

Children and Young People's Diabetes Service Information about managing high blood glucose levels with ketones *On Multiple Daily Injections (MDI / Insulin pens)*

High blood glucose levels with ketones need to be managed quickly to prevent Diabetic Ketoacidosis (DKA). High blood glucose levels with ketones may occur for a number of reasons; these include being unwell and low insulin levels due to missing insulin. When the blood glucose level is 14mmol/L or more, blood ketones must be checked.

Ketones are produced when there is not enough insulin in the body or due to lack of food. A high blood glucose level with ketones is a warning sign that there is not enough insulin in the body. If blood ketones are great than 0.6mmol/L extra insulin must be given.

Blood Ketone Guide		
Less than 0.6mmol/L	0.6 -1.5mmol/L	More than 1.5mmol/L
Give a normal correction dose	Increase correction dose by 50%	Double correction dose

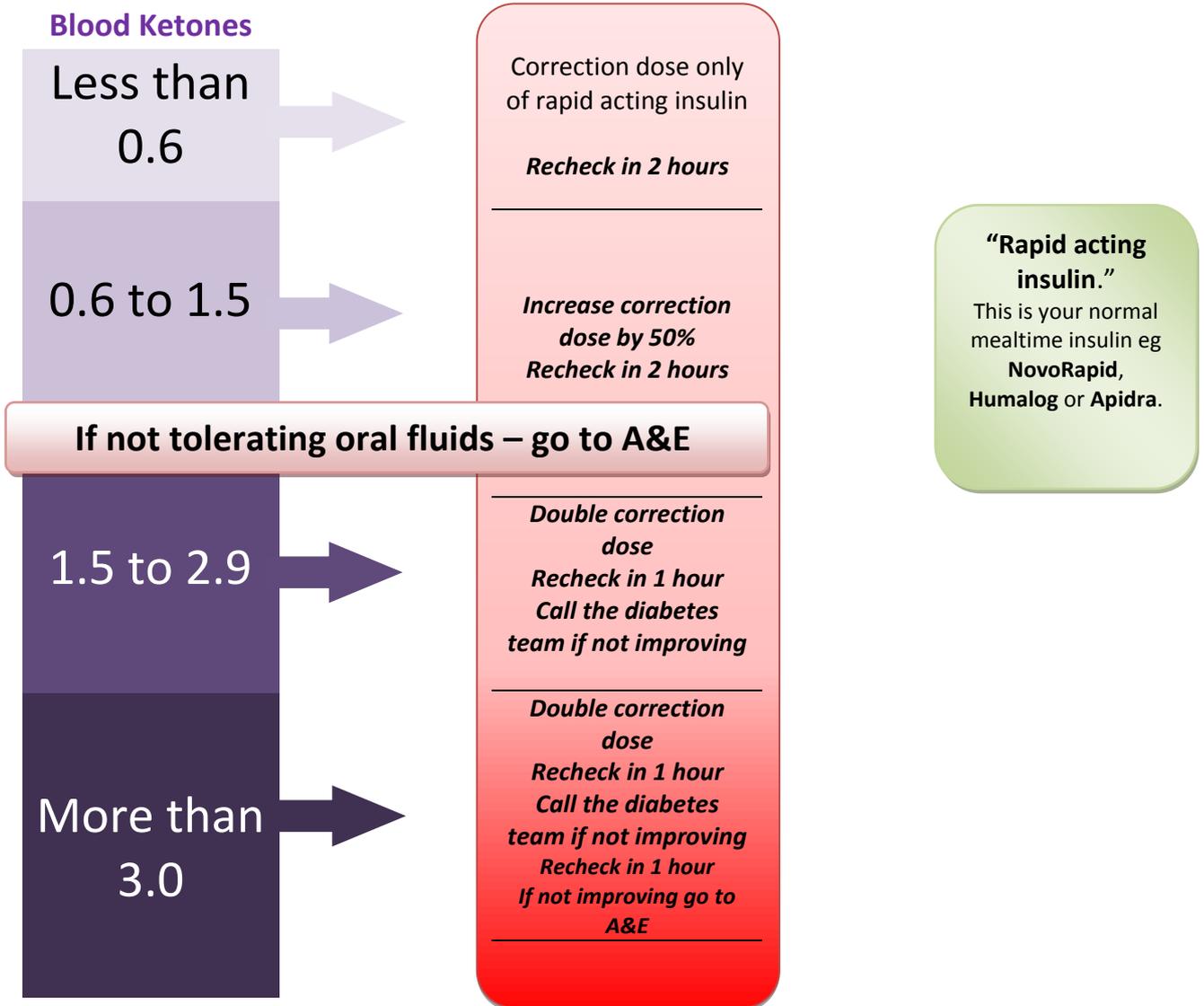
Note: A single ketone correction dose should not normally be greater than 20% of your total daily dose of insulin (Up to a maximum of 20 units). For example: if total daily dose is 50 units, each ketone correction should not normally be more than 10 units. If unsure please discuss with a member of the diabetes team.

If the child/young person has high blood glucose levels with ketones and is vomiting you must contact the diabetes team immediately.

If the high blood glucose and ketones are caused by illness/sickness follow the 'rules' below':

1. **Never stop the normal insulin**, even if you are eating less than normal. When you are ill the body needs insulin to use glucose and to get rid of ketones.
2. **Drink lots of water, sugar free/no added sugar drinks or diet fluids** to wash the ketones away.
3. **Keep eating carbohydrate foods.**
4. When you are unwell you still need food for energy. It is important you get enough carbohydrate for the body to use for energy, to prevent starvation ketones. If you are unable to manage your usual meals and snacks you should replace these with sugar containing food and drink which is easy to consume. You should only have the sugar containing drinks to replace carbohydrate foods. At other times you need to have water or sugar free drinks or rehydration fluids e.g. dioralyte.
5. Examples of carbohydrate food and drinks to have when you are unwell are; flat Lucozade or other sparkling glucose drinks, ordinary cola or lemonade, sugar containing drinks e.g. Ribena, Sports Drinks, ordinary squash, soups, toast, ordinary jelly and ice cream.
6. **Give extra fast acting insulin** to get rid of the ketones – follow the attached dosing guide.
7. **Increase your long acting insulin** if the high blood glucose levels last for longer than 6-12 hours
8. **You can give over the counter or prescribed medications as directed** for example Paracetamol and antibiotics

Managing high blood glucose with ketones (MDI)



If you need urgent diabetes advice call 0151 252 5766 Monday to Friday 8am-6pm.
Out of hours, weekends and bank holidays call 0151 228 4811 and ask for diabetes on call.