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2-10 Diabetic Ketoacidosis v.1

A high index of suspicion is needed to recognise diabetic ketoacidosis (DKA) in pregnancy. DKA can occur with only very modest elevation of blood glucose levels in women with pre-existing or gestational diabetes. Always check blood ketones. Ketones occur more commonly in pregnancy. DKA may manifest as abdominal pain.

This QRH is for use in **DKA** situation only. Normal blood ketone range in pregnancy is not established, outside pregnancy < 1 mmol/L is normal

START

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| **Box A: Fluid and potassium replacement** |
| **First bag of fluid**  If systolic BP < 90 mmHg  give 500 ml 0.9% sodium chloride over 15 minutes. Monitor BP and repeat if required.  If systolic BP > 90 mmHg  give 1 L 0.9% sodium chloride over 1 hour  **Second bag of fluid**  *Replace potassium from second bag onwards, guided by venous potassium (aim K+ 4 – 5.5 mmol/L)*  **if K+ > 5.5 mmol/L**  give 1 L 0.9% sodium chloride over 2 hours  **if K+ < 5.5 mmol/L**  give 1 L 0.9% sodium chloride with 40 mmol/L KCl over 2 hours. *Discuss central venous access with ICU if K+ < 3.5 mmol/L to allow more concentrated KCL administration.*  **When blood glucose < 14 mmol/L**  give 10% glucose at 50 ml/hr to run alongside 0.9 % normal saline  Subsequent fluids to be guided by blood results, observations and input / output. MDT input is needed to guide all fluid management in women  with pre-eclampsia |

**❶ Call for help** (obstetrician, anaesthetist, diabetic team / medical on-call if out of hours)

**❷ Take blood and send for blood glucose, pH and blood ketone level**

Diagnose diabetic ketoacidosis if 

⯈ Venous pH < 7.3 -*and / or- H*CO - < 15 mmol/L -*and-*

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⯈ Blood glucose > 11 mmol/L or known diabetic -*and-*

⯈ Blood ketones > 3 mmol/L or urinary ketones > 2+

**❸ Start IV fluid hydration** (**Box A**)

**❹ Start fixed rate IV insulin infusion** at 0.1 units/kg of actual body weight/hr Increase fixed rate by 1 unit / hour if 

⯈ < 0.5 mmol/L fall in blood ketones per hour **-*or-***

⯈ < 3 mmol/L fall in blood glucose per hour **-*or-***

⯈ < 3 mmol/L rise in venous bicarbonate per hour

*Maximum rate no more than 14 units/hour unless under diabetic team instruction If woman on own insulin pump * *discontinue woman’s pump*

**❺ Inform woman to continue long-acting insulin as per usual regime**

**❻ Plan frequency of monitoring (maternal and fetal)**

❼ **Plan frequency of blood tests** (**Box B**)

❽ **Agree appropriate location for care (e.g., HDU)**

**❾ Check for underlying cause for DKA**

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| **Box B: Blood test suggestions** |
| Blood glucose and capillary ketones – hourly  Venous bicarbonate, potassium – at 1, 2 and 4 hours Electrolytes – 4 hourly |

⯈ Infection

⯈ Protracted vomiting

⯈ History of missed insulin doses

⯈ Insulin pump failure

⯈ Steroid therapy