

# Sick Day Rules for Type 1 Diabetes



Patient Information Leaflet

## 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 Diabetic Ketoacidosis (DKA). For more information look at the patient information leaflet on Diabetic Ketoacidosis available from healthcare team or on the [Diabetes MCN website](#).

## FOOD AND DRINKS

- ❖ Drink non-sugary fluids, for example, water. Take 100 - 200mls or approximately a half to one glass every hour as this will help prevent you becoming dehydrated. If you cannot manage larger amounts at a time, then 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 meal-times, 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.

## 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 (continue reading).
- ❖ 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'.

## APPLYING SICK DAY RULES

Although you may not feel like it, it is very important to monitor your diabetes closely to prevent Diabetic Ketoacidosis developing.

(See NHS Lanarkshire leaflet on Diabetic Ketoacidosis for more information - [Diabetes MCN website](#))

We divide the sick day rules into those for minor illness, where blood glucose may be within normal range or raised but ketones remain negative (minor viral infection or minor injury), and those for moderate to severe illness, where blood glucose is raised and ketones are present (chest infection or high temperature).

**Below are abbreviations that will be used:**

**QA** - Quick Acting Insulin      Novorapid  
Fiasp  
Humalog  
Apidra  
Humulin S

**BI** - Background Insulin      Lantus  
Abasaglar  
Insulatard  
Humulin I  
Toujeo  
Degludec

**TDD** - Total Daily Dose      i.e. add all doses of insulin together

**Please note** – the information given in the following flow-chart is only appropriate for those people taking four or more injections a day. If you are taking two injections a day for your diabetes, please discuss sick day rules with your health care professional/team.

**FEEL UNWELL ?**

TEST FOR BLOOD GLUCOSE AND KETONES

**NO KETONES (OR TRACE)**

(LESS THAN 1.5MMOL/L  
ON TESTING YOUR BLOOD KETONES)

BLOOD GLUCOSE WITHIN TARGET  
OR SLIGHTLY ELEVATED

**MINOR ILLNESS**

**KETONES PRESENT**

(MORE THAN 1.5 MMOL/L  
ON TESTING YOUR BLOOD KETONES)

BLOOD GLUCOSE ELEVATED  
(USUALLY ABOVE 13MMOL/L)

**MODERATE/SEVERE ILLNESS**

**SIP SUGAR – FREE FLUIDS (AT LEAST 100ML / ½ GLASS PER HOUR)**

TEST BLOOD GLUCOSE AND  
KETONES EVERY 4-6 HOURS

USUAL QA INSULIN DOSES FOR MEALS  
MAY ONLY NEED BI IF NOT EATING  
USUAL BI BUT YOU MAY CONSIDER  
AN INCREASE IN BI BY 1-2 UNITS IF  
YOU CONTINUE TO BE UNWELL FOR  
MORE THAN A DAY

**IF UNSURE REGARDING ANY OF  
THE ADVICE ABOVE, PLEASE  
CONTACT YOUR HEALTH CARE  
PROFESSIONAL**

TEST BLOOD GLUCOSE AND KETONES  
EVERY 2 HOURS

CALCULATE TDD FROM PREVIOUS  
DAY'S INSULIN DOSES

**KETONES  
+ OR ++  
1.5-3 MMOL/L  
(ON KETONE  
METER)**

GIVE 10% OF  
TDD AS QA  
INSULIN EVERY  
2 HOURS  
PLUS USUAL QA  
WITH MEALS  
PLUS USUAL BI

**KETONES  
+++ OR ++++  
> 3 MMOL/L  
(ON KETONE  
METER)**

GIVE 20% OF  
TDD AS QA  
INSULIN EVERY  
2 HOURS  
PLUS USUAL QA  
WITH MEALS  
PLUS USUAL BI

IF YOU CONTINUE TO VOMIT, ARE UNABLE TO KEEP FLUIDS DOWN, OR UNABLE TO  
CONTROL YOUR BLOOD GLUCOSE OR KETONE LEVELS YOU MUST CONTACT YOUR ON-  
CALL DOCTOR OR HOSPITAL AS AN EMERGENCY.

**YOU MUST NEVER STOP TAKING YOUR BACKGROUND INSULIN**

## INTERPRETATION OF KETONES DURING ILLNESS

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

Urine ketone	Blood ketone level	Action
Negative	Less than 0.6 mmol/L	This is within the normal range. During illness test again in 2 - 4 hours to re-assess
Trace	0.7 - 1.5 mmol/L	Give an extra dose of insulin (see previous page). Test blood glucose and ketones again in 1-2 hours
Moderate	1.6 – 3 mmol/L	Give an extra dose of insulin (see previous page). Seek advice from diabetes team/GP/ NHS 24. Retest blood glucose and ketones in 1-2 hours.
Large	More than 3 mmol/L	Contact GP/NHS 24 or Accident & Emergency urgently. Give extra dose of insulin (see previous page).

**If you need to be seen urgently go to Accident & Emergency as Diabetic Ketoacidosis (DKA) can develop quickly which is a medical emergency. Hospital admission is required if any of the following happen:**

- ❖ If you can't swallow or keep fluids down
- ❖ You have persistent vomiting
- ❖ Persistent high blood sugar levels
- ❖ Persistent increasing levels of ketones
- ❖ Abdominal pain, breathlessness

**If you need advice**, contact your GP surgery during working hours or out of hours NHS 24 111. **Provide important details about yourself** such as:

- ❖ You have Type 1 diabetes
- ❖ Symptoms of your illness
- ❖ Information about your blood sugar and ketone levels
- ❖ You need to be seen by a doctor

You can also contact your diabetes specialist nurse for further information.

For further information go to:  
**Diabetes MCN website**

**NHS Lanarkshire** - for local services and the latest health news visit [www.nhslanarkshire.org.uk](http://www.nhslanarkshire.org.uk)  
NHS Lanarkshire General Enquiry Line: 0300 30 30 243

**NHS inform** - The national health information service for Scotland.  
[www.nhsinform.co.uk](http://www.nhsinform.co.uk)  
Tel No: 0800 22 44 88

If you need this information in another language or format, please contact the NHS Lanarkshire General Enquiry Line on 0300 30 30 243 or e-mail [info@lanarkshire.scot.nhs.uk](mailto:info@lanarkshire.scot.nhs.uk)



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