**DKA: Monitoring**

**Ongoing Monitoring (until resolution of acidosis)**
- **Q1H:** HR, BP, bedside glucose, neurovitals, fluid ins and outs
  - If any decline in GCS, go to DKA with suspected cerebral injury
- **Q1-2H x 2 then Q1-4H:**
  - Blood gas, glucose (BG), Na, K, Cl, urea, creatinine, urine ketones
  - Optional Ca, phos
- Calculate anion gap and consider adding serum beta-hydroxybutyrate (BOHB) to assess acidosis and guide weaning of insulin infusion

To distinguish ongoing DKA from hyperchloremic acidosis:

<table>
<thead>
<tr>
<th>Anion gap</th>
<th>BOHB</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 12 mmol/L</td>
<td>&gt; 1 mmol/L</td>
</tr>
<tr>
<td>≤ 12 mmol/L</td>
<td>≤ 1 mmol/L</td>
</tr>
</tbody>
</table>

**To distinguish ongoing DKA from hyperchloremic acidosis:**

**DKA with Suspected Cerebral Injury**

**Recognition:**
- May be clinically apparent at presentation, or develop within first 12-24 hours of treatment
- Risk factors for cerebral injury:
  - Greater acidosis (lower pH and pCO₂)
  - More severe dehydration
  - Young age (<5 years)
  - New onset diabetes

**Warning signs:**
- Headache, irritability or altered behaviour, somnolence, decreasing level of consciousness
- Abnormal vital signs and bluer disc margins are late signs
- Immediate management is essential if cerebral injury is suspected. CT head is not helpful in acute management and should be deferred

**Immediate Management – High Suspicion of Cerebral Injury**

- Move to place of intensive monitoring, call emergency response team if available; RN and MD at bedside
- Assess and support ABCs. The need for intubation is rare (see page 1)
- Initiate intensive monitoring
- Raise head of bed to > 30°
- Give 3% NaCl 5 mL/kg IV over 10 minutes. If only one IV line, hold maintenance fluids during 3% NaCl infusion. Alternative: Mannitol 0.5-1 g/kg IV over 20 minutes
- Consult PICU

**Ongoing Monitoring**

- Cardiorespiratory monitor, more frequent neurovitals
- Biochemical monitoring as for DKA
- Consider head imaging once stable

**Ongoing Fluid Management**

- Refer to page 1 for initial guidelines
- Provide fluid boluses if needed for perfusion, then
- Adjust IV fluids to 60% or to maintain normal BP, but avoid overhydration
- Fluid choice:
  - 0.9% NaCl OR D10W/0.9% NaCl + 40 mmol/L KCl (as per glucose criteria on page 1)
  - Potassium – as for DKA

**Insulin**

- Dose: 0.05-0.1 units/kg/hour