
Pediatric Medication Administration



Oral Medications

- GI tract provides a vast absorption area for meds.

Problem: Infant / child may cry and refuse to take the medication or spit it out.

Nursing Intervention

■ Infant:

- ❑ Place in small amount of apple sauce or cereal
 - ❑ Put in nipple without formula
 - ❑ Give by oral syringe or dropper
 - ❑ Have parent help
 - Never leave medication in room for parent to give later.
 - Stay in room while parent gives the po medication
-

Nursing Interventions

- **Toddler:**
 - ❑ Use simple terms to explain while they are getting medication
 - ❑ Be firm, don't offer too many choices
 - ❑ Use distraction
 - ❑ Band-Aid if injection / distraction
 - ❑ Stickers / rewards
-

Nursing Intervention

- **Preschool:**
 - Offer choices
 - Band-Aid after injection
 - Assistance for IM injection
 - Praise / reward / stickers
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Nursing Intervention

- School-age
 - Concrete explanations
 - Choices
 - Interact with child whenever possible
 - Give choices
 - Medical play
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Nursing Interventions

- Adolescent

- Use more abstract rationale for medication
- Include in decision making especially for long term medication administration



Nursing Alert

- For liquid medications, an oral syringe or medication cup should be used to ensure accurate dosage measurement. Use of a household teaspoon or tablespoon may result in dosage error because they are inaccurate.

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Household Measures Used to Give Medications

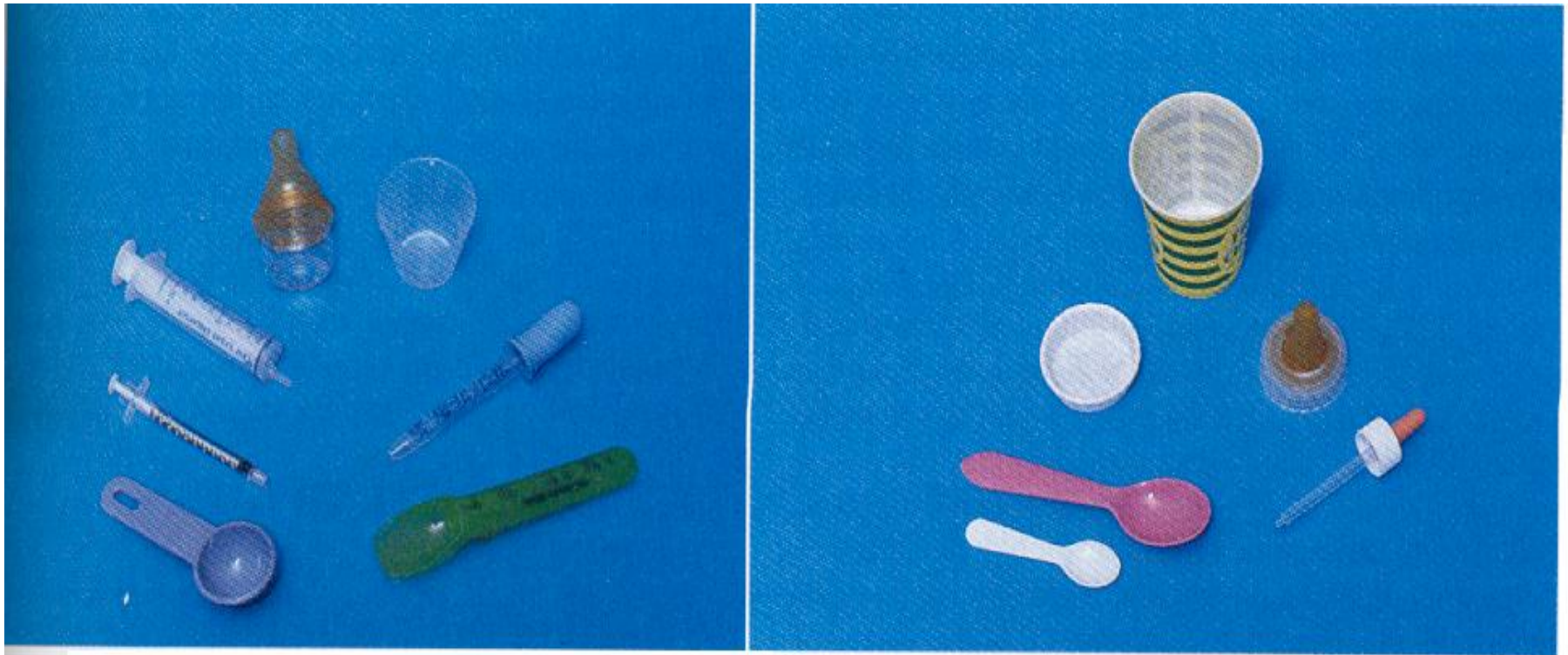
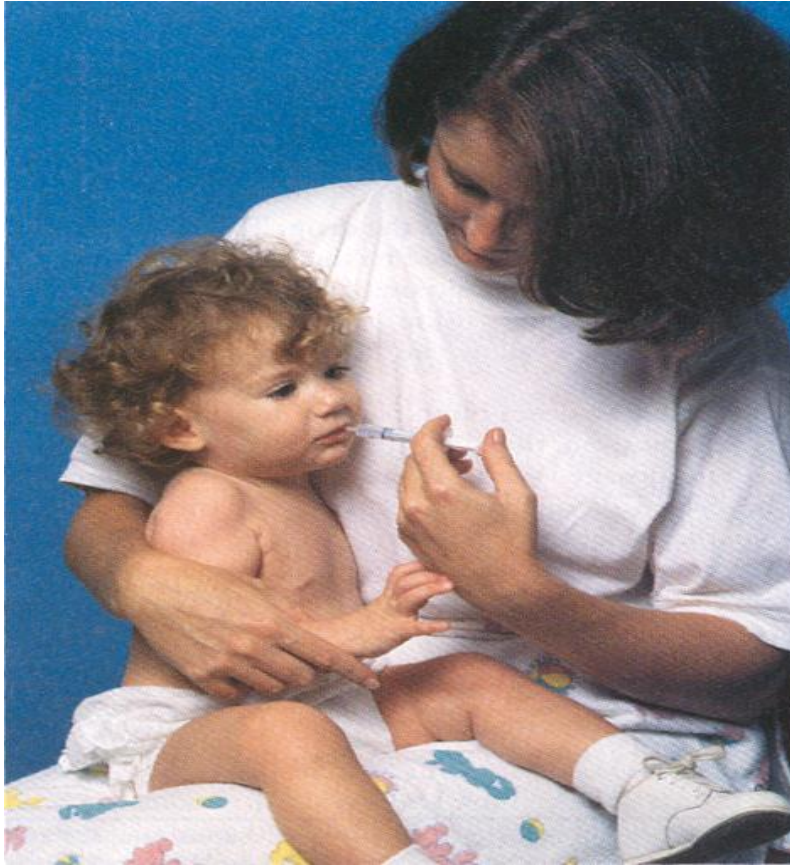


FIG. 22-18. **A**, Acceptable devices for measuring and administering oral medication to children (clockwise): measuring spoon, plastic syringes, calibrated nipple, plastic medicine cup, calibrated dropper, hollow-handled medicine spoon. **B**, Acceptable devices only for administering premeasured oral medication (clockwise): household teaspoons, paper cups, nipple, uncalibrated dropper.

Oral Medication Administration



Note child's hands are held by the nurse and child is held securely against the nurses body.

Oral Medications

- Hold child / infant hands away from face
 - Infant give in syringe or nipple
 - DO NOT ADD TO FORMULA
 - Small child: mix with small amount of juice or fruit
 - Offer syringe or medicine cup
 - Parent may give if you are standing in the room
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Oral Medication: older child

- TIP: Tell the child to drink juice or milk after distasteful medication. Older child can suck the medication from a syringe, pinch their nose, or drink through a straw to decrease the input of smell, which adds to the unpleasantness of oral medications.
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Intramuscular Medications

- Rarely used in the acute setting.
 - Immunizations
 - Antibiotics
 - Use emla
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IM Injection: interventions

- TIP: Tell the child it is all right to make noise or cry out during the injection. His or her job is to try not to move the extremity.



IM Injection



Secure child before giving IM injection.

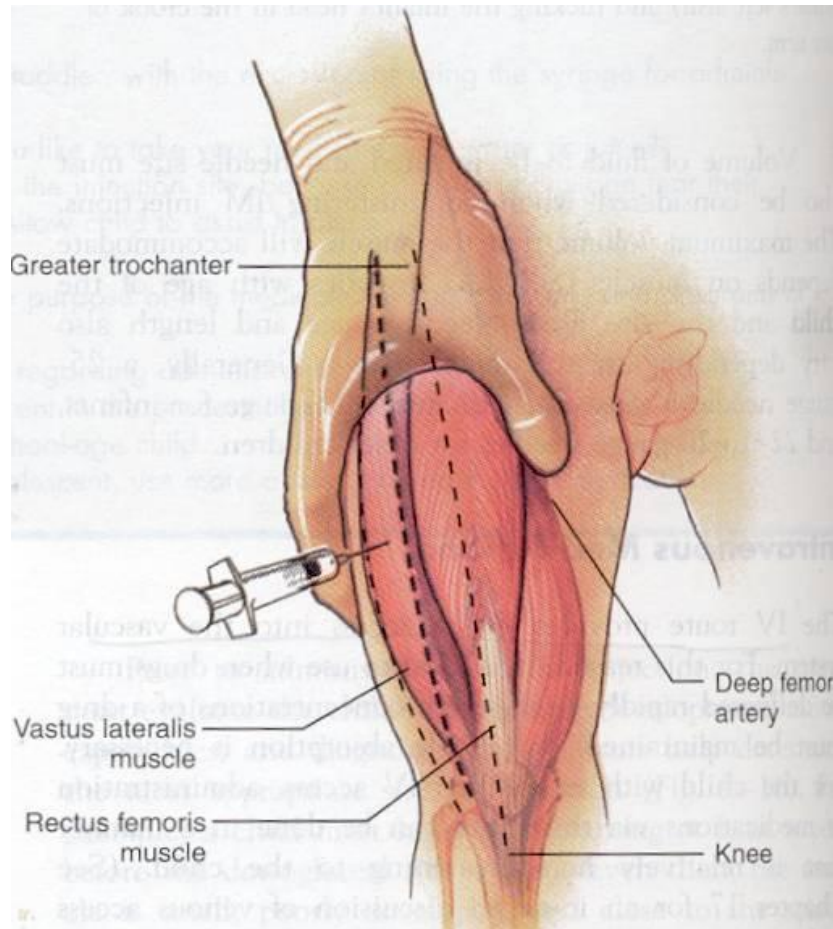
Nursing Alert

- Rocephin is often given in the ER.
 - Hold order for IV antibiotic once admitted.
 - Physician order may indicate to delay IV antibiotic administration for 12 to 24 hours.
 - Potential medication administration error.
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IM Injection Sites

- Vastus Lateralis
 - Deltoid
 - Dorsogluteal
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Vastus Lateralis:

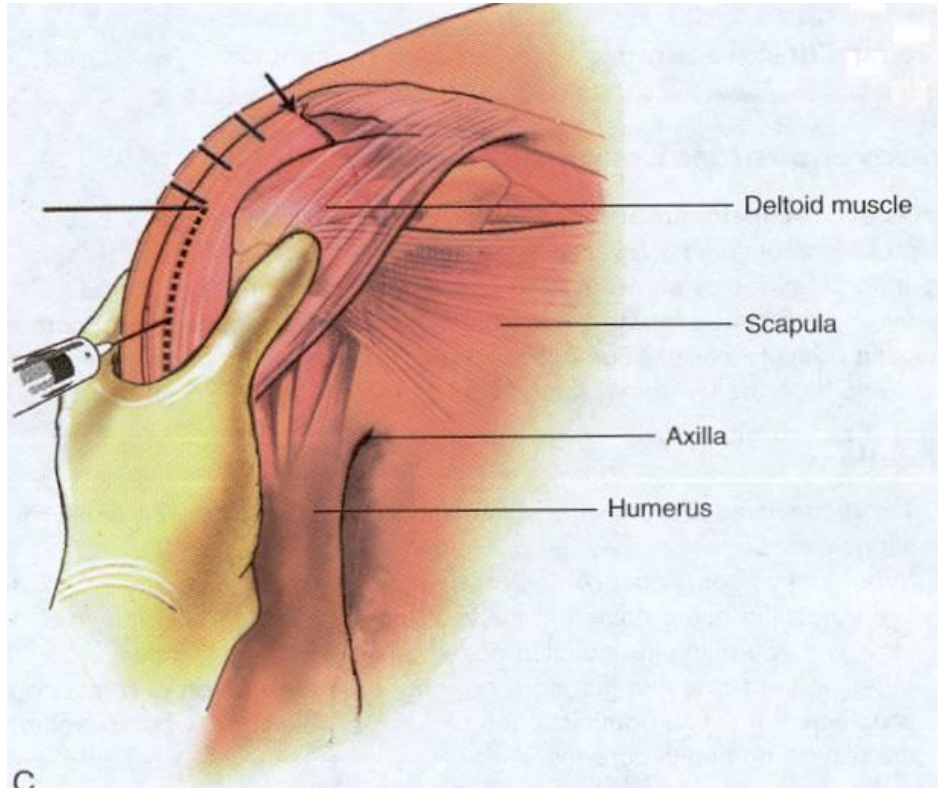


Largest muscle in infants / small child.

- ❖ 0.5 ml in infant
- ❖ 1 ml in toddler
- ❖ 2 ml in pre-school

Use 5/8 to 1 inch needle

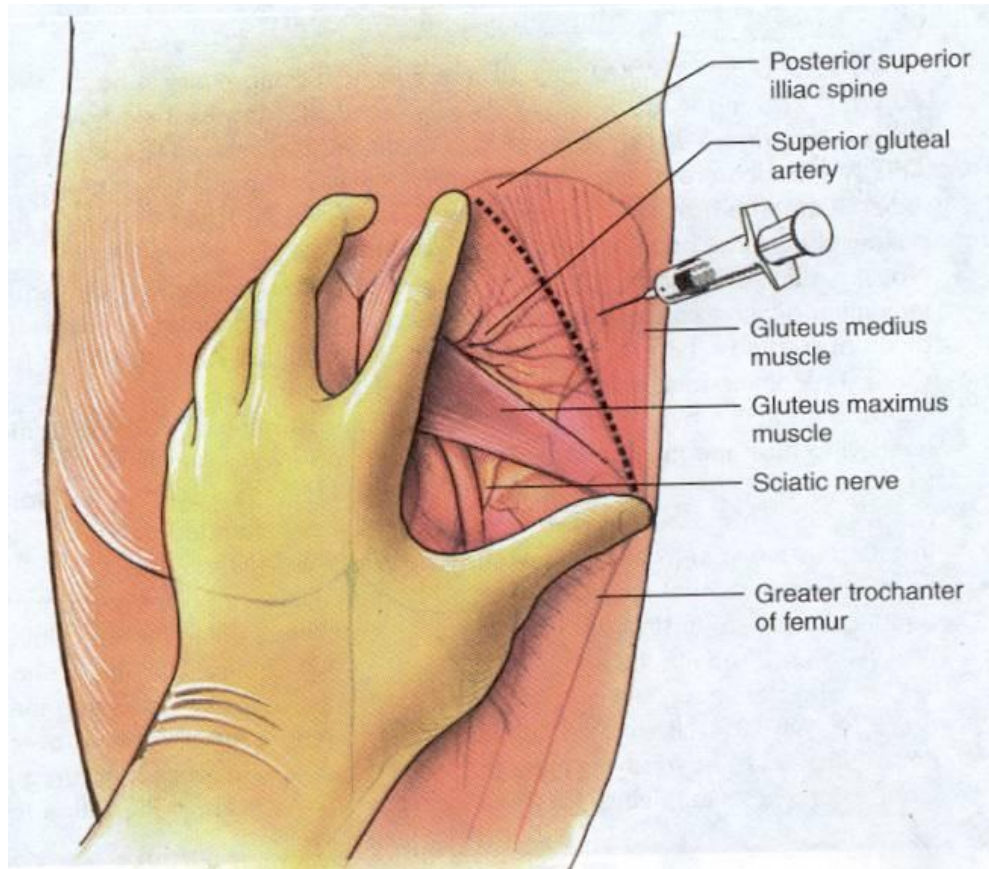
Deltoid



- ❖ Use 1/2 to 1 inch needle
- ❖ 0.5 to 1 ml injection volumes
- ❖ More rapid absorption than gluteal regions.

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Dorsogluteal



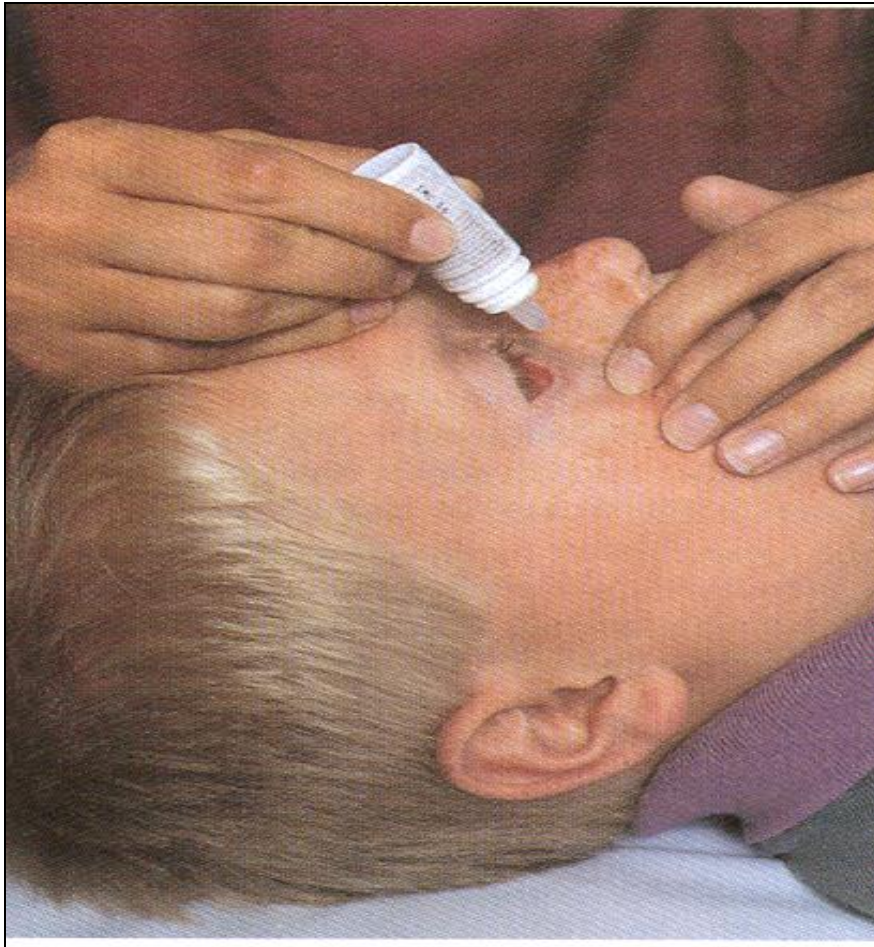
- ❖ Should not be used in Children under 5 years.
- ❖ 1/2 to 1 1/2 inch needle
- ❖ 1.5 to 2 ml of injectate volume.

Eye Drops

Eye:

- Pull the lower lid down
 - Rest hand holding the dropper with the medication on the child's forehead to reduce risk of trauma to the eye.
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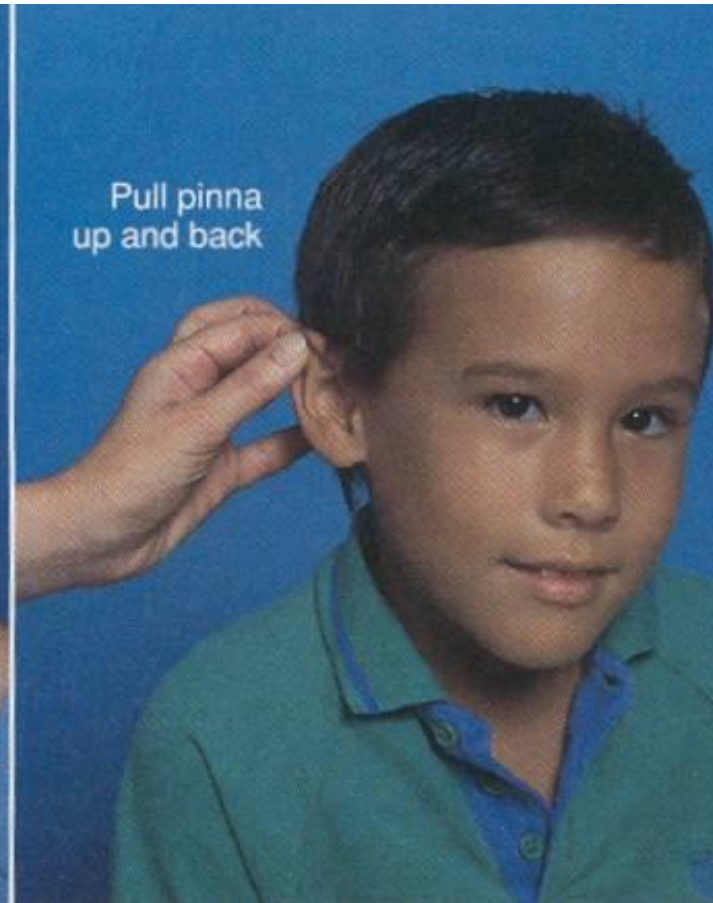
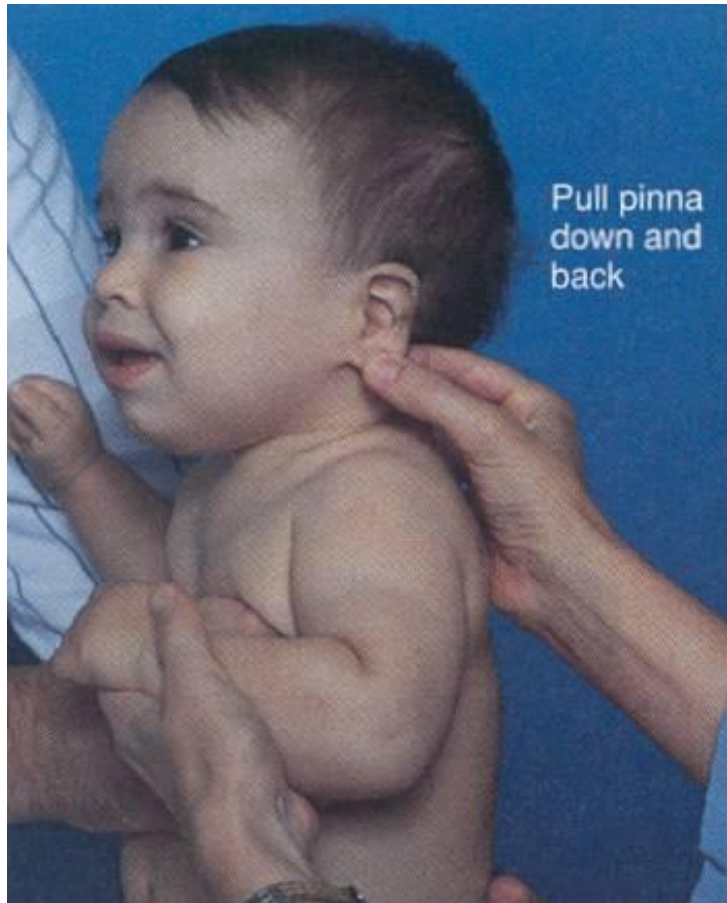
Eye Drops



Pull the lower lid down

Rest hand holding the dropper with the medication on the child's forehead to reduce risk of trauma to the eye.

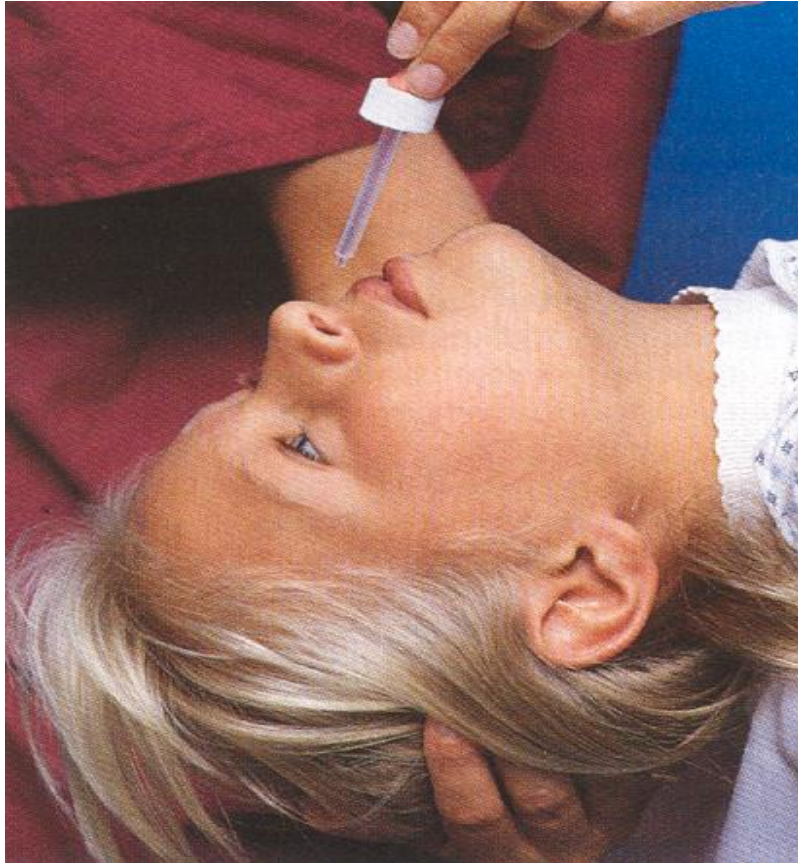
Ear Drops



Ear Drops

- In children younger than age 3 years the pinna is pulled down and back to straighten the ear canal
 - In the child older than 3 years, the pinna is pulled up and back.
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Nose Drops



Position child with the head hyper extended to prevent strangling sensation caused by medication trickling into the throat.

Intravenous Medications

- IV route provides direct access into the vascular system.
 - Adverse effects of IV medication administration:
 - Extravasation of drug into surrounding tissue
 - Immediate reaction to drug
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IV Medication Administration

- Check your institution's policy on which drugs must be administered by the physician and which must be verified for accuracy by another nurse.
 - **All IV medications** administered during your pediatric rotation must be administered under direct supervision of your clinical instructor.
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IV Medication Administration

- Check for compatibilities with IV solution and other IV medications.
 - Flush well between administration of incompatible drugs.
 - IV medications are usually diluted.
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Nursing Alert

- The extra fluid given to administer IV medications and flush the tubing must be included in the calculation of the child's total fluid intake, particularly in the young children or those with unstable fluid balance.

IV Medications

- **IV push** = directly into the tubing
 - **Syringe pump** = continuous administration
 - **Buret** = used to further dilute drug
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IV Push



- Morphine
- Solu-medrol
- Lasix

Drug that can safely be administered over 3 to 5 minutes.

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IV push

- Medication given in a portal down the tubing
 - meds that can be given over a 1-3 minute period of time.
 - Lasix: diuretic
 - Morphine sulfate: pain
 - Demerol: pain
 - Solu-medrol: asthmatic
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IV Pump



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Syringe pump

- Accurate delivery system for administering very small volumes
 - ICU
 - NICU



IV Burette



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IV Buretrol

- Buretrol acts as a second chamber
 - Useful when controlling amounts of fluid to be infused
 - Useful for administering IV antibiotics / medications that need to be diluted in order to administer safely
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Intravenous Therapy

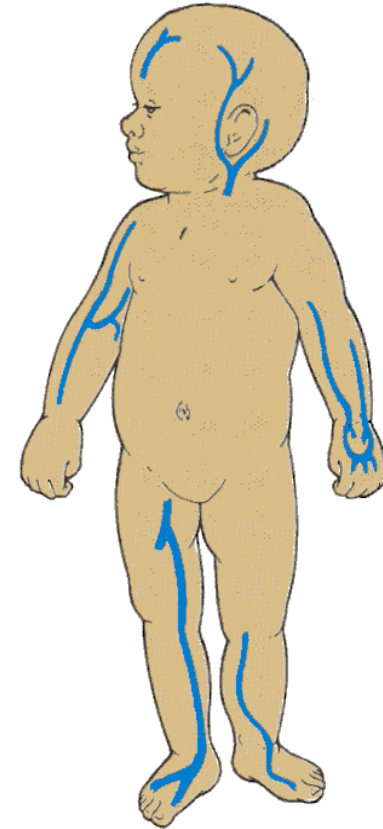
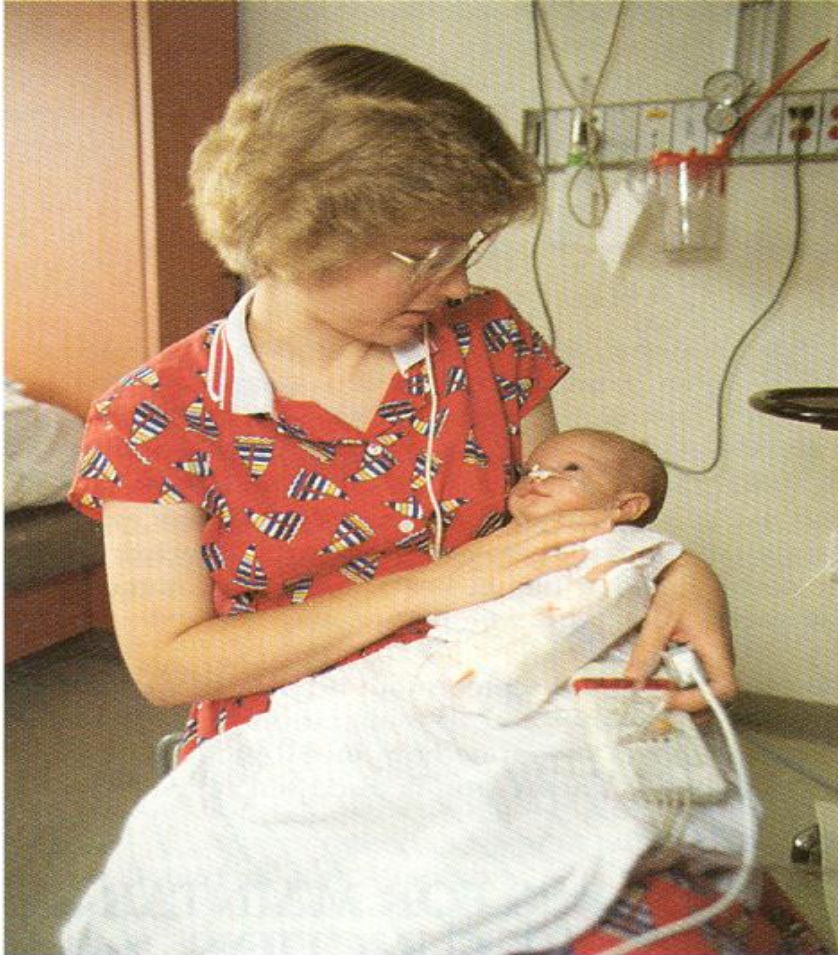
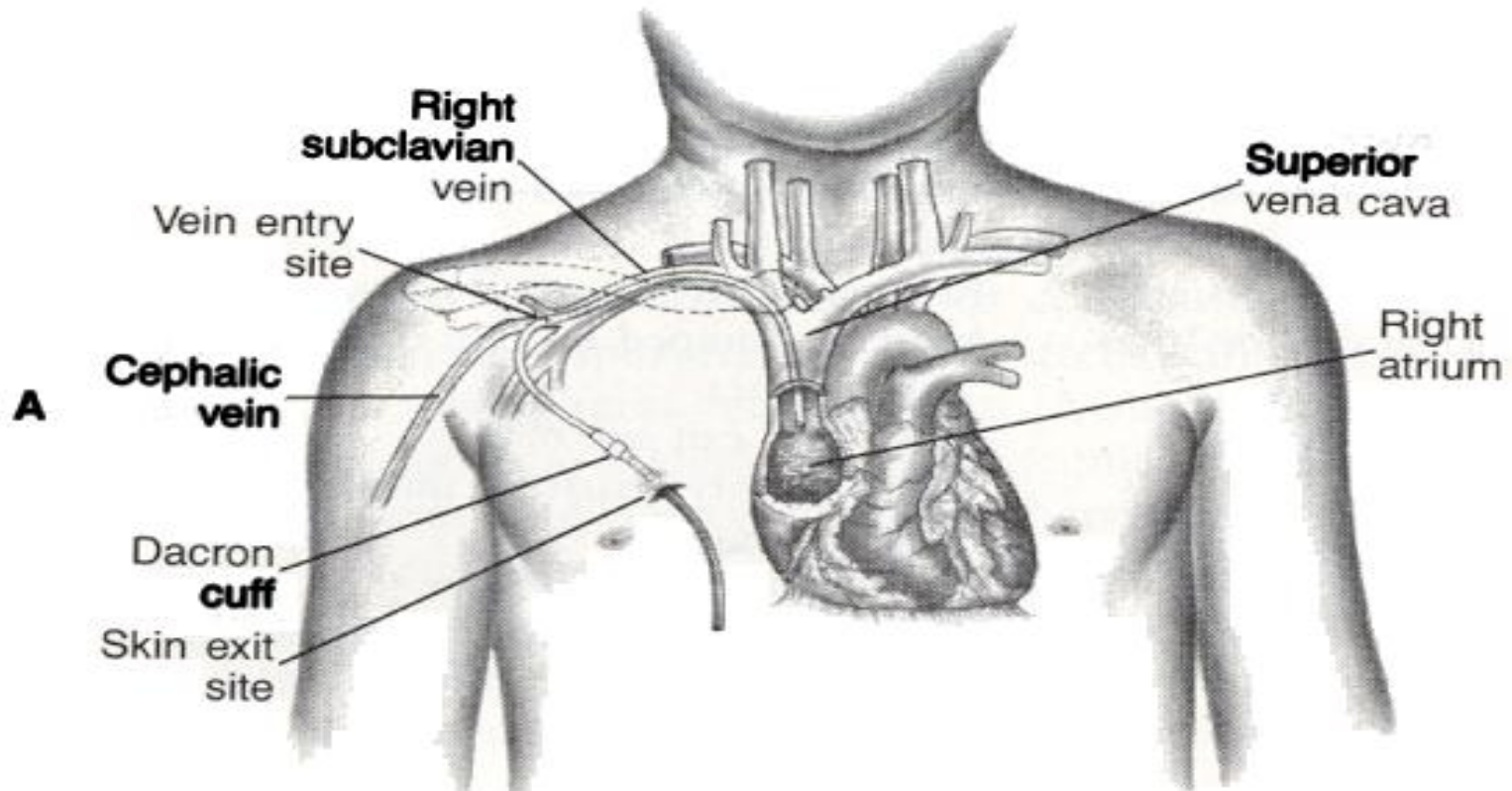


FIG. 22-24. Preferred sites for venous access in infants. (From Smith DP and others, editors: *Comprehensive child and family nursing skills*, St Louis, 1991, Mosby.)

Central Venous Line



Whaley & Wong

Central Venous Line

- A large bore catheter that are inserted either percutaneously or by cut down and advanced into the superior or inferior vena cava
 - Umbilical line may be used in the neonate
 - Used for long term administration of meds
 - Used for chemotherapy
 - Total parental nutrition
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Child With Central Venous Line



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Type of fluid

- Glucose and electrolytes
 - Maintenance
 - Potassium added
 - Crystalloid: Normal Saline or lactated ringers
 - Fluid resuscitation
 - Acute volume expander
 - Colloid: albumin / plasma / frozen plasma
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Complications

- Infiltration
 - Catheter occlusion
 - Air embolism
 - Phlebitis
 - Infection
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Infiltration

- Infiltration: fluid leaks into the subcutaneous tissue
 - Signs and symptoms:
 - Fluid leaking around catheter site
 - Site cool to touch
 - Solution rate slows and pump alarm registers down-stream-occlusion
 - Tenderness or pain: infant is restless or crying
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Catheter Occlusion

- Fluid will not infuse or unable to flush
- Frequent pump alarm
 - Flush line
 - Check line for kinks



Air embolism

- The IV pump will alarm when there is air in the tubing
 - Look to see that there is fluid in the IV bag or buretrol
 - Slow IV rate
 - Remove air from tubing with syringe
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Phlebitis

- Often due to chemical irritation
 - When medications are given by direct intravenous injection, or by bolus (directly into the line) it is important to give them at the prescribed rate.
 - Always check the site for infiltrate before giving an IV medication
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Signs and symptoms: phlebitis

- Erythema at site
 - Pain or burning at the site
 - Warmth over the site
 - Slowed infusion rate / pump alarm goes off
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Reason for pump alarm

- Needs to have volume re-set
 - Needs more IV solution in bag or buretrol
 - Kinked tubing at infusion site
 - Child lying on tubing
 - Air in tubing
 - Infiltrated at site of infusion
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Clinical Pearls

- If alarm states upward occlusion
 - Look at IV bag
 - Look at fluid level in buretrol
 - Look to see if ball in drip chamber is floating
 - If alarm states downward occlusion
 - Look to see that all clamps are open
 - Look to see if line is kinked
 - Irrigate with normal saline or heparin
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