

Diabetic Ketoacidosis Management in Adults

Diagnostic criteria – all 3 required:

- Blood ketones >3 mmol/L
- Blood glucose >11 mmol/L or known diabetes (T1 and 2)
- Serum bicarbonate <15 mmol/L AND/OR venous pH <7.3

1 ABCDE assessment – assess severity

2 Prescribe IV fluids

- 1 L 0.9% sodium chloride over 1 hour

3 Prescribe IV fixed rate insulin infusion

- 50 units of ACTRAPID in 49.5 mL 0.9% sodium chloride
- Rate of 0.1 units/kg bodyweight/hour

4 Continue long-acting insulin at normal dose

- Lantus (Glargine), Levemir (Detemir), Tresiba, Abasaglar

5 Identify and treat causes

- Infection
- High HbA1c – check HbA1c on admission
- Illicit drug/excessive alcohol use
- High/prolonged levels of stress

6 Monitoring

- Hourly blood glucose and ketones
- 2 hourly VBG to check pH, potassium and bicarbonate

Fluids

1 L 0.9% sodium chloride with potassium as per below box

- 1 L over next 2 hours
- 1 L over next 2 hours
- 1 L over next 4 hours
- 1 L over next 4 hours
- 1 L over next 6 hours

Start 10% dextrose at rate of 125 mL/h when blood sugar <14 mmol/L

Potassium replacement per 1 L fluid

- K⁺ >5.5: Nil
- K⁺ 4.5-5.5: 20 mmol
- K⁺ 3.5-4.5: 40 mmol
- K⁺ <3.5: contact senior

Consider ITU/HDU review if:

- Blood ketones >6 mmol/L
- Serum bicarbonate <5 mmol/L
- Serum pH <7.1
- Serum K⁺ <3.5 mmol/L on admission
- GCS <12
- SpO₂ <92% on air (if normal respiratory function)
- Systolic BP <90 mmHg
- Pulse >100 bpm or <60 bpm
- Anion gap >16