Note Title 1/25/2007

Flow Rates Cont'd

(ex.) Order: 1500 mL 5% D/W with 500 mg lidocine at 1 mg/min
Calculate the flow rate if the drop factor is 20 drops per mL.

Want → $\frac{\text{gtt}}{\text{min}}$

$$\frac{1500\text{ mL}}{500\text{ mg}} \quad \frac{1\text{ mg}}{1\text{ min}} \quad \frac{20\text{ drops}}{1\text{ mL}}$$

$$\frac{1\ \cancel{\text{mg}}}{1\text{ min}} \times \frac{1500\text{ mL}}{500\ \cancel{\text{mg}}} = \frac{3\text{ mL}}{1\text{ min}}$$

$$\frac{3\ \cancel{\text{mL}}}{1\text{ min}} \times \frac{20\text{ gtt}}{1\ \cancel{\text{mL}}} = \frac{60\text{ gtt}}{1\text{ min}}$$

Some meds are given by body weight.

(ex) 10 mg/kg/min

this says

"every minute give the patient 10 mg of the drug for every kg they weigh."

written

$$\frac{10\ mg}{kg \times min}$$

(Ex) order: 1000 mL 5% D/W with 20 mg Aredia, 0.006 mg/kg/min IV. The patient weighs 70 kg and the drop factor is 10 gtt/mL Calculate the flow rate.

want $\rightarrow \frac{gtt}{min}$

$$\frac{1000\ mL}{20\ mg} \quad \frac{.006\ mg}{kg \cdot min} \quad \frac{10\ gtt}{1\ mL} \quad 70\ kg$$

$$\frac{.006\ mg}{kg \cdot min} \times 70\ kg = \frac{.42\ mg}{1\ min}$$

$$\frac{.42\ mg}{1\ min} \times \frac{1000\ mL}{20\ mg} = \frac{21\ mL}{1\ min}$$

$$\frac{21\ mL}{min} \times \frac{10\ gtt}{1\ mL} = \frac{210\ gtt}{min}$$

(ex) A patient is receiving an IV of 1000 mL of a drug. The flow rate is 20 drops per min, the drop factor is 10 drops per mL. How many hours will the infusion take?

$$1000\ mL \quad \frac{20\ gtt}{1\ min} \quad \frac{10\ gtt}{1\ mL} \quad \frac{1\ hr}{60\ min}$$

$$1000\ \cancel{mL} \times \frac{10\ gtt}{1\ \cancel{mL}} = 10{,}000\ \cancel{gtt}$$

$$10{,}000\ \cancel{gtt} \times \frac{1\ min}{20\ \cancel{gtt}} = 500\ min$$

$$500\ \cancel{min} \times \frac{1\ hr}{60\ \cancel{min}} = 8.\overline{3}\ hr$$