

Sick Day Rules associated with insulin dependent diabetes

Information for children
and young people



This information leaflet is for children and young people. If a parent is reading this please substitute the word 'you' for 'your child'.

When you have insulin dependent diabetes you are still going to catch coughs, colds and other bugs – but you are no more likely to get them than someone without diabetes.

When you are unwell, your blood glucose levels will be affected and you need to know what to do. Usually your blood glucose levels will go up above target (hyperglycaemia), especially if you have a temperature and you may have ketones. Sometimes your blood glucose may be too low

(hypoglycaemia) especially if you are being sick or have diarrhoea.

If you don't follow the simple rules then your blood glucose levels and ketones may get too high. This can lead to diabetic keto-acidosis (DKA), which can be very serious and will need treatment in hospital.

Remember: Fast acting insulin (Novo-Rapid or Humalog) can safely be given every two hours.

Never stop taking your insulin.

Illness which may result in you having a temperature; including coughs, colds, infections of the throat, ears and skin may cause high blood glucose and you may develop ketones.

What should you do?

- Monitor blood glucose levels every two hours (there is no benefit in checking more often than this).
- Check blood for ketones every two hours (see chart for how to interpret ketones).
- Insulin –you may need to increase your fast acting insulin. You should have extra fast acting insulin; if your blood glucose is above 10mmol/l, whether you are eating or not.
- Drink at least 100mls of water or sugar free fluids hourly.
- Have regular paracetamol or ibuprofen to reduce your temperature and make you feel better.
- Contact your diabetes nurse or the children's ward for advice and support.

This is important, especially if you are being sick, have a tummy ache and or a headache, are breathing faster than normal or your breath smells 'fruity'.

Insulin injections

If you have insulin injections and you have blood ketones less than 1.5 mmol/l.

1. Have your normal correction dose.
2. Recheck blood glucose and ketones 2 hourly.
3. Repeat correction dose if blood glucose over 10mmol/l or if blood ketones are greater than 0.6mmol/l.
4. Drink at least 100mls water or sugar free juice hourly.
5. Seek advice from your diabetes nurse or the children's ward.

If you have insulin injections and blood ketones are more than 1.6mmol/l.

1. Have your normal correction dose.
2. Seek advice from your diabetes nurse or children's ward. This is important if you are being sick, have a tummy ache, a headache, fast breathing or fruity breath.
3. We will try and support you to manage your illness at home. If you seek advice quickly a hospital admission can usually be avoided.
4. Drink at least 100mls water or sugar free juice hourly.
5. Recheck blood glucose and ketones every two hours. Continue to use your normal correction dose until blood glucose levels are back within range (4-10mmol/l) and blood ketones have reduced to less than 0.6mmol/l.

Please seek advice from your diabetes nurse or children's ward if you do not feel any better after six hours.

Insulin pump therapy

If you have an insulin pump and your blood ketones are less than 1.5 mmol/l.

1. Have your usual correction dose via your pump.
2. Recheck blood glucose and ketones in 2 hours
3. Repeat correction dose with insulin pen if blood glucose is over 10mmol/l. This must be repeated if ketones are more than 1.5mmol/l or are not reducing.
4. Change your insulin cartridge, line and canula.
5. Recheck blood glucose and ketones in two hours.
6. Repeat insulin if required. This may be given using your pump if blood glucose levels are less than your previous reading. If blood glucose levels are higher than your previous reading you must give your normal correction dose with an insulin pen (the cartridge and line should be checked for air bubbles and the canula should be changed again). This is to ensure you are getting your insulin.
7. Drink at least 100mls water or sugar free juice hourly.
8. Seek advice from your diabetes nurse or children's ward.

If you have an insulin pump and your blood ketones are 1.6mmol/l or higher.

1. Have **double** your usual correction dose with an insulin pen. You may want to discuss this with your diabetes nurse or a doctor on the children's ward.
2. Change your insulin cartridge, line and canula
3. Seek advice from your diabetes nurse or children's ward. This is important if you are being sick, have a tummy ache, a headache, fast breathing or "fruity" breath. We will try and support you to manage your illness at home. If you seek advice quickly a hospital admission can usually be avoided.

4. Drink at least 100mls water or sugar free juice hourly.
5. Recheck blood glucose and ketones every two hours and repeat your insulin correction dose every two hours until blood glucose levels are back within range (4-10 mmol/l) and blood ketones have reduced to less than 0.6mmol. This may be given using your pump if blood glucose levels are less than your previous reading. If blood glucose levels are higher than your previous reading you must give your normal correction dose with an insulin pen (the cartridge and line should be checked for air bubbles and the canula should be changed again). This is to ensure you are getting your insulin.

There is a risk of hypoglycaemia later in the day following fast acting insulin, so ensure you have hypo supplies.

Remember: low blood glucose (hypo) is safer than high (hyper) blood glucose with ketones.

Please seek advice from your diabetes nurse or children's ward if you do not feel any better after six hours.

How to interpret blood ketones

Under 0.6mmol/l – normal; re-check in two hours if blood glucose remains above 10mmol/l.

0.6-1.5mmol/l – indicates extra fast acting insulin is required, (see correction dose calculator for units of insulin required or follow instructions given by Expert meter).

Recheck blood glucose and blood ketones in two hours. Repeat correction dose will be needed if blood glucose remains above 10mmol/l.

1.6 mmol/l or more – indicates DANGER - risk of diabetic keto-acidosis, this can be life threatening, follow the simple rules and contact your diabetes nurse or the children's ward for advice.

Illness; like diarrhoea and vomiting may cause hypoglycaemia (low blood glucose).

Any blood glucose less than 4mmol/l or a trend of falling blood glucose levels should be treated by taking frequent small sips of lucozade or cola (not diet) or fruit juice.

What should you do?

Monitor blood glucose levels at least every two hours.

Never stop taking your insulin: you may need to consider having less of your usual dose of fast acting insulin.

Replace normal meals with:

- Sips of lucozade/cola (not diet) or
- Soup and bread or
- Breakfast cereal and milk or
- A scoop of ice cream or
- Any carbohydrate-containing food that you think you may be able to eat.

Try to drink at least 50mls of lucozade, cola or fruit juice hourly.

Have regular paracetamol or ibuprofen to alleviate any pain or discomfort.

Contact your diabetes nurse or the children's ward for advice and support.

How much fast acting insulin should you have if you have an illness which may cause you to have hypos?

If you are able to tolerate food or drink containing carbohydrate you should have your normal fast acting insulin dose.

If you are not able to tolerate food or drink containing carbohydrate you will need less fast acting insulin.

You might want to reduce your fast acting insulin by 20% (see chart for examples of how much fast acting insulin to give).

Remember: It is better to try and have small amounts of carbohydrate often to keep your glucose levels and energy topped up if you can.

If you do need to reduce your fast acting insulin, you must be very careful.

Remember - you must never stop your insulin.

You will still need some insulin, even if you are low, because without insulin you could get DKA.

Contact your diabetes nurse or the children's ward for advice and support.

Fast acting insulin

Novo-Rapid or Humalog.

Usual dose (units)	- 20%	Amount needed (units)
2	-0.5	1.5
3	-0.6	2.4 or 2.5
4	-0.8	3
5	-1	4
6	-1.2	4.8 or 5
7	-1.4	5.5 or 5.6
8	-1.6	6.4 or 6.5
9	-1.8	7 or 7.2
10	-2	8
11	-2.2	8.8 or 9
12	-2.4	9.5 or 9.6
13	-2.6	10.4 or 10.5
14	-2.8	11 or 11.2
15	-3	12
16	-3.2	12.5 or 12.8
17	-3.4	13.5 or 13.6
18	-3.6	14.4 or 14.5
19	-3.8	15 or 15.2
20	-4	16
21	-4.2	16.8 or 17
22	-4.4	17.5 or 17.6
23	-4.6	18.4 or 18.5
24	-4.8	19 or 19.2
25	-5	20
26	-5.2	20.5 or 20.8
27	-5.4	21.5 or 21.6

Patient Experience

South Tees Hospitals NHS Foundation Trust would like your feedback. If you wish to share your experience about your care and treatment or on behalf of a patient, please contact The Patient Experience Department who will advise you on how best to do this.

This service is based at The James Cook University Hospital but also covers the Friarage Hospital In Northallerton, our community hospitals and community health services.

To ensure we meet your communication needs please inform the Patient Experience Department of any special requirements, i.e. Braille/ Large Print.

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