# Red Flags: Pediatric Diabetic Ketoacidosis (DKA)

## Recognition:

**DKA Clinical features:** Polyuria, polydipsia, weight loss, dehydration, headache, Kussmaul breathing, abdominal pain, vomiting

- Random blood glucose $\geq 11.1$ mmol/L
- Acidosis: pH $< 7.3$ or $\text{HCO}_3^-$ mmol/L $< 15$ on venous or capillary blood gas

**CEREBRAL EDEMA Clinical Features:**

- Early: Headache, vomiting, mild irritability/lethargy
- Late: Worsening headache and neurological status (↓ GCS, restlessness, irritability, ↑ drowsiness, incontinence), specific neurological signs (nonreactive pupils, cranial nerve palsies), ↓ heart rate, ↑ BP, ↓ RR

## Management

- **Point of care blood glucose at Triage**
- **Rehydrate with IV NS. Change to D10NS when glucose is $< 15$mmol/L OR glucose is $< 25$mmol/L and decreases by $> 5$ mmol/L/hr**
- **Start insulin infusion AFTER 1 hour of IV fluid administration**
- **Add 40 mmol/L KCl into IV fluid if K+ < 5 mmol/L and patient has voided in ED**

## Provide a fluid bolus

- 10 mL/kg NS over 30 min, and reassess perfusion; repeat 10 mL/kg NS if needed
- **Do not** bolus IV fluid if suspect cerebral edema
- **Do not** bolus IV insulin
- **Do not** administer sodium bicarbonate
## Pediatric Diabetic Ketoacidosis (DKA) IV Rehydration Table

<table>
<thead>
<tr>
<th>Weight</th>
<th>mL/kg/hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 - &lt;10 kg</td>
<td>6.5</td>
</tr>
<tr>
<td>10 - &lt;20 kg</td>
<td>6</td>
</tr>
<tr>
<td>20 - &lt;40 kg</td>
<td>5</td>
</tr>
<tr>
<td>≥40 kg</td>
<td>4 (MAX 250 mL/hr)</td>
</tr>
</tbody>
</table>