

# Paed. DKA – ED Guide

## 1. Confirm DKA

### Clinical

- Acidotic Respiration
- Dehydration
- Drowsy [Monitor mental state hourly]
- Abdominal Pain/Vomit

### Biochemical

- Blood Glucose >11mmol/l
- Blood pH <7.3 &/Or HCO<sub>3</sub> <18mmol/l
- Blood Ketone >3mmol/l
- Glucose & Ketones in Urine

## 2. Investigations

- Blood Glucose
- U&E
- FBC
- Venous/Capillary Gas
- Blood Ketone
  - 0 - 0.5 [Negative – Low]
  - 0.6 – 1.5 [Low – Moderate]
  - 1.6 – 3 [Moderate]
  - >3 [High]
- Chloride, Calcium, Phosphate
- Consider Blood cultures  
(fever is not part of DKA)

## 3. Assess Dehydration [Overestimation is dangerous, Maximum of 10% in calculations]

Mild - Moderate 5% [pH of 7.1 or higher]

Severe 10% [pH less than 7.1]

Shock Only ONE 10ml/kg 0.9% NaCl bolus should be given, without senior input.

**Fluid Boluses – should only be 10ml/kg 0.9% NaCl**

## Fluid – too much is dangerous

**0.9% NaCl + 20mmol KCl (500ml)**

### Deficit Calculation (ml)

% dehydration x Weight kg x 10

- Replace over 48 hours
- Take boluses off total

### Maintenance

- under 10kg 2ml/kg/hr
- 10 to 40kg 1ml/kg/hr
- over 40kg fixed 40ml/hr

NICE 2015 - maintenance reduced to help avoid Cerebral Oedema

### Blood Glucose under 14mmol/l

0.9% NaCl + 20mmol KCl + 5% dextrose

### Sodium Correction - use link

<http://www.strs.nhs.uk/resources/pdf/guidelines/correctedNA.pdf>

## Insulin

- **ONLY** Start more than 1hr after fluid
- There is no need to start in ED [unless prolonged stay]
- Evidence: Early insulin increases likelihood of Cerebral Oedema

### Making

50 unit Actrapid in 49.5ml 0.9% NaCl  
[Syringe pump must be used]

### Dose

0.05unit/kg/hour (0.05ml/kg/hour)

- **Blood Glucose <14mmol/l** change fluid [0.9% NaCl + 20mmol KCl + 5% dextrose]
- **Blood Glucose <4mmol/l** [Bolus 2ml/kg 10% dextrose]
- **Blood Glucose not falling.** Consider increase to 0.1unit/kg/hr [D/W Paeds]