Parenteral Medication Administration/Routes

6 R's-

- Right patient
- Right drug
- Right dose
- Right route
- Right time
- Right documentation

Dose calculation-

- Concentration = Drug / Volume (eg. 10mg/2mL; C=5mg/mL)
- Desired Dose / Concentration (eg. DD= 25mg / (5mg/mL); DD= 5mL)

IV drip sets-

- Mini drip- 60 gtts = 1mL
- Maxi drip- 10/15/20 gtts = 1mL

IV bags-

50mL - 3000mL (however must rescue trucks carry only up to 1000mL)

Conversion between units-

- 1cc = 1mL
- 1g = 1,000mg
- 1mg = 1,000mcg (sometimes written as 1,000 µg)
- 1g = 1,000,000mcg (sometimes written as 1,000,000 µg)

Parenteral-

Drug administration outside of the GI tract.

- Injected into circulatory system/tissues
- Absorption rate - slow, sustained, or rapid

Syringe-

Range from 0.5cc - 100cc+

Hypodermic needle-

Range from 18-27 gauge

- Needle lengths range from 3/8"-1 ½"

Medication packaging-

- Glass ampulses- single use (1-5mL)
- Single/multidose vials (vacuum packaged)
- Nonconstituted drug vials (Mix-o-Vial)
- Prefilled syringes (Load-n-Go)
- Intravenous medication fluids

Subcutaneous-

Place medication in subcutaneous tissue

- Promotes slow sustained absorption
- Syringe 1-3cc
- 24-26 gauge (needle 3/8”-1” long)
- Inject 0.3-0.5cc (max 1cc)
- Fatty tissue (posterior arm, lower abdomen, flank area)
- Pinch skin together
- 45 degree angle (bevel up)
- Aspirate for blood

Intramuscular-

Deposit medication into muscle

Deltoid- 3-4 fingers below acromial process (2mL max)
Vastus lateralis- lateral aspect of thigh (5mL+)
Rectus femoris- lies over the femur (5mL)
Gluteus maximus- avoid sciatic nerve (5mL+)

- Moderate absorption rate
- Syringe 1-5cc (book)
- 21-23 gauge (needle 3/8”-1” long)
- 90 degree angle (bevel up)
- Spread skin apart / Z track
- Aspirate for blood