



มหาวิทยาลัยราชภัฏนครปฐม



# Fundamental Nursing Practicum

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## CHAPTER 5

# NURSING PRACTICES FOR ADMINISTERING MEDICATIONS



# Objectives



1

Identify principles of safe medication administration.

2

Explain procedures for the different methods of medication administration including the choice of route and site.





# Principles of Safe Medication Administration

## 10 Rights for Safe Medication Administration

### Right Drug

Confirm and verify the order, the drug name, and its form. Verify the expiry date. Beware of sound-alike medications.



### Right to Refuse

Patients have the right to refuse medications. Provide information about the drug so they can make an informed decision. Additionally, the nurse has the right to refuse to administer a drug, based on their clinical judgment, if it's not in the best interest of the patient.



### Right Patient

Use two different identifiers to verify the client: ask their name (even if you know it) and check the ID band before giving the medication.



### Right Knowledge and Understanding

Everyone who prescribes, dispenses and administers medication needs knowledge and understanding of each drug.



### Right Dose

Check the dosage against the doctor's prescription and the medication sheet. Question whether this is the usual dose for the drug (especially among pediatric clients).



### Right Questions or Challenges

Clinical judgment requires you to ask questions. Raise any doubts or questions about the medications before administering it.



### Right Route

Check on the order whether the route prescribed is oral, by injection, intravenously, or any other route.



### Right Response or Outcomes

At all stages of medical administration, observe and document the client's response.



### Right Time

Check on the order when and how frequently the medication should be given and also on the documentation when the drug was last given.



### Right Advice

Provide the patient with all the information and relevant advice that they need, both while they are in hospital and when they are taking the drug at home.





# Routes of Medication Administration

## Oral (PO) Medications

- Most common and convenient route.
- Ensure the patient can swallow safely.
- Give with or without food as indicated.



(Sue C. Delaune, Patricia, 2011; Ernstmeyer & Christma, 2021)



# Frequency & Interpretation

Frequency	Interpretation
ac	Before meals
pc	After meals
prn	When necessary, as needed
Stat	Immediately
bid	Twice a day
tid	Three times a day
qid	Four times a day
min	Minute
h	Hour
qh, q2h, etc.	Every hour, every two hours





# DRUG PREPARATIONS

## ORAL SOLIDS

- 1 Tablets
- 2 Capsules
- 3 Caplets
- 4 Powder and granules
- 5 Troches, lozenges, and pastilles
- 6 Enteric-coated
- 7 Time-release capsules
- 8 Sustained-release



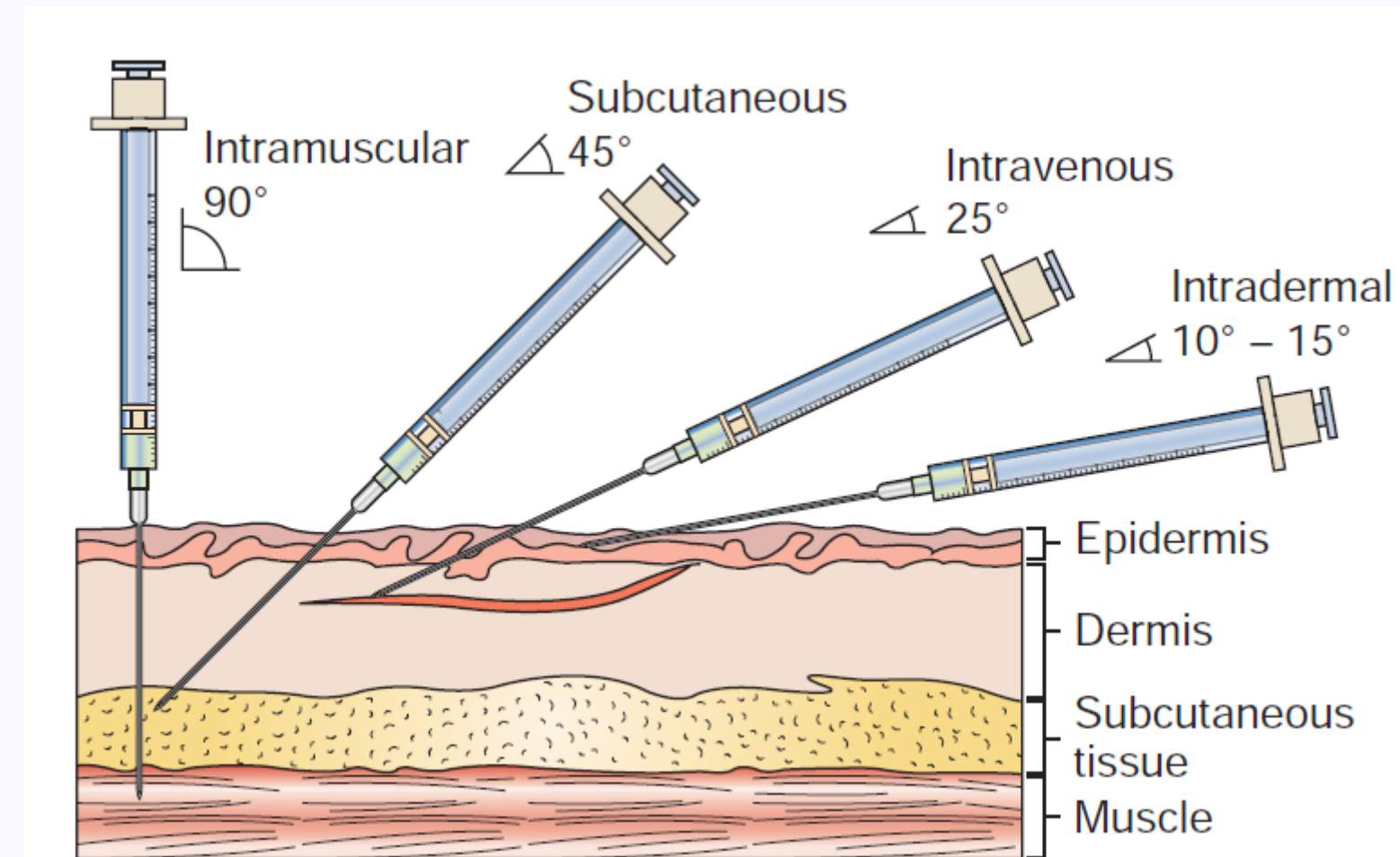
(Sue C. Delaune, Patricia, 2011; Ernstmeyer & Christma, 2021)



# Routes of Medication Administration

## Parenteral (Injection) Medications

- **Intramuscular (IM)** – Given into the muscle (e.g., deltoid, vastus lateralis).
- **Subcutaneous (SC)** – Injected under the skin (e.g., insulin, heparin).
- **Intravenous (IV)** – Delivered directly into the bloodstream for fast action.
- **Intradermal (ID)** – Used for skin tests (e.g., TB test).



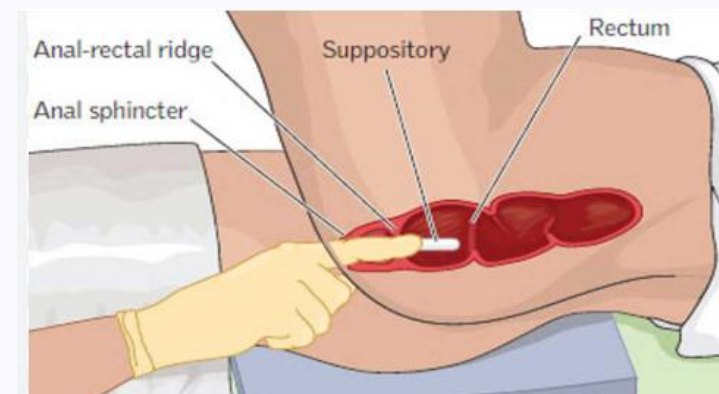
(Sue C. Delaune, Patricia, 2011; Ernstmeyer & Christma, 2021)



# Routes of Medication Administration

## Topical and Other Routes

- **Transdermal patches** – Applied to the skin for slow absorption.
- **Sublingual (SL) and Buccal** – Placed under the tongue or in the cheek for rapid absorption.
- **Rectal (PR) and Vaginal (PV)** – Used when oral administration is not possible.
- **Inhalation (Nebulizers, Inhalers)** – Direct delivery to the lungs.







# General Preparation Steps



**1**

**Wash hands thoroughly before handling medication**

**2**

**Verify Medication Order**

**3**

**Confirm the patient's identity using at least two identifiers**

**4**

**Explain the purpose of the medication and any potential side effects**

**5**

**Check for any contraindications or allergies.**

# Administration of **Tablets and Capsules**



## Oral (PO) Medications



**1**

**Provide clear instructions and supervise the patient to ensure the medication is taken properly**

**2**

**Position the Patient Upright**

**3**

**Make sure the patient swallows the medication completely**

**4**

**Offer a Full Glass of Water**



# Administration of Liquid Medications



## Oral (PO) Medications



1

Shake suspensions well before administration

2

Measure the dose accurately by using oral medication dosing devices such as medication spoon, cup, or syringe

3

Position the patient upright

4

Ensure the patient consumes the entire dose

5

Provide water if needed



# Oral (PO) Medications



## Administration of Sublingual and Buccal Medications

- 1** Place the medication under the tongue (sublingual) or between the gum and cheek (buccal)
- 2** Ensure the patient does not chew or swallow the medication
- 3** Monitor the patient until dissolved
- 4** Advise the patient to refrain from eating, drinking, or smoking until the medication is fully absorbed





# (Injection) Medications

## Intramuscular (IM)

1

### EQUIPMENT

1. Safety syringe (1- to 3-mL)
2. Safety needle (19- to 23-gauge, 1 1/4 to 1 1/2 inches)
3. Antiseptic or alcohol swabs
4. Medication ampule or vial
5. Medication administration record (MAR)
6. Disposable gloves



From Mosby's Nursing Video Skills .  
<https://www.ndsu.edu/pubweb/bismarcknursing/advanced/skill/>



# (Injection) Medications

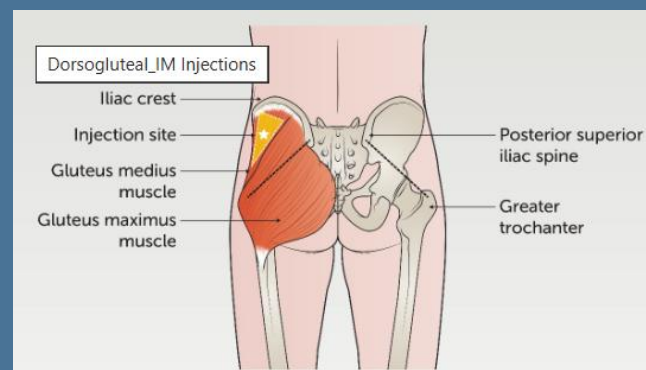
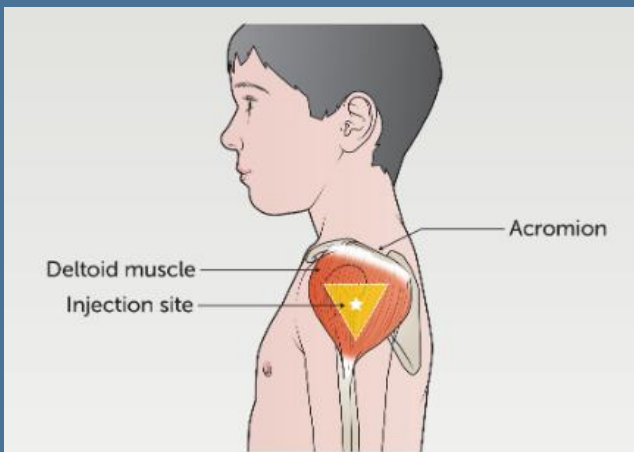
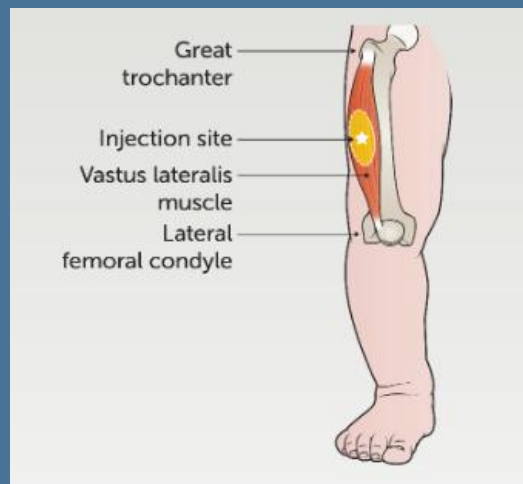
## Intramuscular (IM)

2

### STEP

1. **Wash hands/hand hygiene**; put on clean gloves. 1. Reduces number of microorganisms.
2. Close door or curtains around bed, and keep gown or sheet draped over client. Identify client.
3. **Select injection site**. Inspect skin for bruises, inflammation, edema, masses, tenderness, and sites of previous injections.
  - Use anatomic landmarks.

4. **Select needle size**: Assess size and weight of client and site to be used. If appropriate, select prefilled syringe plunger, barrel, and needle cartridge.

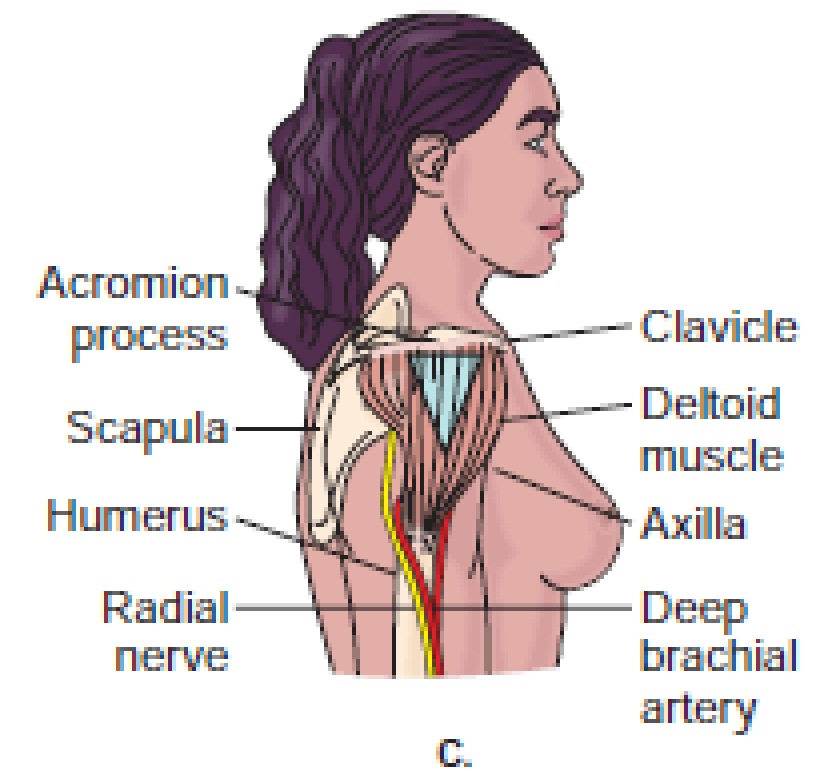
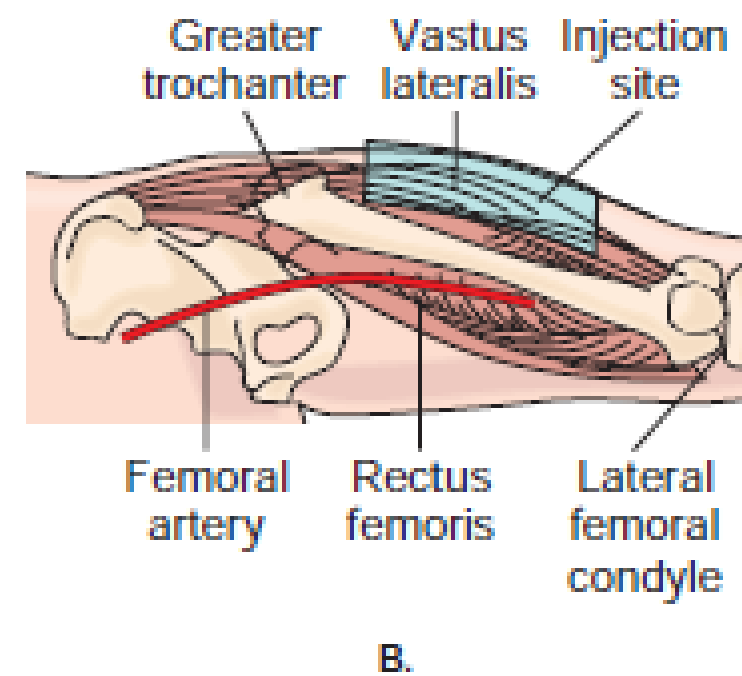
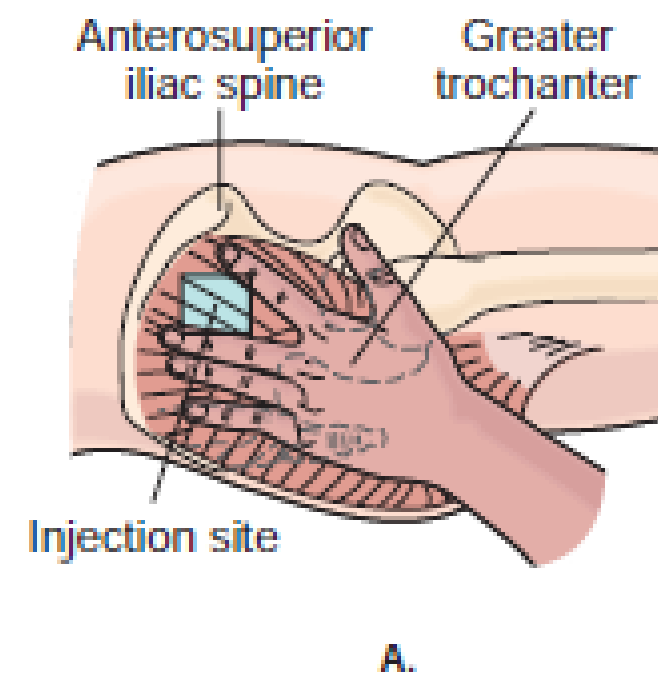






# (Injection) Medications

## Intramuscular (IM)



### Injection site

(Sue C. Delaune, Patricia, 2011; Ernstmeyer & Christma, 2021)

**A. Ventrogluteal**

**B. Vastus lateralis**

**C. Deltoid**



# (Injection) Medications

## Intramuscular (IM)

### Needle size

- 1.5-inch** needle, VG site for average-sized adults
- **1-inch** needle, VG site for children
- 1-inch** needle, deltoid or vastus lateralis

- **3 mL** for a large muscle (gluteus medius)
- **1 to 2 mL** for less developed muscles in children and in older and thin clients
- **0.5 to 1.0 mL** for the deltoid muscle



# Intramuscular (IM)



## 5. Assist client into a comfortable position:

- For vastus lateralis, lying flat or supine with knee slightly flexed.
- For ventrogluteal, lying on side or back with knee and hip slightly flexed.
- For deltoid, standing with arm relaxed at side, sitting with lower arm relaxed on lap, or lying flat with lower arm relaxed across abdomen.
- Distract client by talking about an interesting subject.

## 6. Use antiseptic swab to clean skin at site.

## 7. While holding swab between fingers of nondominant hand, pull cap from needle.



# (Injection) Medications

## Intramuscular (IM)



### 8. Administer injection:

- Spread skin tightly or pinch a generous section of tissue firmly—for cachectic clients.
- Inject needle quickly and firmly (like a dart) at a 90 degree angle.  
Release the skin.
- Grasp the lower end of the syringe with nondominant hand, and position dominant hand to the end of the plunger.
- Pull back on the plunger and aspirate to ascertain if needle is in a vein. If no blood appears, slowly inject the medication.



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# (Injection) Medications



## Intramuscular (IM)

9. **Remove nondominant hand**, and quickly withdraw the needle. Apply pressure with the antiseptic swab.
10. **Apply pressure**. Certain protocols suggest gentle massage action.
11. Assist the client to a comfortable position.
12. Close the safety cap, and discard the uncapped needle and syringe in a specified biohazard sharps container.
13. Remove gloves, and wash hands/hand hygiene.

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# (Injection) Medications

## Subcutaneous (SC)

1

### EQUIPMENT

1. Syringe appropriate for the medication being given
2. Needle (25- to 27-gauge, 3/8- to 5/8-inch)
3. Antiseptic or alcohol swabs
4. Medication ampule or vial
5. Medication administration record (MAR)
6. Disposable gloves



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# (Injection) Medications

## Subcutaneous (SC)

2

### STEP

1. **Wash hands/hand hygiene**; put on clean gloves. Select the appropriate syringe for the medication being given
2. Close door or curtains around bed, and keep gown or sheet draped over client. Identify client.
3. **Select injection site.**
  - Use subcutaneous tissue around the abdomen, lateral aspects of upper arm or thigh, or scapular area.



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# (Injection) Medications

## Subcutaneous (SC)



### 4. Select needle size:

- Measure skinfold by grasping skin between thumb and forefinger.
- Be sure needle is one-half the length of the skinfold from top to bottom.

### 5. Assist client into a comfortable position:

- Relax the arm, leg, or abdomen.

### 6. Use antiseptic swab to clean skin at site.

### 7. While holding swab between fingers of nondominant hand, pull cap from needle.







# (Injection) Medications

## Subcutaneous (SC)

### 8. Administer injection:

- Hold syringe between thumb and forefinger of dominant hand like a dart.
- Pinch skin with nondominant hand
- Inject needle quickly and firmly (like a dart) at a 45 degree to 90 degree angle
- Release the skin.
- Grasp the lower end of the syringe with nondominant hand, and position dominant hand to the end of the plunger.
- Pull back on the plunger to ascertain that the needle is not in a vein.





# (Injection) Medications



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## Subcutaneous (SC)



9. **Remove hand from injection site** and quickly withdraw the needle. Apply pressure with the antiseptic swab. Do not push down on the needle with the swab while withdrawing it, as this will cause more pain.

10. **Apply pressure.** Some medications should not be massaged. Ask the pharmacy if you are unclear.

11. Assist the client to a comfortable position.

12. Discard the uncapped needle and syringe in a disposable needle receptacle.



# IV Medications

## Intravenous (IV)

1

### EQUIPMENT

1. Disposable gloves
2. Medication prepared in a labeled infusion bag
3. Short microdrip or macrodrip tubing set for piggyback
4. Antiseptic swab
5. Adhesive tape
6. IV pole
7. Medication administration record (MAR)



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# Intravenous (IV)

## 2 STEP

1. Check prescribing practitioner's order.
2. **Wash hands/hand hygiene.** Gloves are not necessary if you are adding fluids to an existing infusion line. Secure IV tubing for piggyback administration
3. Check client's identification bracelet.
4. Explain procedure and reason drug is being given.
5. Prepare medication bag:
  - Close clamp on tubing of infusion set.
  - Spike medication bag with infusion tubing
  - Open clamp







# Intravenous (IV)

## IV Medications



6. Hang piggyback medication bag above level of primary IV bag. One way to do this is to lower the primary bag using an extender (found in the piggyback tubing package)
7. Connect piggyback tubing to primary tubing at Y-port:
  - For needleless system, remove cap on port and connect tubing.
  - If a needle is used, clean port with antiseptic swab and insert small-gauge needle into center of port.
  - Secure tubing with adhesive tape.

# IV Medications



(Sue C. Delaune, Patricia, 2011;  
Ernstmeyer & Christma, 2021)

## Intravenous (IV)



### 8. Administer the medication:

- Check the prescribed length of time for the infusion.
- Regulate the flow rate of the piggyback by adjusting the regulator clamp
- Observe whether backflow valve on piggyback has stopped flow of primary infusion during drug administration.

### 9. Check primary infusion line when medication is finished:

- Regulate primary infusion rate.
- Leave secondary bag and tubing in place for next drug administration.



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