



# Ball Tree Surgery

## Patient Information Sheet

### **Type 1 Diabetes - Sick day rules**

**This advice applies to adults. For children contact the Paediatric Diabetes Team**

#### **The Golden Rule: never stop taking your insulin.**

When you are unwell your body's natural response is to make more sugar. This means that you will usually need to take more insulin, more fluid to drink and do more testing. This will reduce the risk of becoming seriously unwell with Diabetes Ketoacidosis (DKA). For more information look at the patient information leaflet on Diabetes Ketoacidosis or ask your diabetes healthcare team.

#### **Food and drinks**

- Drink non sugary fluids, for example, water. Take 100-200mls or approximately one glass every hour as this will help prevent you becoming dehydrated. If you cannot manage a whole glass, take regular sips.
- Continue eating as normally as you can, even if your blood sugars are high.
- If you are unable to eat solid food at mealtimes make sure you take carbohydrate in the form of pure fruit juice, ribena, milk, coca cola or lemonade. These should be full sugar and not diet. Try to drink one glass per hour.

#### **Blood glucose (sugar) and ketone monitoring**

- Monitor blood sugars levels 2 - 4 hourly during illness. The results will help guide you with how to adjust your insulin.
- Always test for ketones during illness. If you have ketones in your blood or urine it is a sign that your body is short of insulin and that you need to increase your insulin dose (see below).
- Check for ketones every 2 - 4 hours. Increasing levels of ketones means an increased risk of DKA.
- Make sure you always keep ketone strips for testing during illness and check that they are 'in date'.

## **Insulin Management**

- Never stop taking your insulin. Often you will need more insulin when you are unwell.
- If the trend of your blood sugar levels is higher than 7mmol/L increase your 'usual' insulin by 10% each dose. For example if you normally take 10 units of insulin this will mean increasing the dose by one unit to 11 units.
- A positive ketone test means that you need to take an extra injection of rapid acting insulin. For example novorapid or humalog or apidra
- Calculate the 'extra' dose as 20% (or 1/5th) of your total daily insulin dose. For example if you normally take a total of 30 units of insulin (quick and long acting insulin), 20% means taking an 'extra' dose of 6 units.
- This 'extra' insulin dose can be repeated every 2 - 4 hours if necessary.
- Alternatively, calculate and give a 'correction' insulin dose if this is something you are familiar with.

## **Additional information for insulin pump users.**

- Follow the insulin pump guidelines for high blood glucose levels.
- Check blood ketone level. A positive ketone test means that you need extra insulin.
- Give extra rapid acting insulin by injection (as above).
- Check your pump, check the infusion site and change the infusion set.
- Increase the basal insulin rate by at least 30%. Sometimes the rate requires an increase of 50%.

**Interpretation of ketone results during illness.**

Blood ketone meter range 0.0mmol/L – 8.0mmol/L

Urine ketone level		Blood ketone level	Action
Negative	< 0.5mmol/L	< 0.6mmol/L	Retest in 2 - 4 hours
Trace	0.5– 1.5mmol/L 5-15mg/dL	0.6- 1.5mmol/L	Increase oral fluid intake Administer extra dose of insulin (see below) Consider increase in routine insulin Retest blood glucose and ketones in 2 hours
Moderate	1.5-4.0mmol/L 15-40mg/dL	1.5 – 3mmol/L	Significant risk of DKA Increase oral fluid intake Administer extra dose of insulin (see below) Increase routine insulin Consider hospital admission/seek advice Retest blood glucose and ketones in 2 hours
Large	8-16mmol/L 80-160mg/dL	> 3mmol/L	Significant risk of DKA Urgent medical review required- see GP or Nurse Refer for hospital admission Increase oral fluid intake Administer extra dose of insulin (see below)

**Guidance for Calculation of extra rapid acting insulin**

**Extra doses of rapid acting insulin** (e.g. novorapid, humalog, apidra or actrapid)

- 20% of total 24 hour normal insulin dose
- e.g. if person normally takes 30 units insulin per day
- give 6 units rapid acting insulin as stat dose

**OR Calculate usual (without concomitant illness) correctional insulin dose as**

- 100 divided by total daily insulin dose e.g.

if total daily dose is 50 units = 100 divided by 50 = 2

therefore 1 unit of insulin will reduce (correct) blood glucose by 2mmol/L

e.g. if blood glucose is 20 mmol/L, then 5 units of rapid acting insulin will correct blood glucose to 10mmol/L It is often necessary to give double the usual correction dose of insulin to prevent DKA when the person is unwell and blood ketones are present.

aim to correct blood glucose to 10mmol/L

## **Indications for hospital admission**

- Inability to swallow or keep fluids down
- Persistent vomiting
- Persistent diarrhoea
- Strongly positive ketonaemia with or without hyperglycaemia
- When ketoacidosis is clinically obvious i.e. dehydration, abdominal pain, intractable vomiting, rapid or laboured respirations

## **Follow up and Advice**

**The Diabetes Specialist Nurses can provide 'sick day rules' advice and follow up:**

**Contact details for Diabetes Specialist Nurses:**

**01903 285044**

**[WSHNT.DiabetesNurses@NHS.net](mailto:WSHNT.DiabetesNurses@NHS.net)**