

## Hour 1: Immediate Management upon Diagnosis

### 0-60 minutes

**Aim to:**

Commence IV 0.9% sodium chloride solution

Commence a FRIII but only after fluid therapy has been commenced

Establish monitoring regime appropriate to patient Clinical and biochemical assessment of the patient

<b>ACTION 1</b>	ALL 3 OF THE FOLLOWING MUST BE PRESENT TO CONFIRM DKA	CBG	mmol/L
	1. Capillary blood glucose (CBG) 11.0mmol/L or known diabetes	Ketones	mmol/L
<b>CONFIRM</b>	2. Capillary blood ketones >3.0mmol/L or 2+ ketonuria	pH	
<b>DIAGNOSIS</b>	3. Venous pH <7.3 and/or venous bicarbonate <15 mmol/L	HCO <sub>3</sub>	mmol/L

<b>ACTION 2</b>	Large Bore IV Cannula and commence IV fluid replacement
	<i>Assess the severity of dehydration using pulse and blood pressure. As a guide 90mmHg may be used as a measure of hydration but take age, gender and concomitant medication into account.</i>

<b>ACTION 3</b>	Urea    Electrolytes    Chloride    FBC    Venous blood gas    Blood cultures    ECG
<b>INVESTIGATIONS</b>	Ketones    VBG    CBG    Continue cardiac monitoring    Chest Radiography if indicated

<b>ACTION 4</b>	Rapid ABC    GCS    NEWS2    RR    Temperature    Blood Pressure    Oxygen saturation
<b>BASELINE ASSESSMENT</b>	

<b>ACTION 5</b>	Give 500ml of 0.9% sodium chloride solution over 10-15 minutes.
<b>BP below 90mmHg</b>	If SBP remains below 90mmHg this may be repeated whilst awaiting senior input. Most patients require between 500 to 1000ml given rapidly.
<b>BP above 90mmHg</b>	Typical fluid replacement regimen for previously well 70KG illustrative only

  

Fluid	Volume
0.9% sodium chloride 1L *	1000ml over 1st hour
0.9% sodium chloride 1L with potassium chloride	1000ml over next 2 hours
0.9% sodium chloride 1L with potassium chloride	1000ml over next 2 hours
0.9% sodium chloride 1L with potassium chloride	1000ml over next 4 hours
0.9% sodium chloride 1L with potassium chloride	1000ml over next 4 hours
0.9% sodium chloride 1L with potassium chloride	1000ml over next 6 hours

**Re-assessment of cardiovascular status at 12 hours is mandatory, further fluid may be required**

\*Potassium chloride may be required if more than 1 litre of sodium chloride has been given already to resuscitate hypotensive patients

#### ACTION 6

#### Potassium Replacement

Hypokalaemia and hyperkalaemia are life threatening conditions and are common in DKA. Serum potassium is often high on admission (although total body potassium is low) but falls precipitously upon treatment with insulin. Regular monitoring is mandatory.

Potassium level in first 24 hours (mmol/L)	Potassium replacement in mmol/L of infusion solution
Over 5.5	Nil
3.5-5.5	40
Below 3.5	Senior review as additional potassium needs to be given (see serious complications section)

### Exercise caution in the following patients

- Young people aged 18-25 years
  - Elderly
  - Pregnant
- Heart or kidney failure
- Other serious co-morbidities

In these situations, admission to a Level 2/HDU facility should be considered. Fluids should be replaced