections

- **Ventrogluteal site**
- With the palm of your hand, locate the greater trochanter of the femur.
- Spread your index and middle fingers posteriorly from the anterior superior iliac spine to the furthest area possible. This is the correct injection site.
- Remove your fingers and insert the needle at a 90-degree angle



Intramuscular injections

- **Vastus lateralis and rectus femoris sites**
- Find the lateral quadriceps muscle for the vastus lateralis, or the anterior thigh for the rectus femoris.
- Insert the needle at a 90-degree angle into the middle third of the muscle, parallel to the skin surface



i.m. injections technique

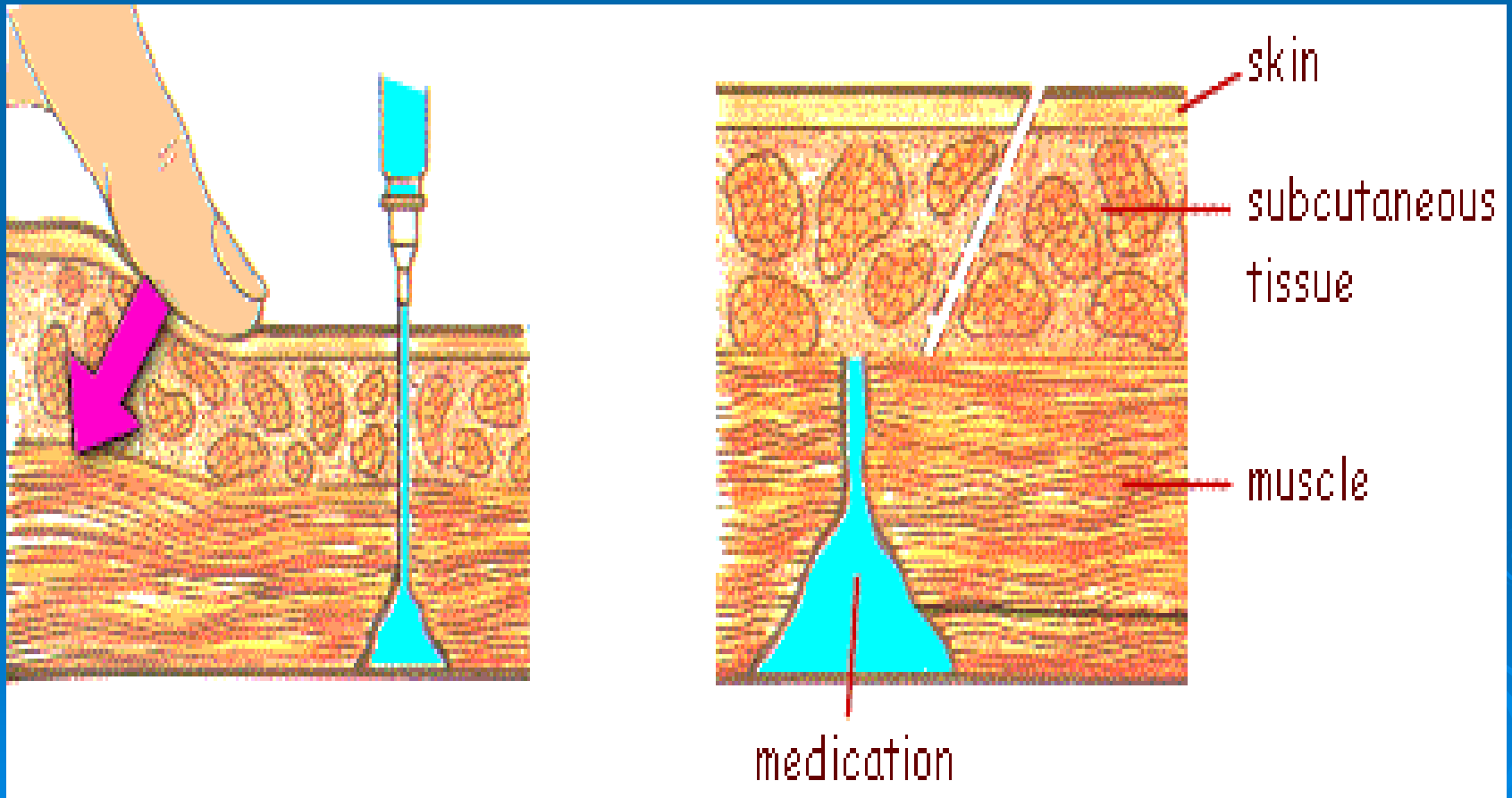
➤ **Technique**

- Wash your hands.
- Reassure yourself / patient's for procedure.
- Uncover the area to be injected (lateral upper quadrant major gluteal muscle, lateral side of upper leg, deltoid muscle).
- Disinfect the skin.
- Relax the muscle.
- Insert the needle swiftly at an angle of 90 degrees (watch depth!).
- Aspirate briefly; if blood appears, withdraw needle. Replace it with a new one, if possible, and start again from point 4.
- Inject slowly (less painful).
- Withdraw needle swiftly.
- Press sterile cotton wool onto the opening. Fix with adhesive tape.
- Check yourself / patient's reaction and give additional reassurance, if necessary.
- Clean up; dispose of waste safely; wash your hands.

Z – track technique

- A Zig – zag method of injecting a medication is used if the medication is irritating to tissues or capable of staining tissue if a drop leaks as the needle is withdrawn
- Skin at the injection site is pulled laterally before the needle is inserted
- After the needle is withdrawn the skin returns to its normal position, thereby sealing the path of the needle
- The gluteus maximus is the site of choice for Z-track, because this large muscle can absorb an irritating solution more easily than a smaller can

Z track technique



Z – track technique

- Prevents leakage of drug to surface skin (Campbell 1995)
- Drag skin to one side with finger as shown
- Inject as normal deep IM
- Remove needle
- Allow skin to return to normal state
- Leaves an indirect line, prevents leak
- Reduces pain of IM inj

Subcutaneous injections

- S.C. drugs can be injected into the fat pads on the abdomen, buttocks, upper back, and lateral upper arms and thighs (shaded in the illustrations below). If your patient requires frequent S.C. injections, make sure to rotate injection sites.
- Gently gather and elevate or spread S.C. tissue.
- Insert the needle at a 45- or 90-degree angle, depending on the drug or the amount of S.C. tissue at the site.

Subcutaneous injections

S.C. injection sites



i.v.injections

- I.V. drugs can be injected into the veins of the arms and hands. The illustration at below shows commonly used sites.
- Locate the vein using a tourniquet.
- Insert the catheter at a slight angle (about 10 degrees).
- Release the tourniquet when blood appears in the syringe or tubing.
- Slowly inject the drug into the vein

i.v.injections

