

IV Medication Practice Exam

1. Start Dobutamine at 2.5mcg/kg/min. Patient weighs 90 kg.
Label concentration: Dobutamine 250mg/D5W 250mL. Calculate mL/hr.

Answer: _____

2. Give Heparin 40 units/kg IV bolus and start infusion at 10 units/kg/hr. Patient weighs 86kg.
Bolus concentration: Heparin 1000 units/mL
Drip concentration: Heparin 25,000 units/D5W 250mL
Calculate bolus and drip rate.

Bolus Answer: _____

Drip Answer: _____

3. Start an infusion of Tridil at 2.5mcg/min.
Drip concentration: Tridil 50mg/D5W 250mL. Calculate mL/hr.

Answer: _____

4. Cardiazem 0.25mg/kg IV bolus over 10 minutes and then start drip rate at 5mg/hr. Patient weighs 78kg.

Bolus concentration: Cardiazem 25mg/5mL

Drip concentration: Cardiazem 125mg/D5W 125mL

Calculate bolus and drip rate.

Bolus Answer: _____

Drip Answer: _____

5. Start Nitroprusside IV at 3mcg/kg/minute. Patient weights 55kg.

Label concentration: Nitroprusside 50mg/D5NS 250mL. Calculate mL/hr.

Answer: _____

6. Dopamine at 9mcg/kg/min IV infusion. Patient weighs 50kg.

Label concentration: Dopamine 400mg/D5W 250mL. Calculate mL/hr.

Answer: _____

7. Start Dopamine drip at 6mcg/kg/min. Patient weighs 65kg.
Label concentration: Dopamine 400mg in 250mL. Calculate mL/hr.

Answer: _____

8. Give Procainamide 500mg IV bolus and start drip at 1mg/min.
Bolus concentration: Procainamide 1gm/20mL.
Drip concentration: Procainamide 4gm/250mL. Calculate bolus and drip amounts.

Bolus Answer: _____

Drip Answer: _____

9. Give 1000mL bolus of IV Lactated Ringers in 3.5 hrs. Calculate mL/hr and mL/min.

Answer: _____ mL/hr

Answer: _____ mL/min

10. At change of shift you check your patient who has Dopamine running at 18mL/hr. The patient weighs 79.2kg.
Label Concentration: Dopamine 400mg/D5W 250mL. How many mcg/kg/min is running?

Answer: _____

IV Medication Practice Exam Answer Sheet

1. Start Dobutamine at 2.5mcg/kg/min. Patient weighs 90 kg.
Label concentration: Dobutamine 250mg/D5W 250mL. Calculate mL/hr.

$$\frac{250 \text{ mg}}{250 \text{ ml}} \cdot \frac{1000 \text{ mcg}}{1 \text{ mg}} = 1000 \text{ mcg/ml}$$

$$\frac{2.5 \cdot 90 \cdot 60}{1000 \text{ mcg/mL}} = 13.5$$

Answer: 13.5 mL/hr

2. Give Heparin 40 units/kg IV bolus and start infusion at 10 units/kg/hr. Patient weighs 86kg.
Bolus concentration: Heparin 1000 units/mL
Drip concentration: Heparin 25,000 units/D5W 250mL
Calculate bolus and drip rate.

$$\text{Bolus: } \frac{40 \text{ units} \cdot 86 \text{ kg}}{1000 \text{ units}} = 3.4$$

$$\text{Drip: } \frac{250,000}{250 \text{ mL}} = 1000 \text{ units/mL}$$

$$\frac{10 \text{ units} \cdot 86 \text{ kg}}{100 \text{ units}} = 8.6$$

Bolus Answer: 3.4 mL

Drip Answer: 8.6 units/hr or mL/hr

3. Start an infusion of Tridil at 2.5mcg/min.
Drip concentration: Tridil 50mg/D5W 250mL. Calculate mL/hr.

$$\frac{50 \text{ mg}}{250 \text{ ml}} \cdot \frac{1000 \text{ mcg}}{1 \text{ mL}} = 200 \text{ mcg/ml}$$

$$\frac{2.5 \text{ mcg} \cdot 60}{200 \text{ mcg/mL}} = .75$$

Answer: .75 mL/hr

4. Cardiazem 0.25mg/kg IV bolus over 10 minutes and then start drip rate at 5mg/hr. Patient weighs 78kg. Bolus concentration: Cardiazem 25mg/5mL
Drip concentration: Cardiazem 125mg/D5W 125mL
Calculate bolus and drip rate.

$$\text{Bolus: } \frac{25 \text{ mg}}{5 \text{ mL}} = 5 \text{ mg/mL}$$

$$\frac{0.25 \text{ mg} \cdot 78 \text{ kg}}{5 \text{ mg/mL}} = 3.9$$

$$\text{Drip: } \frac{125 \text{ mg}}{125 \text{ mL}} = 1 \text{ mg/mL}$$

$$\frac{5 \text{ mg}}{\text{hr}} \cdot \frac{1 \text{ mL}}{1 \text{ mg}} = 5 \text{ mL/hr}$$

Bolus Answer: 3.9mL

Drip Answer: 5mL/hr

5. Start Nitroprusside IV at 3mcg/kg/minute. Patient weights 55kg.
Label concentration: Nitroprusside 50mg/D5NS 250mL. Calculate mL/hr.

$$\frac{50\text{mg}}{250\text{mL}} \cdot \frac{1000\text{mcg}}{1\text{mg}} = 200\text{mcg/mL}$$

$$\frac{3\text{mcg} \cdot 55 \cdot 60\text{min}}{200\text{mcg}} = 49.5$$

Answer: 49.5mL/hr

6. Dopamine at 9mcg/kg/min IV infusion. Patient weighs 50kg.
Label concentration: Dopamine 400mg/D5W 250mL. Calculate mL/hr.

$$\frac{400\text{mg}}{250\text{mL}} \cdot \frac{1000\text{mcg}}{1\text{mg}} = \frac{400,000\text{mcg}}{250\text{mL}} = 1600\text{mcg/hr}$$

$$\frac{9\text{mcg} \cdot 50\text{kg} \cdot 60\text{min}}{1600 \text{ mcg/mL}} = 16.9$$

Answer: 16.9mL/hr

7. Start Dopamine drip at 6mcg/kg/min. Patient weighs 65kg.
Label concentration: Dopamine 400mg in 250mL. Calculate mL/hr.

$$\frac{400\text{mg}}{250\text{mL}} \cdot \frac{1000\text{mcg}}{1\text{mg}} = \frac{400,000\text{mcg}}{250\text{mL}} = 1600\text{mcg/hr}$$

$$\frac{6\text{mcg} \cdot 65\text{kg} \cdot 60\text{min}}{1600 \text{ mcg/mL}} = 14.6$$

Answer: 14.6mL/hr

8. Give Procainamide 500mg IV bolus and start drip at 1mg/min.
Bolus concentration: Procainamide 1gm/20mL.
Drip concentration: Procainamide 4gm/250mL. Calculate bolus and drip amounts.

$$\text{Bolus: } \frac{1\text{gm}}{20\text{mL}} \cdot \frac{1000\text{mg}}{1\text{gm}} = \frac{1000\text{mcg}}{20\text{mL}} = 50\text{mg/mL}$$

$$\frac{500\text{mg}}{50\text{mg/mL}} = 10\text{mL}$$

$$\text{Drip: } \frac{4\text{gm}}{250\text{mL}} \cdot \frac{1000\text{mg}}{1\text{gm}} = \frac{4000\text{mcg}}{250\text{mL}} = 16\text{mg/mL}$$

$$\frac{1\text{mg} \cdot 60\text{min}}{16\text{mg/mL}} = 3.8$$

Bolus Answer: 10mL

Drip Answer: 3.8mL/hr

9. Give 1000mL bolus of IV Lactated Ringers in 3.5 hrs. Calculate mL/hr and mL/min.

$$\frac{1000}{3.5} = 286$$

$$\frac{286}{60} = 4.8$$

Answer: 286 mL/hr

Answer: 4.8 mL/min

10. At change of shift you check your patient who has Dopamine running at 18mL/hr. The patient weighs 79.2kg.

Label Concentration: Dopamine 400mg/D5W 250mL. How many mcg/kg/min is running?

$$\frac{400\text{mg}}{250\text{mL}} \cdot \frac{1000\text{mcg}}{1\text{mg}} = \frac{400,000\text{mcg}}{250\text{mL}} = 1600\text{mcg/hr}$$

$$X\text{mcg} = \frac{18 \cdot 1600}{79.2\text{kg} \cdot 60\text{min}} \quad (=28,800) \quad (=4,752)$$

$$\frac{28,800}{4,752} = 6$$

Answer: 6mcg/kg/min