In-Training Examination Sample Items

1. An 83-year-old, 70-kg man received anesthesia for an exploratory laparotomy and small bowel resection with minimal blood loss. Postoperatively, he is hemodynamically stable but his urine output has decreased to 15 mL/hr and his urine sodium is 16 mEq/L. Which of the following intravenous interventions is the MOST appropriate?

   A. Lactated Ringer's solution 20 mL/kg
   B. Dopamine 5 mcg/kg/min
   C. Furosemide 0.5 mg/kg
   D. Mannitol 0.5 g/kg

2. A 32-year-old man who is brain dead is being prepared for organ donation. Administration of which of the following medications is MOST appropriate for treatment of polyuria in this patient?

   A. Desmopressin
   B. Demeclocycline
   C. Hypertonic saline
   D. Insulin

3. A healthy 30-year-old woman is undergoing cervical spine surgery utilizing motor evoked potentials (MEP) monitoring. Which of the following medications would be expected to have the GREATEST depressant effect on the MEP waveform?

   A. Dexmedetomidine
   B. Isoflurane
   C. Fentanyl
   D. Nitrous oxide

4. A patient develops a seizure shortly after injection of 1 mL local anesthetic for a stellate ganglion block using the paratracheal technique. Which of the following arterial structures was MOST likely inadvertently punctured?

   A. External carotid
   B. Internal carotid
   C. Subclavian
   D. Vertebral
5. A 62-year-old woman with acute respiratory failure is being ventilated with the following ventilator settings:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tidal volume</td>
<td>10 mL/kg actual body weight</td>
</tr>
<tr>
<td>Respiratory rate</td>
<td>15 breaths/min</td>
</tr>
<tr>
<td>FiO₂</td>
<td>0.6</td>
</tr>
<tr>
<td>Peak inspiratory pressure</td>
<td>40 cmH₂O</td>
</tr>
<tr>
<td>Plateau pressure</td>
<td>30 cmH₂O</td>
</tr>
<tr>
<td>Positive end-expiratory pressure</td>
<td>10 cmH₂O</td>
</tr>
</tbody>
</table>

The results of her most recent arterial blood gas are as follows:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>7.34</td>
</tr>
<tr>
<td>PaO₂</td>
<td>85 mmHg</td>
</tr>
<tr>
<td>PaCO₂</td>
<td>46 mmHg</td>
</tr>
</tbody>
</table>

Given this information, which of the following ventilator changes is MOST appropriate to minimize lung injury?

A. Change to pressure-controlled ventilation  
B. Decrease positive end-expiratory pressure  
C. Decrease ventilator rate  
D. Decrease tidal volume
Answer Key

1. A
2. A
3. B
4. D
5. D