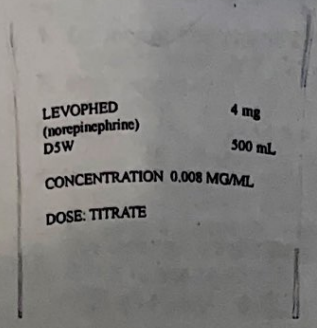
PUTTING IT TOGETHER: CLINICAL CASE STUDIES (*continued*)

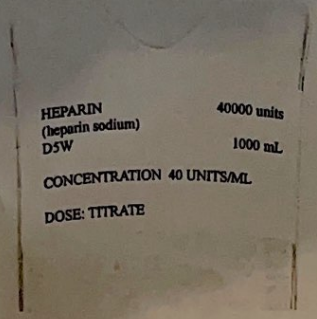


$\frac{1}{2}$ NS 1000 mL at 150 mL/hour

Heparin *anticoagulant* 12 units/kg/hour. No loading dose. IV solution 25,000 units in 500 mL D5W. Titrate to keep PTT 49–70.

90kg x 12u = 1080u/kg/hr

25000u in 500mg



Aspirin *antiplatelet* 81 mg po/N/G daily
digoxin (Lanoxin) *cardiac glycoside* 0.25 mg IV daily
propofol (Diprivan) *sedative* 10 mg/mL
Titrate 5–50 mcg/kg/min for sedation

Calculations. Round the infusion rate to the nearest whole number.

1. Calculate how many micrograms per milliliter of phenylephrine (Neo-Synephrine). 60mcg/mL
2. Calculate the rate on the infusion pump of phenylephrine (Neo-Synephrine) 100 mcg/minute. 100mL/hr
3. Calculate how many micrograms per milliliter of norepinephrine (Levophed). 4mg/500mL = .008mg/mL = 8mcg/mL
4. Calculate the rate on the infusion pump of norepinephrine (Levophed) 0.5 mcg/minute.
   4 0.5x15/2 = 3.75 → 4mL/hr
5. Calculate the dose of heparin. 1080 units/hr
6. Calculate the rate on the infusion pump of the heparin dose. When is the next PTT due?
   500mL/25000u = 1mL/1080 unit/hr = 500x1080/25000 = x = 21.6 → 22mL. Due in 6hrs
7. Propofol (Diprivan) is mixed in 100 mL. How many milligrams are mixed to equal 10 mg/mL?
   10mg/1mL x xmg/100mL = 10x100 = 1x x = 1000mg
8. Calculate the rate on the infusion pump of propofol (Diprivan)—calculate using the range of 5 to 50 mcg/kg/minute. (Hint: calculate using 5 mcg/kg/minute and then recalculate using 50 mcg/kg/minute.)

5mcg x 90kg = 450mcg/min 10mg x 1000 = 10,000mcg/1mL 60min/1hr 1mg-1000mcg

1000mg / 100mL = 10mg in 1mL 10000/60 = 16667 mcg/min 60x90 / 2x1000 = 2.7 → 3mL/hr

50mcg x 90kg = 4500 mcg/min 4500/166.67 = 26.99 → 27mL/hr

PUTTING IT TOGETHER: CLINICAL CASE STUDIES (*continued*)

Critical Thinking Questions

1. Do any of the client's medical conditions warrant changes in the medication orders?
   Dosages may need changed due to renal status and if/when pt gets dialysis
2. Why would two vasopressors be given together?
   To raise the blood pressure
3. What is the reason for giving the client propofol (Diprivan)?
   Due to intubation to sedate pt so pt can rest. Help the body relax + improve condition
4. What medication may help atrial fibrillation yet be contraindicated in this client?
   Calcium channel blockers like Nifedipine. But patient is allergic to Calcium channel blockers
5. What is a possible reason for the sinus tachycardia of 150/minute?
   The patient receiving 2 vasopressors, increased HR due to alpha + beta receptors being affected
6. What is the reason for giving a drug slow IV push, such as the pantoprazole (Protonix)?
   To prevent adverse reactions in the patients

Answers in Appendix B.