DKA Intravenous Fluids Calculations

- **Must** discuss admission & ongoing care with senior on-call medical staff.

Surname: _____
Forename: _____
DOB: _____
HN: _____
CHI: _____

Start ← Click Start before data entry or re-entry.

- If needed, use **10 ml/kg** resuscitation bolus.
- Repeat **once,** if needed, over 1-2 hrs**.**

Date: Date

Time: Time Resusc. Fluid Volume: Resusc Vol (ml/kg)

Age: Age (years) Bicarbonate: Bicarb (mmol/l)

A. Current Weight: On arrival in Emergency Department (in kg) → A (A) — Current Weight (kg)

B. % Dehydration:

DKA Severity	Bicarb (mmol/l)	% Dehydration
Mild	> 10	3
Moderate	5 - 10	5
Severe	< 5	8

→ B (B) — Dehydration (%)

C. Estimated True Weight: Pre-dehydration weight

$$\frac{100 \times \text{A}}{100 - \text{B}} = \frac{100 \times \text{A}}{100 - \text{B}} =$$

→ C (C) — Estimated True Weight (kg)

MINUS

A (A) — Current Weight (kg)

=

D. Weight Lost: Estimated True Weight *minus* Current Weight → D (D) — Weight Lost (kg)

E. Maint. Fluid Volume:

Age (yrs)		ml/kg over 48hrs
Over 48 hours: 0 - 2	→	160
3 - 5	→	140
6 - 9	→	120
10 - 14	→	100
> 14.9	→	60

Select ml/kg per 48 hrs according to age (e.g. 160, 140, 120, 100, or 60) → E (E) — Maint. Fluid Vol. (ml/kg per 48hr)

Initial IV Fluid Rate Calculation

MAINTENANCE FLUID

C (C) Est. True Weight (kg) (Pre-dehydration) **x** E (E) Maint. Vol over 48 hrs (ml/kg/48 hrs) → C x E — Maintenance (ml/48 hrs)

PLUS

FLUID DEFICIT

D (D) Weight Lost (kg) **x** 1000 (ml/kg) → D x 1000 — Fluid Deficit (ml)

=

Initial IV Fluids to use: $[Na]^+$ corrected for Glucose = Plasma $[Na]^+$ + (([Gluc] - 5.5) x 0.3)

1. If Glucose ≥ 14 mmol/l → NaCl 0.9%
2. If Glucose < 14 & Corrected $[Na]^+$ < 150 mmol/l → NaCl 0.9% + Dext 5%
3. If Glucose < 14 & Corrected $[Na]^+$ > 150 mmol/l → NaCl 0.45% + Dext 5%

Subtotal 1 — Subtotal 1 (ml/48 hrs)

MINUS

RESUSCITATION FLUID Total Resusc. Fluid Volume (ml) → Resusc. — Resuscitation (ml)

=

IV Fluids Start Time: _____

IV Insulin Start Time: _____

◀ Delay IV insulin start 60-90 minutes **after** IV fluids start. Earlier start increases cerebral oedema risk x 12

Subtotal 2 — Subtotal 2 (ml/48 hrs)

÷ 48 (hrs)

IV Fluid — **IV FLUID INFUSION RATE** (ml/hr)

Calculated by:

(Sign) _____

(Print) _____

Checked by:

(Sign) _____

(Print) _____

Initial IV Insulin Rate Calculation

of 1 unit insulin per ml solution using soluble insulin (e.g. Actrapid)

0.1 units per kg per hour **x** C (C) Est. True Weight (kg) → IV Insulin — **IV INSULIN INFUSION RATE** (ml/hr)