

# Crimea State Medical University

## Abstract Topic: Intramuscular Injection

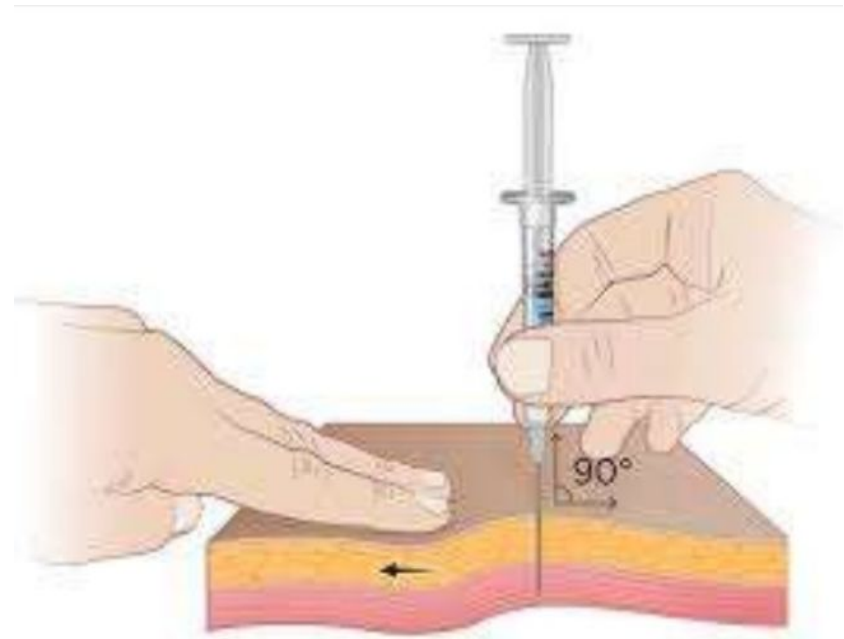
### Summer Practice

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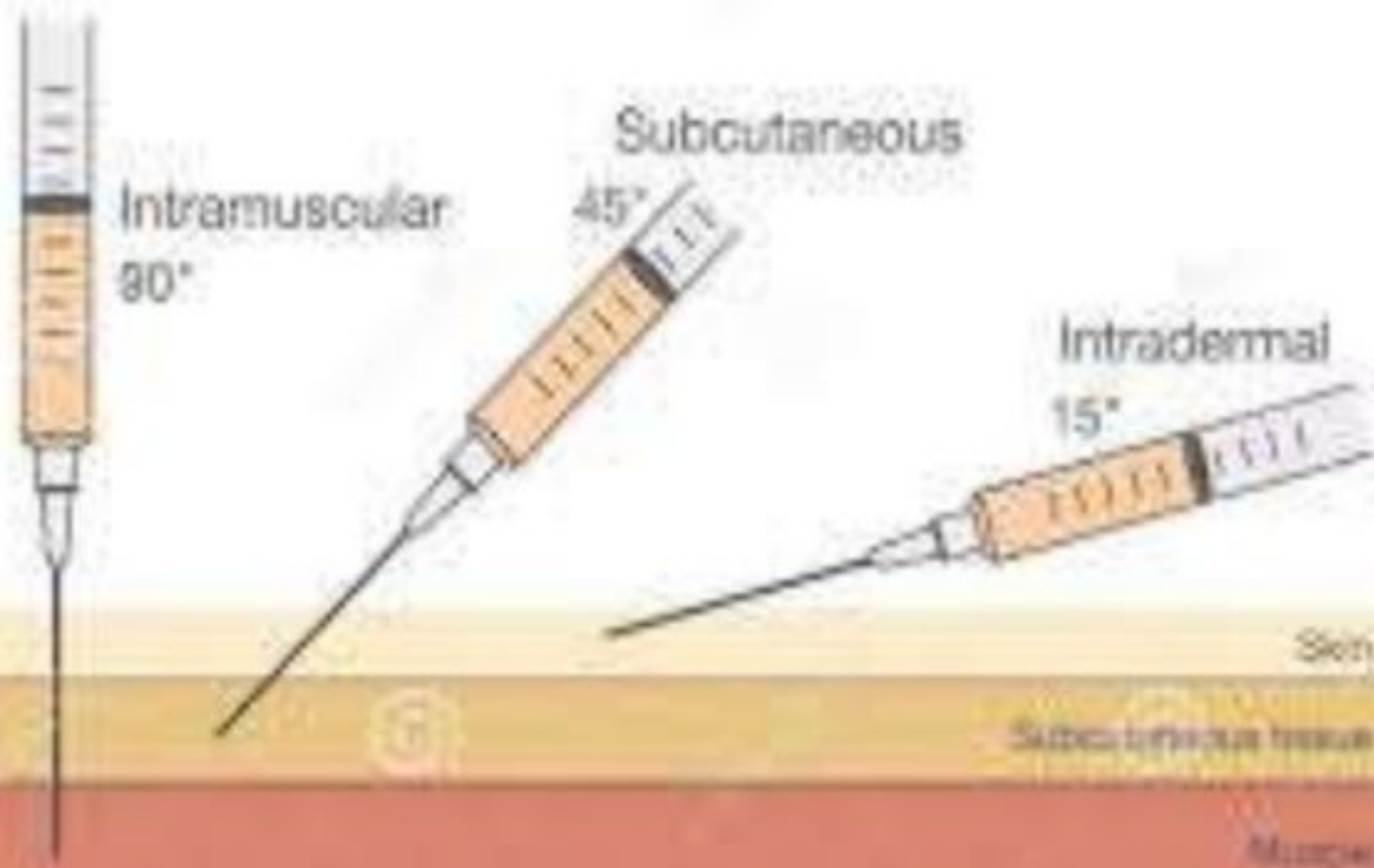


# Intramuscular injections



- Technique used to deliver a medication deep into the muscles.
- Self-administration of intramuscular injection
- Always given at 90 degree angle

# Comparison of angles of injection.



# What are intramuscular injections used for?

- Used to deliver drugs and vaccines
- Used when other types of methods are not recommended
  - ❖ oral
  - ❖ Intravenous
  - ❖ Subcutaneous



Deltoid  
muscle of  
the arm

Intramus  
cular  
injection  
sites

Vastus lateralis  
muscle of the  
thigh

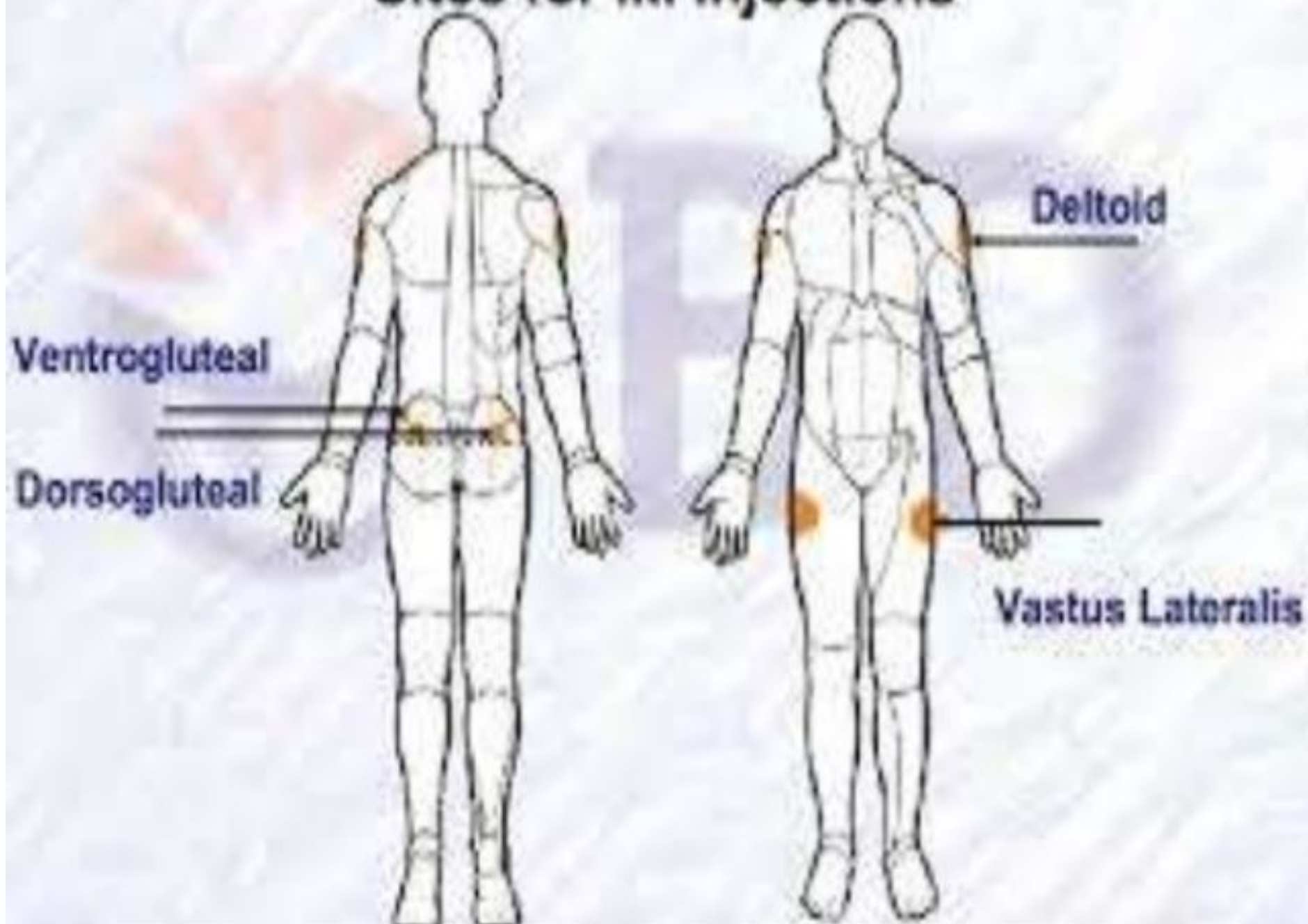
Dorsogluteal  
muscles of the  
buttocks

Ventroglu  
teal  
muscle of  
the hip





# Sites for IM Injections



# *Deltoid muscle of the arm*

- Site most typically used for vaccines
- Site not common for self-administration
- Used in adults for rapid absorption
- Close to radial nerve and radial artery



# Deltoid site

● Clients position : sitting





# Deltoid site

## • Procedure

- ❑ Feel the bone
- ❑ Two finger widths below the acromian process
- ❑ At the bottom of fingers, there is upside-down triangle
- ❑ Give the injection in the center of triangle

# Vastus Lateralis muscle of the thigh

- IM site of choice for infants  $\leq 1$  year
- No major blood vessels and nerves



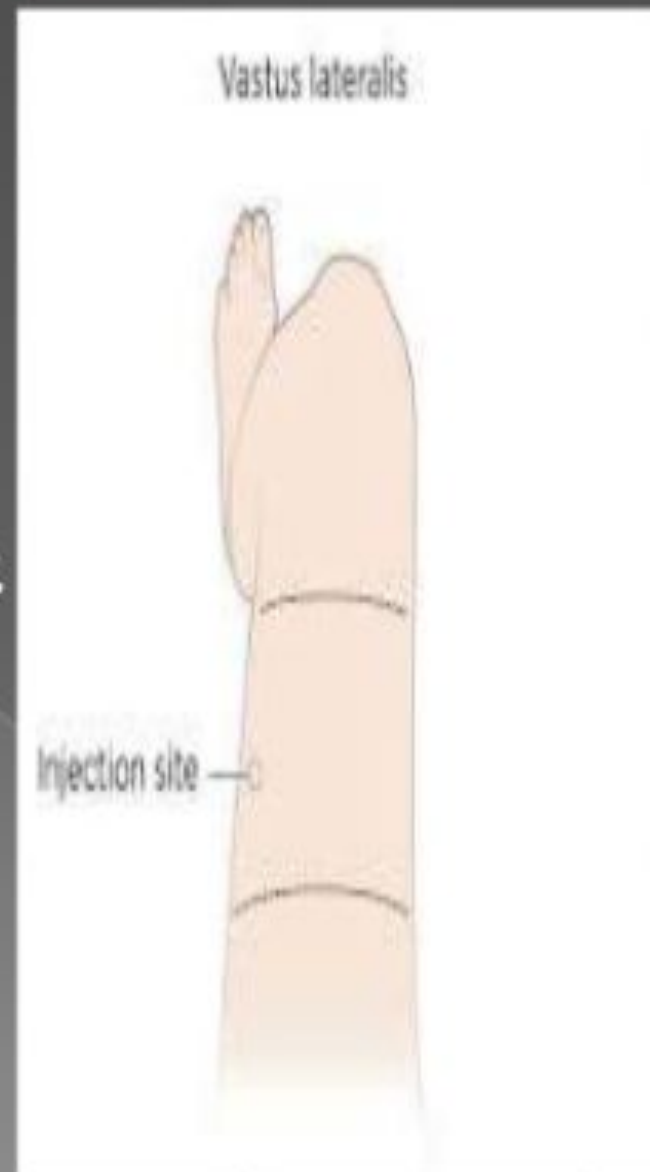
Patients position: sitting or  
supine



# Vastus lateralis site

## • Procedure:

- Divide upper thigh into three equal parts
- Outer top portion of middle of these three injections is your injection site

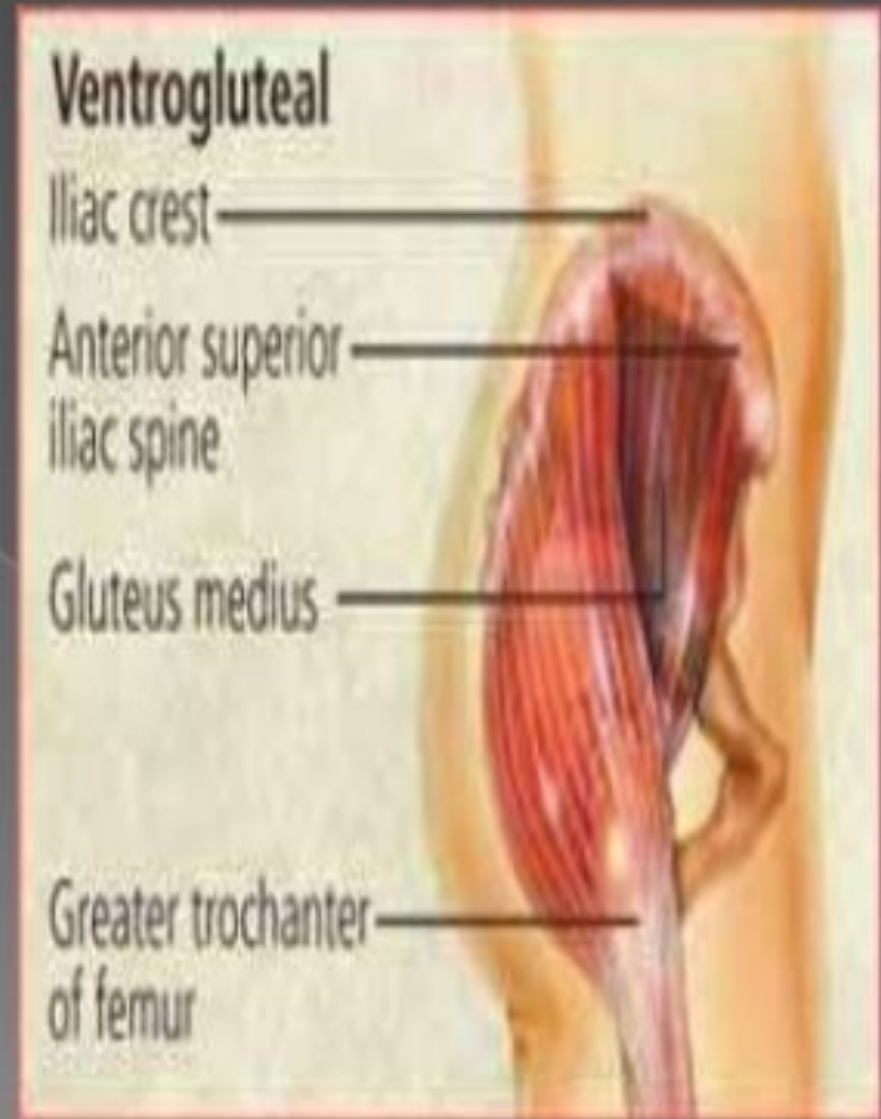


# Ventrogluteal muscle of the hip

- Gluteus medius site
- Suitable for children > 1 year and adults
- Less fat, no large nerves/blood vessels

Patient's position :

Side lying or flexed knee





# Ventrogluteal site

## ● Procedure:

- Place palm of hand (right hand for left hip and left hand for right hip) on patients greater trochanter, fingers towards head
- With index finger on patients anterior superior iliac spine, stretch middle finger dorsally
- Inject at the triangle formed ( v shaped) by index finger, third finger and iliac crest

Location of Gluteus Medius

Injection Point

(between the knuckle of the  
index & middle finger)

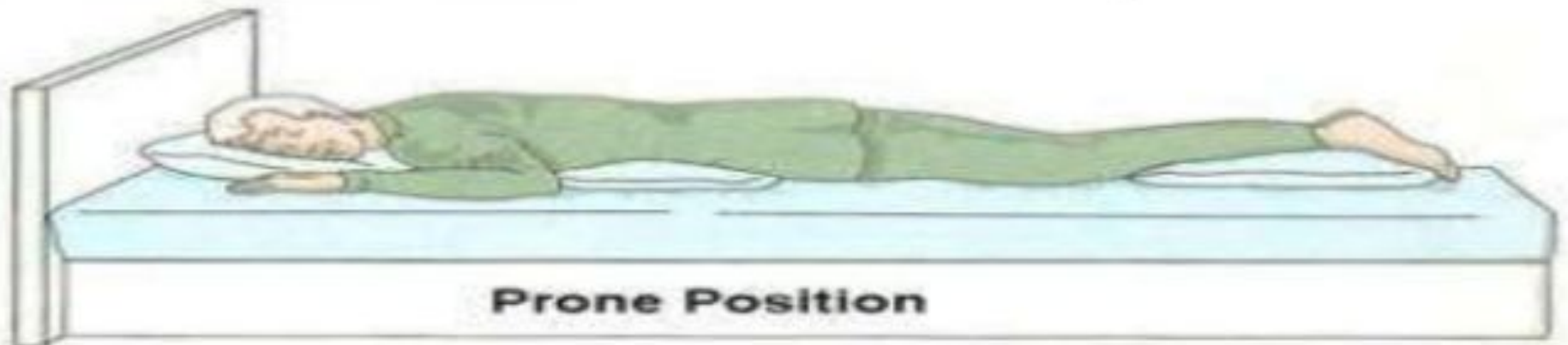
Greater Trochanter



## Dorsoqluteal Site

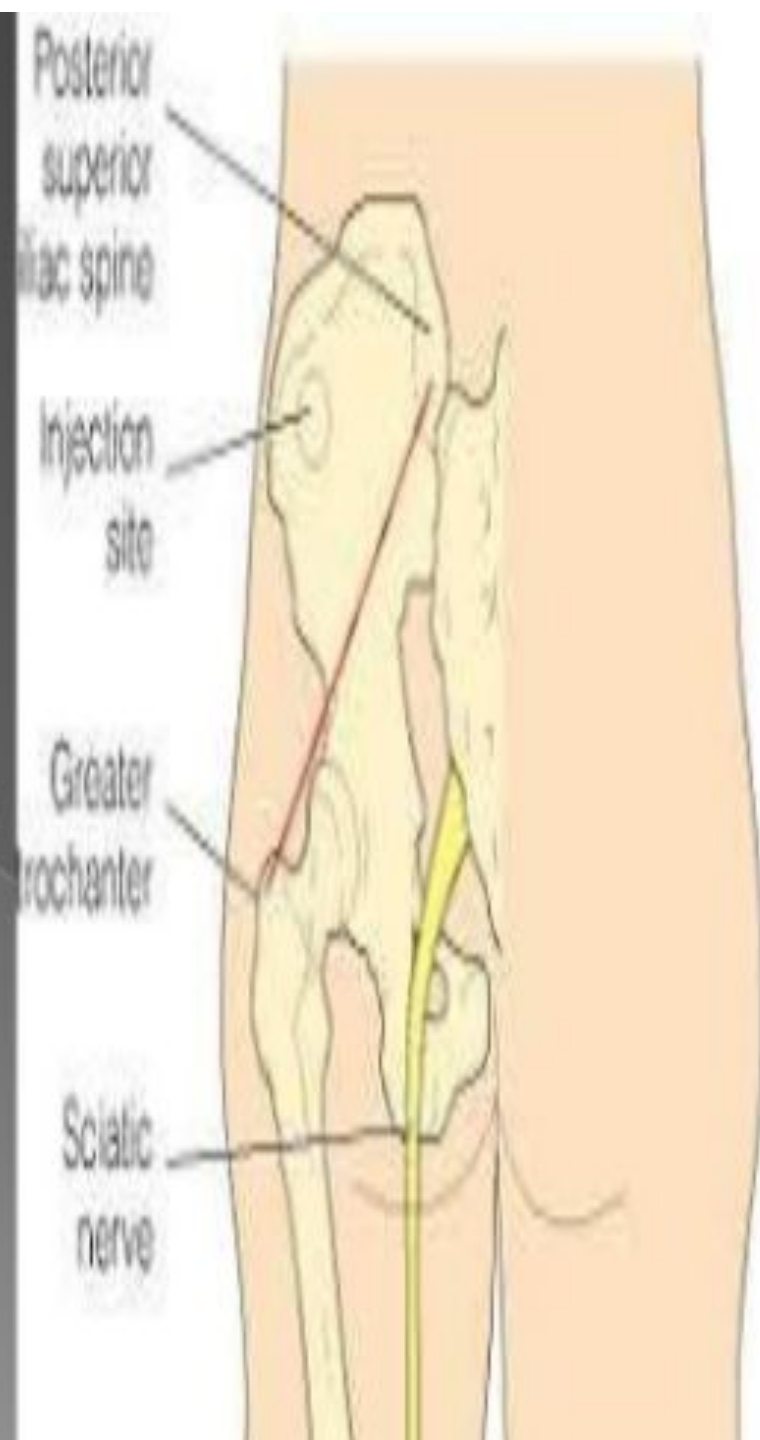
- Used in adults and children with well-developed gluteal muscles
- Avoided in children < 3 years

**Clients position:** prone, with toes pointing inward or side lying with upper knee flexed



## Procedure

- Palpate posterior superior iliac spine
- Draw an imaginary line to the greater trochanter of femur
- Site is lateral and superior to this line to avoid sciatic nerve





# Administration of IM



## ● MATERIALS REQUIRED:

- ✓ Gauge 23(32mm) to gauge 21(38mm)
- ✓ If patient is  $\geq 91\text{kg}$ , use gauge 20(50mm)

Needle size and injection site depends on many factors

- Age and size of person
- Volume and type of medication

(Needle should be long enough to reach the muscle without penetrating the nerves and blood vessels).





## Follow these steps for the safe IM injections

- ✓ wash your hands
- ✓ Gather all needed supplies
- ✓ Locate injection site
- ✓ Clean injection site
- ✓ Prepare syringe with medications
- ✓ Remove air bubble
- ✓ Inject the medication
- ✓ Remove the needle





## Medication volume

- Deltoid \_\_ 0.5ml to 1ml
- Ventrogluteal \_\_ upto 5ml

### Note:

If pH or tonicity of medication is different than body fluids, choose larger muscle sites



## Complications of IM

- Its normal to experience some discomfort after an IM injection
- But certain symptoms may be a sign of more serious complications
  - ❑ Severe pain
  - ❑ Numbness
  - ❑ Redness or swelling
  - ❑ Prolonged bleeding
  - ❑ Drainage at allergic site

# Technique to reduce discomfort

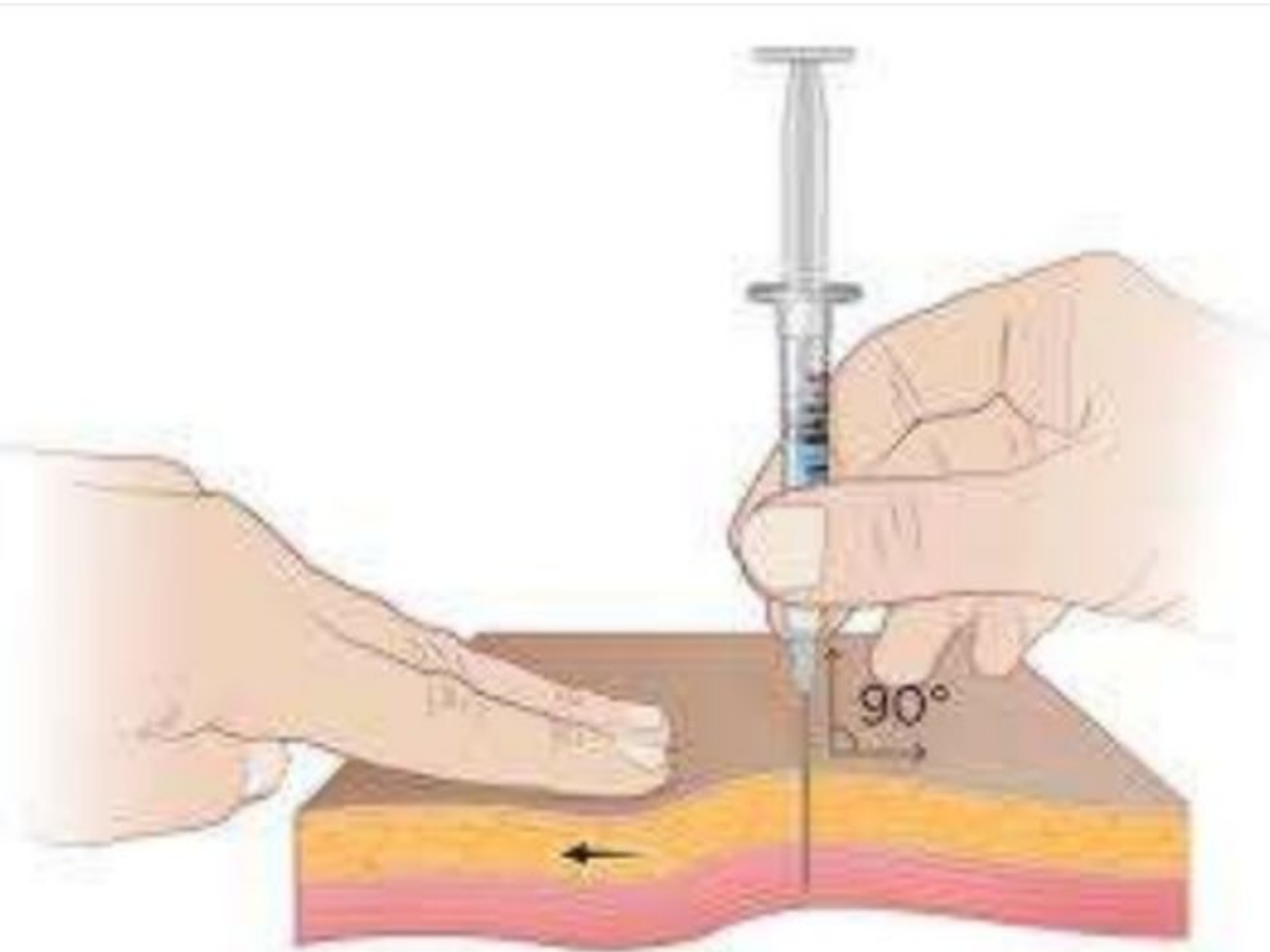


- Z-track method:

- ❑ It is used against irritation, or leakage of the medication in the surrounding subcutaneous tissue
- ❑ IM injection at a 90 degree angle
  - Skin pulled to the site
  - Skin released

(when skin returns to its normal position after needle is withdrawn, a sealed form over the site)





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