

1: Management and interpretation of blood glucose levels and blood ketone levels during illness for patients on injections.

CHECK CBG & BLOOD KETONE LEVELS

BG level	Blood ketone < 0.6mmol/L	Blood ketone 0.6 – 1.5mmol/L	Blood ketone > 1.5mmol/L
4 – 10 mmol/L	No need to worry, no need to give extra insulin	Give correction dose of rapid acting insulin as per smart meter OR Use '100 rule', - see page 7 Give next planned/usual dose of insulin as normal Starvation ketones. Extra carbs needed (sugary fluids if not able to eat)	Give correction dose of rapid acting insulin as per smart meter OR 5-10% of total daily dose (TDD) or 0.05-0.1units/kg Starvation ketones. Extra carbs needed (sugary fluids if not able to eat)

Check CBG & Ketones every 2 hours

If vomiting - try oral fluid challenge as per local hospital policy. If unable to tolerate fluids, admit CYP according to local guideline, i.e. A&E or direct access to the ward.

10 – 14 mmol/L	Give correction dose of rapid acting insulin as per smart meter using 'illness function' OR Use '100 rule', - see page 7 Encourage sugar free fluids – little and often Give next planned/usual dose as normal	Give correction dose of rapid acting insulin as per smart meter OR 5-10% of total daily dose (TDD) or 0.05-0.1units/kg Encourage sugar free fluids – little and often	Give correction dose of rapid acting insulin as per smart meter using 'illness function' OR 10% of total daily dose (TDD) or 0.1units/kg Encourage sugar free fluids - little and often
----------------	---	---	---

Check CBG & Ketones every 2 hours

If vomiting - try oral fluid challenge as per local hospital policy. If unable to tolerate fluids, admit CYP according to local guideline, i.e. A&E or direct access to the ward.

> 14 mmol/L	Give correction dose of rapid acting insulin as per smart meter using 'illness function' OR 5-10% of total daily dose (TDD) or 0.05-0.1units/kg Give next planned/usual dose as normal. Encourage sugar free fluids – little and often	Give correction dose of rapid acting insulin as per smart meter using 'illness function' OR 10 - 20% of total daily dose (TDD) or 0.1-0.2units/kg Encourage sugar free fluids - little and often	Give correction dose of rapid acting insulin as per smart meter using 'illness function' OR 20% of total daily dose (TDD) or 0.2units/kg Encourage sugar free fluids - little and often
-------------	--	--	---

Check CBG & Ketones every hour

If vomiting - try oral fluid challenge as per local hospital policy. If unable to tolerate fluids, admit CYP according to local guideline, i.e. A&E or direct access to the ward.

NOTE: If blood ketones ≥ 3.0 mmol/L (starvation ketones usually < 3.0 mmol/L) there is immediate risk of developing DKA. After extra insulin has been given, the blood ketone level may temporarily increase by 10 – 20% for the first hour but should be expected to decrease thereafter. If CYP has nausea, vomiting, abdominal pain, headache or is unable to eat or drink advice to attend local A&E ASAP. If CYP has altered level of consciousness, laboured breathing or there are immediate concerns for safety call 999

Adopted from East of England Paediatric Diabetes Network, Shared Guidelines Group; Management of Diabetes During Illness in Children and Adolescents. June 2018 v2

