Chapter 7, Medication Administration
Part 1 Principles and Routes of Medication Administration

Caution:
- Administering medications is ____________________________________ business
- Always take appropriate Standard ____________________________________ measures to reduce your risk of exposure during medication administration.
- Knowing all drug administration ____________________________________ is essential.

Medical Asepsis
- It is important to keep the ___________________________ and all the equipment clean.
- ___________________________—free of all forms of life
- Medically clean—involves careful handling to prevent contamination

Needle Handling Precautions
- Minimize the tasks performed in a ___________________________ ambulance.
- Immediately dispose of used sharps in a sharps ____________________________________.
- Avoid recapping needles.
- Avoid “____________________________________ off” sharps

Medication Administration and Documentation
Record all information concerning the patient and medication including:
- ___________________________ for drug administration.
- ___________________________ and route delivered.
- Patient ___________________________ to the medication—both positive and negative.

Transdermal Administration
- Absorbed through the skin at a slow, steady rate
- Method
  - Standard Precautions
  - ___________________________ administration site
  - Apply medication
  - Leave medication in place for required ___________________________.
    Monitor the patient for desirable or adverse effects.

Mucous Membranes
- Absorbed through the ___________________________ membranes at a moderate to rapid rate

Sublingual Medication Administration
- Place the pill or direct spray between the ___________________________ of the tongue and the floor of the oral cavity.

Buccal Medication Administration
- Place the medication ___________________________ the patient’s cheek and gum.

Eye Drop Administration
- Use a medication dropper to place the prescribed dosage on the ___________________________ sac.
Nasal Medication Administration
Use ____________________________ to administer medication into a nostril.

Aural Medication Administration
• Manually open the ear ____________________________ and administer the appropriate dose.

Pulmonary Drug Administration
• Medications are administered into the ____________________________ system via inhalation or injection.
• Small Volume Hand Held ____________________________ (HHN)
• Metered Dose ____________________________
• Atomizer

Nebulizers

Oral Drug Administration
• Any medication taken by ____________________________ and swallowed into the GI tract.
• Be sure the patient has an adequate level of ____________________________ to prevent aspiration.

General Principles of Oral Administration (1 of 2)
• Use appropriate Standard ____________________________ measures.
• Note whether to administer medication with ____________________________ or on empty stomach.
• Gather any necessary ____________________________.

General Principles of Oral Administration (2 of 2)
• Have patient sit ____________________________ when not contraindicated.
• Place the medication into your patient's mouth. Allow self-administration; assist when needed.
• Follow administration with __________-__________ ounces of water and ensure that patient has swallowed the medication

Rectal Administration
• The rectum's extreme ____________________________ promotes rapid drug absorption.
• Medications do not travel through the ____________________________ and are not subject to hepatic alteration.

Catheter placement on needleless syringe

Syringe attached to endotracheal tube

Prepackaged enema container

Parenteral Drug Administration
• Drug administration outside of the ____________________________ tract

Syringes and Needles
1. Syringe
2. ____________________________ needle

Kinds of Parenteral Drug Containers
• Glass ____________________________________
• Single and ____________________________________ vials
• Nonconstituted syringes
• ____________________________________ syringes
• Intravenous medication fluids

25  Ampules and Vials

26  Information On Drug Labels
• Name of medication
  ____________________________________ date
• Total dose and ____________________________________

27  Obtaining Medication from a Glass Ampule

28  Hold the ampule upright and ____________________________________ its top
to dislodge any trapped solution.

29  Place ____________________________________ around the thin neck...
30  ...and snap it off with your ____________________________________.
31  Draw up the medication.

32  Obtaining Medication From a Vial

33  Confirm the vial ____________________________________.
34  Prepare the syringe and hypodermic ____________________________.
35  ____________________________________ the vial's rubber top.
36  I insert the hypodermic needle into the rubber top and
draw up the air from the syringe into the vial.
37  Withdraw the appropriate ____________________________ of
  medication.
38  I insert a new hypodermic ____________________________ and
  administer.

39  Non-Constituted Vials
• The non-constituted drug vial actually consists of
  ____________________________________ vials, one containing a powdered medication
  and one containing a liquid mixing solution.
• Confirm ____________________________ on both
• Pull fluid from the fluid vial and inject into the ____________________________.

40  Key Points for Non-Constituted Vials
• ____________________________________ both vial tops
• ____________________________________ mixture after injecting liquid
• Change needles ____________________________ injecting
• Administer the medication

41  Mix-O-Vial System
• In the Mix-O-Vial system, the vials are joined at the __________________________. Confirm the labels.
• ___________________________________________ the vials together to break the seal. Agitate or
_______________________________ to mix completely.
• Withdraw as normal

42 Prefilled or Preloaded Syringes (1 of 2)
• Confirm medication indications and patient ________________________________
• Confirm prefilled syringe ____________________________ (name, dose, and
expiration date)
• Assemble the prefilled syringe. Remove the pop-off caps and
_______________________________ together

43 Prefilled or Preloaded Syringes (2 of 2)
• __________________________________________ indication, drug, dose, and route of
administration
• Administer appropriately via the indicated ________________________________
• Properly ________________________________ of the needle and syringe

44 Subcutaneous Injections

45 Subcutaneous Injection Sites
• ________________________________ the equipment.

47 SC Needles
• SC needles are normally _____________ ” or 1/2” in length
• Most are already attached to ____________ cc syringes
• Commonly called Insulin or terbuculin syringes

48 Check the medication.

49 Draw up the medication. Expel excess
______________________________

50 Prep the site. Clean and “______________________________ ” up skin.

51 Insert the needle at a ___________° angle. Release skin, aspirate for blood return
and inject.

52 Subcutaneous Injection

53 Remove the needle and ________________________________ the
puncture site.

54 ________________________________ the patient.

55 Epinephrine 1:1,000
• ________________________________ heart rate and blood pressure and decreases
muscle tone of bronchi
• Eases breathing problems in asthma or ________________________________ reactions
• Delivered by Auto-Injector or SC injection
• Adult Dosage is _________ - _________ mg
• Pediatric Dosage is _________ mg/kg to a max of _________ mg
• Dosages can vary according to protocols
56 **Epinephrine 1:1,000**
- Usual concentration is 1mg/1cc
- Drawn up in ________cc syringe
- 0.1cc= ________ mg
- EMT-Bs and EMT-Is can give by IM if properly trained in the SPEMS area

57 **Contraindications to Epinephrine**
- ____________________________ to Epinephrine
- ____________________________ shock
- ____________________________ insufficiency

58 **S/ S After Epinephrine**

1 **Signs**
- ____________________________
  - Tachypnea
  - Flushed skin
  - ____________________________
  - Anxiety
  - Vomiting
  - ____________________________

2 **Symptoms**
- ____________________________
  - Nausea
  - Restlessness
  - ____________________________
  - Heart palpitations

59 **Intramuscular Injection Sites**
- ____________________________
  - Dorsal ____________________________
  - Vastus lateralis
  - Rectus femoris

60 **Intramuscular Injection Sites**

61 **Intramuscular Injection**
- ____________________________ the equipment.
- ____________________________ the medication.
- ____________________________ up the medication.
- ____________________________ the site.
- **Insert the needle at a ________° angle. Aspirate for blood return and inject**
- ____________________________ the needle and cover the puncture site.
- ____________________________ the patient.

62 **Endotracheal Tube**
- Several medications can be administered through an endotracheal tube:
Intranasal (IN) Drug Administration

Introduction
- Intranasal drug administration is a process where a liquid drug is converted to a fine mist (droplets) through a Mucosal Atomize Device (MAD), and injected through the nostrils for absorption through the nasal ____________________________
- Speed is almost as fast as IV
- ____________________________ is always the preferred administration route!

Mucosal Atomization Device (MAD)

Indications
- Many drugs may be administered IN, however, this is a fairly new route and research is ongoing
- Useful when an IV is unobtainable or will be ____________________________
- ALWAYS consult medical direction or ____________________________ before administering ANY drug intranasally
- ____________________________ may vary but are normally equal to or greater than IV administration

Relative Contraindications
- Use caution with these “relative” contraindications
- ____________________________
- Facial trauma
- Nasal ____________________________ , discharge, or any recognizable nasal abnormality
- Destruction of the mucosa from past surgeries or ____________________________ abuse

Procedure (1 of 2)
- Prepare equipment
  - MAD, syringe, medication, etc.
- Draw medication in usual fashion allowing for syringe ____________________________ space
- Attach ____________________________ device to syringe
- Place patient in ____________________________ or recumbent position (if possible)

Procedure (2 of 2)
- Stabilize head if needed
- Press the ____________________________ against the nostril
- Briskly depress the plunger administering ____________________________ of the dose in each nostril
- Administer no more than ____________________________ cc per nostril

Key Points (1 of 2)
- Check nostrils
Key Points (2 of 2)

- Use ½ dose in each nostril.
  - This ____________________________ the available mucosal surface for absorption
- Use most concentrated form of the drug (do not dilute)

No more than 1cc per nostril

- __________ - __________ cc is optimal
- If more is needed, use separate doses with a few minutes between

Consider “________ space” in syringe

- The minute amount left in a syringe
- Consider the addition of __________ cc for the “dead space”

Remember........

IV access is the preferred route. ____________________________ will normally be required as to why a drug was given IN rather than IV

Conclusion

- ANY drug can be ____________________________ under the right circumstances
- Always check, check, and check
  - ____________________________
  - Concentration
  - ____________________________ date
- NO drug administration should ever be considered routine