Normal and Low Blood Glucose Levels and Illness Management for Type 1 Diabetes

Blood Glucose < 10mmol/L with symptoms of illness (e.g., Diarrhoea and vomiting) (False low readings can occur if the patient is peripherally cool/shut down)

Test Blood Glucose & Ketones

Treat Hypoglycaemia (See Managing Hypoglycaemia Pathway)
Once resolved return to this flowchart

Yes

Blood Glucose ≤ 3.9mmol/L

No

Ketones below 0.6mmol/L

Ketone Level Acceptable
Continue monitoring blood glucose and ketones every 1-2 hours.
Encourage frequent sips of fluids and replace food with small amounts of sugary fluids & appropriate insulin if not eating
Treat illness as usual. E.g., Paracetamol, contact GP
Phone Diabetes team back if no improvement

Ketones 0.6-1.5mmol/L

Ketones over 1.5mmol/L

Ketones too high - Risk of DKA
Are there signs or symptoms of DKA/cannot eat or drink or have they vomited more than 2 times?

No

Yes

High Level of starvation ketones. Extra carbohydrates and fluids are needed
Encourage frequent sips of fluids and replace food with small amounts of sugary fluids

NEEDS HOSPITAL ASSESSMENT

INSULIN PUMP USER
1. Advise administration of rapid acting insulin by S/C pen injection

Blood Glucose 5.5-10mmol/L: Dose calculation –
Either: a. Ordinary bolus dose for carbohydrate or
5% of Total Daily Dose if ketones > 1.5mmol/L
Or b. 0.05 units of insulin/kg of body weight if ketones > 1.5mmol/L.

Blood Glucose 4.5-5.4mmol/L: Dose calculation –
Ordinary bolus dose for carbohydrate

2. Ask carer to disconnect pump from child and do a pump self-check and re-prime infusion set to check pump is working
3. If the pump is working the cannula needs replacing
4. Change the reservoir as well if there are any uncertainties
5. Reconnect pump
6. Consider Reducing temporary basal rate by 10-20% every 2 hrs

INSULIN PEN USERS
1. Advise administration of rapid acting insulin by S/C injection

Blood Glucose 5.5-10mmol/L: Dose calculation –
Either: a. Ordinary bolus dose for carbohydrate or
5% of Total Daily Dose if ketones > 1.5mmol/L
Or b. 0.05 units of insulin/kg of body weight if ketones > 1.5mmol/L

Blood Glucose 4.5-5.4mmol/L: Dose calculation –
Ordinary bolus dose for carbohydrate

Never stop taking insulin
Encourage frequent sips of sugar free fluid and replace food with small amounts of sugary fluid if not eating

Re-test Blood Glucose and Ketones in 1-2 hours. (If blood glucose ≤ 3.9mmol/L - treat Hypo)
Are there signs/symptoms of DKA?

No

Yes

After 2hrs: Blood glucose < 10mmol/L
(If blood glucose ≥ 10mmol/L follow flow chart for High blood glucose with illness)

Ketones below 0.6mmol/L

Ketones above 0.6 mmol/L

Clinical Features of DKA
Polyuria, Polydipsia and Weight loss
Nausea and Vomiting
(Admit if vomited more than 2 times)
Abdominal pain
Shortness of breath/Rapid breathing
Altered conscious level
Dehydration
(See DKA Protocol on intranet)

Created by Leeds Paediatric Diabetes Team April 2016.