

It is Friday morning (Time 0700), and you are working in an inpatient telemetry medical unit. You receive the following bedside handover from the off-going nurse:

Detail	Clinical Significance/Impact
<p>Situation: Jacob Jones is a 45-year-old male who was admitted for fluid volume overload with shortness of breath. His vital signs are: 165/80 mmHg, SpO2 88% on RA, RR 30, temp 98.6° F, HR 110 Sinus tach. He is being worked up for CHF exacerbation.</p> <p>Background: He has a PMH of CHF last recorded EF was 35-40%, diabetes mellitus type 2, and hypertension. He has no surgical history. His Chest Xray showed pulmonary infiltrates and bibasilar atelectasis. He was placed on 2L NC and is 95% SpO2.</p> <p>Assessment: Jacob is a full code status, with NKDA. He is being admitted for CHF exacerbation with fluid volume overload. He is placed on a continuous furosemide infusion. He is alert and oriented to person/place/time/situation. GCS 15. PERRLA. Mucous membranes are pink. Capillary refill <3 seconds. Apical HR tachycardic. Peripheral pulses palpable and weak x4 at +1. Edema +2 BLLE ankles and feet. No murmur. Lung sounds fine crackles in RLL, LLL. No stridor. Respirations are symmetrical and labored. Abdomen obese. Soft, non-tender. NABS x4. Last BM was yesterday. Negative for nausea and vomiting. Voids painlessly and without hesitation. Clear, yellow urine. UA Moves all extremities with no overt deficits. Ambulates unassisted but is slow paced. Equal grip strength bilaterally. Skin is warm, dry, and intact. No bruises or wounds noted. Broad affect, apprehensive. Wife at bedside for support. He has an 18 g in the right arm. Furosemide infusion administration at 10 mg/hr.</p> <p>Recommendation: Continue furosemide infusion. Strict intake and output. BMP scheduled to be drawn now. Cardiac monitor continuously. Sodium and fluid restriction.</p>	

Furosemide infusion management: Test your knowledge	Clinical Significance/Impact
<ol style="list-style-type: none"> 1. What should you assess with the IV prior to administration? 2. What electrolyte(s) and other labs should be monitored during aggressive diuresis therapy? 3. Why should you monitor intake and output with diuresis? 4. Is there any special precautions with the IV tubing or setup needed prior to IV furosemide continuous infusion? 	<ol style="list-style-type: none"> 1. 2. 3. 4.
Case study continued	Clinical Significance/Impact
<p>The furosemide infusion has been administering for 4 hours. You have collected 2000 mL of urine and collected a BMP. The BMP results:</p> <ul style="list-style-type: none"> • BUN: 20 mg/dL • Cr: 1.2 mg/dL • Sodium: 135 mEq/L • Potassium: 4.0 mEq/L • Chloride: 100 mEq/L • Glucose: 250 mg/dL • CO2: 25 mEq/L 	
Next steps:	
<p>What do you expect the nurse to do next?</p>	
Case study continued	Clinical Significance/Impact
<p>The furosemide infusion has been administering for an additional 4 hours. You have collected 4000 mL of urine and collected a BMP. The BMP results:</p> <ul style="list-style-type: none"> • BUN: 25 mg/dL • Cr: 1.5 mg/dL • Sodium: 130 mEq/L • Potassium: 3.0 mEq/L • Chloride: 100 mEq/L • Glucose: 150 mg/dL • CO2: 25 mEq/L 	

Next steps:	Clinical Significance/Impact
<p>What do you expect the nurse to do next?</p>	
<p>IV Potassium chloride infusion management: Test your knowledge</p>	<p>What is the clinical significance or impact of each?</p>
<ol style="list-style-type: none"> 1. What considerations does the nurse need to consider before administering IV potassium chloride? 2. Can you IV push potassium chloride 3. What if the patient complains of “burning” at the IV site? 4. Can you Y-site normal saline while administering IV potassium Chloride. 5. What are the pediatric considerations for administering furosemide? 6. What considerations does the nurse know to take into account when he/she is administering furosemide related to HEENT system? 	<ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6.
<p>Case study continued</p>	<p>Clinical Significance/Impact</p>
<p>The furosemide infusion is now completed. The patient’s total fluid volume deficit is 10 liters. His vital signs are 90/50 mmHg, SpO2 98% on RA, RR 25, temp 98.6° F, HR 100. The follow up BMP after potassium chloride replacement is as follows:</p> <ul style="list-style-type: none"> • BUN: 25 mg/dL • Cr: 1.2 mg/dL • Sodium: 131 mEq/L • Potassium: 3.8 mEq/L • Chloride: 100 mEq/L • Glucose: 145 mg/dL • CO2: 25 mEq/L 	
<p>The provider orders a 1 Liter 0.9% sodium chloride bolus to be infused. Do you complete this order?</p>	

NCLEX-style bonus question

The nurse caring for a client diagnosed with fluid volume overload and is prescribed continuous IV furosemide infusion at 10 mg/hr. Which prescription by the health care provider would the nurse **question** as an anticipated interaction with furosemide?

Answer Choices

- A. 0.9% NaCl infusion at 250 mL/hr
- B. Potassium Chloride
- C. Spironolactone
- D. Metoprolol

NCLEX Review Question References

Hinkle, J.L., & Cheever, K.H. (2018). Assessment and Management of Patients with Cardiac Disorders. *Brunner & Suddarth's textbook of medical-surgical nursing (818)*. Philadelphia: Wolters Kluwer.

Skidmore-Roth, L. (2020). *Mosbys 2020 nursing drug reference*. St. Louis, MO: Elsevier.