

### QUESTION

1. A patient with a long history of alcohol abuse presents with a 2-week history of weight loss, weakness, and confusion. On admission, the patient is found to have a serum glucose of 100 mg/dL, serum sodium of 125 mEq/L, and serum ammonia of 100 μmol/L. The patient is started on intravenous dextrose 5% in water and 0.9% saline. The patient's confusion improves, but the patient's serum sodium remains low at 125 mEq/L. The patient is then started on intravenous 0.9% saline. The patient's serum sodium increases to 130 mEq/L, but the patient's confusion worsens. The patient is then started on intravenous 0.9% saline and 10% dextrose. The patient's confusion improves, but the patient's serum sodium remains low at 125 mEq/L. The patient is then started on intravenous 0.9% saline and 10% dextrose. The patient's confusion improves, but the patient's serum sodium remains low at 125 mEq/L.

Time	Serum Sodium (mEq/L)	Serum Glucose (mg/dL)	Serum Ammonia (μmol/L)
Admission	125	100	100
After 0.9% saline and 5% dextrose	125	100	100
After 0.9% saline	130	100	100
After 0.9% saline and 10% dextrose	125	100	100

2. A patient with a long history of alcohol abuse presents with a 2-week history of weight loss, weakness, and confusion. On admission, the patient is found to have a serum glucose of 100 mg/dL, serum sodium of 125 mEq/L, and serum ammonia of 100 μmol/L. The patient is started on intravenous dextrose 5% in water and 0.9% saline. The patient's confusion improves, but the patient's serum sodium remains low at 125 mEq/L. The patient is then started on intravenous 0.9% saline. The patient's serum sodium increases to 130 mEq/L, but the patient's confusion worsens. The patient is then started on intravenous 0.9% saline and 10% dextrose. The patient's confusion improves, but the patient's serum sodium remains low at 125 mEq/L. The patient is then started on intravenous 0.9% saline and 10% dextrose. The patient's confusion improves, but the patient's serum sodium remains low at 125 mEq/L.

### ANSWER



Time	Serum Sodium (mEq/L)	Serum Glucose (mg/dL)	Serum Ammonia (μmol/L)
Admission	125	100	100
After 0.9% saline and 5% dextrose	125	100	100
After 0.9% saline	130	100	100
After 0.9% saline and 10% dextrose	125	100	100

3. A patient with a long history of alcohol abuse presents with a 2-week history of weight loss, weakness, and confusion. On admission, the patient is found to have a serum glucose of 100 mg/dL, serum sodium of 125 mEq/L, and serum ammonia of 100 μmol/L. The patient is started on intravenous dextrose 5% in water and 0.9% saline. The patient's confusion improves, but the patient's serum sodium remains low at 125 mEq/L. The patient is then started on intravenous 0.9% saline. The patient's serum sodium increases to 130 mEq/L, but the patient's confusion worsens. The patient is then started on intravenous 0.9% saline and 10% dextrose. The patient's confusion improves, but the patient's serum sodium remains low at 125 mEq/L. The patient is then started on intravenous 0.9% saline and 10% dextrose. The patient's confusion improves, but the patient's serum sodium remains low at 125 mEq/L.