

Syringes, supplies and security

- Never store insulin in checked luggage, because it may be exposed to extreme (often freezing) temperatures, which can change in effectiveness.
- Carry your glucagon in its original, pharmaceutically labelled container or box.
- Boarding with lancets will be allowed as long as the lancets are capped and they are carried along with a glucose meter with the manufacturer's name embossed on the meter.

If you should have problems or difficulty when trying to pass through airport security, ask to speak with the ground security commissioner or the international equivalent. In addition, the Diabetes UK (DUK) asks that you contact them if you encounter problems, so that they may be kept informed of airline protocols and security measures

J. Questions about Driving, Jobs etc

3. Will my son/ daughter be able to drive

Young People with diabetes certainly can drive and can apply for their provisional license at 17 year of age as usual. The DVLA does however before the can issue a license make sure the young person is taking good care of their diabetes, by checking their blood sugars regularly, giving insulin appropriately and managing hypos safely. They also need to check they young person knows how to stay safe driving with diabetes. The DVLA write with your permission to your diabetes team to get this information. It is important if you are planning to apply for a license that you talk to your diabetes team so they can provide you with safe driving advice.

4. Will they be able to do any job they like when they grow up

The vast majority of careers are open to young people with diabetes with a few very limited exceptions. Some particular roles within the armed forces and with airlines are limited, although other jobs in these services are suitable. Some restrictions are placed on HGV licenses, particularly for transporting large numbers of people. Please discuss with your diabetes team and see the information available on the Diabetes UK website which has up to date information on this.

Frequently Asked Questions:

Information for Parents and children with Diabetes



Improving the care of children with Diabetes

ASSOCIATION OF CHILDREN'S DIABETES CLINICIANS



What is diabetes	2
What is Type 1 diabetes	2
What is Type 2 diabetes	3
Type 1 diabetes (Newly diagnosed)	
Usual Questions parents may ask	3-6
Questions about Diabetes control	7-9
Questions about Hypos (low blood glucose)	10-12
Questions that may arise if you are struggling to get your child to comply	12-14
Questions about forgotten insulin dose	14-15
Questions that may arise if child is unwell	15-16
Questions about immunisation	16
Questions about school trips, sports, holidays etc	17-18
Questions about driving, jobs etc	19

8. We are going on holiday soon; do I need to do anything differently because Jason now has diabetes?

It is important to talk this through with your Diabetes team. You will need to consider traveling with insulin (if flying you will need a letter from your team to carry insulin and needs aboard the plane). It is important to ensure you have enough supplies (usually x2) and you are like to have to think about temperature, storing insulin, activities and adjusting insulin depending on where you are going. It is also important that your insurance company knows Jason has diabetes. You can also obtain some more information on the Diabetes UK website

9. We are traveling abroad and my child wears an insulin pump

Pumps and security

- Notify security screeners that you have diabetes, that you are wearing a pump and are carrying supplies with you.
- There is no need to remove your pump, metal detectors will not harm your pump and pumps often will not trigger metal detectors. Request that they visually inspect the pump rather than removing it from your body.
- You should be offered private screening if a pat down requires the removal or lifting of clothing to display your pump. You may request a private area for your personal search at any time during the screening process.

Syringes, supplies and security

- Doctors, letters are no longer sufficient proof of medical necessity when you are carrying syringes. In order to board with syringes and other insulin delivery devices you must produce an insulin vial with a professional, pharmaceutical, pre printed label that clearly identifies the medication. No exceptions will be made. If the preparation is located on the outside of the box that the insulin comes in, you should carry that as well.

I. Questions about school trips, sports, holidays

6. **My daughter has a school trip coming up, I am worried about her diabetes, and do not want her to go? She is angry with me, has anyone else had this problem?**

This is a very common question. One of the most useful questions to ask yourself is whether you would let her go if she didn't have diabetes. If the answer is still "no" then that is your choice. If your answer is "yes, you would let her go if she didn't have diabetes" then this requires careful thought. Your daughter has to live with her diabetes for the rest of her life. Living with diabetes is hard enough because of the constant tasks involved and you do not really want her resenting diabetes because it is stopping her doing fun things. Every parent would have your worries but with sufficient notice your diabetes team can talk to the school staff organizing the trip to work out what is involved and give staff advice about how to look after your daughter on the trip. It is important to discuss your current situation and your fears with your diabetes team.

7. **Sammy used to be very good at football, but since he's had diabetes his school coach keeps leaving him off the team. This is really unfair. Is this because of his diabetes?**

There might be various reasons for this and it may or may not be related to Sammy having Diabetes. Has your Sammy had any problems with hypos or high blood sugars during matches? This might have caused the coach some worry making him cautious about picking Sammy. If blood sugars are high children do not perform at their best during sport, because there is not enough insulin to move glucose into cells to make energy. This means you run out of energy during sport and so can not perform at your best. It is worth ensuring Sammy checks blood sugars before during and after sport and also asking the coach whether he is worried about anything with Sammy. Your diabetes team will be able to help Sammy manage blood sugars well during sport so he can perform at his best, they may also be in a position to provide the coach with information about diabetes so Sammy's coach has more confidence.

FAQ - A. General Questions What is Diabetes?

Diabetes Mellitus is a condition that can develop in adults and children and affects how the body uses up glucose. When we eat food, the food is broken down in the body into glucose and other nutrients. This is absorbed through the gut walls into blood stream. Glucose is the main fuel which is used by the cells in the body for energy. In order to be healthy, your blood glucose level should not go too high or too low. Therefore, once we eat, the glucose levels in the blood rises, and this causes the pancreas to produce insulin. Insulin acts as the key that allows the glucose into the cells. People with diabetes either do not make insulin or the body does not respond properly to insulin. As a result, the glucose stays in the blood stream and their blood glucose are high. High blood glucose leads to health problems related to diabetes.

What is Type 1 diabetes?

Type 1 diabetes develops when the cells in the body that produce insulin have been destroyed. The body is therefore unable to produce insulin. It is the commonest type of Diabetes in children in United Kingdom. There are approximately 23,000 children and young people with Diabetes in UK Nobody knows for sure why these insulin-producing cells have been destroyed but the most likely cause is the body having an abnormal reaction to the cells. This may be triggered by a virus or other infection. Type 1 diabetes can develop at any age but usually appears before the age of 40, and especially in childhood. Type 1 diabetes is treated by insulin injections, a healthy diet and regular physical activity.

What is Type 2 diabetes

People with Type 2 diabetes usually still make insulin (unlike type 1 diabetes). Type 2 diabetes develops either because the cells in your body are not able to use insulin properly and /or you do not make enough for your body's needs. It more commonly develops after the age of 40 (but sometimes occurs in younger people). It is more common in people who are overweight or obese.

Frequently asked questions - Type 1 Diabetes Newly Diagnosed

(Usual questions parents may ask - section)

1. Is it my fault my child has diabetes?

No, Type 1 Diabetes is a condition where the body starts to react and destroy the cells that produce insulin. There are thought to be several factors that eventually lead to Diabetes, including having an underlying genetic (inherited) tendency to the problem, some environmental triggers and a variety of types of infections that probably also trigger the process in susceptible children. Only a few children, who have an underlying genetic tendency, actually develop the diabetes, so it is believed that a sequence of triggers, that are still poorly understood are involved. These triggers, as well as the underlying genetic tendency are not things that we fully understand and are not things therefore that can be avoided, so it is certainly not anybody's fault that a child develops diabetes.

2. Is diabetes caused by eating too many sweets?

No, Please see the answer to question 1. There are many triggers that have been investigated previously, but eating too many sweets is not a trigger for a child to get diabetes.

Being overweight and over eating is linked to Type 2 Diabetes, which is a very different disease to type 1, and still fortunately quite uncommon in children. Unfortunately as Type 2 Diabetes usually occurs in adults and is a very common disease, the two conditions can be confused by family and friends.

3. My child has a heavy cold and high sugars

Infections often increase the body's need for energy, and so blood glucose rises and more insulin is needed to let the glucose into the cells to make the energy to fight the infection. Refer to the sick day rules provided by your local diabetes team, test blood glucose regularly, ensure they drink plenty of sugar free fluids and continue insulin, using correction doses to bring blood sugars down. If blood sugars are very high you will need to check for ketones. It is important you inform your diabetes team if your child is unwell so they can guide you with their treatment.

H. Questions about immunizations

1. I've heard about giving the flu vaccine – is he more likely to catch flu? Does diabetes damage his immune system?

Diabetes itself does not increase somebody's risk of catching flu, but having both diabetes and flu increases the possibility of very high blood sugars and developing diabetic ketoacidosis, which is a serious complication of diabetes. This makes you much more sick than if you had flu on its own. For this reason we would recommend immunizing children and young people with Diabetes to prevent such preventable serious infections.

2. Can my daughter have the HPV (cervical cancer vaccine)

Children and young people with diabetes should have all the recommended routine examinations the same as any other child without diabetes, including the cervical cancer vaccine. You might find they may run a slightly higher blood glucose after vaccination, especially if they also develop a fever (which is quite common). This can be managed by giving correction doses of insulin if needed.

G. Questions that may arise when child is unwell

1. My child has a tummy bug and doesn't want to eat

This should be flagged up to your diabetes team. If your child has a tummy bug it is important to check their blood glucose more regularly (2 hourly). They often don't feel like eating but need to drink well, so offer them frequent small amounts of sugary fluids to stop them getting dehydrated and provide them with energy. It is important that insulin is never stopped, and even though they might not be eating they will need insulin to allow glucose into the body's organs and cells to fight the infections. If blood sugars are on the low side it might be useful to give lower doses of insulin. If blood glucose readings are high then ketones should be checked and additional insulin should be given. Your Diabetes team may have given you their guidance for managing illness (often called "sick day rules"), but it is important to speak to them when your child is ill to have support with this.

2. My child has tonsillitis and won't eat.

Your child might feel too ill to eat or their throat might be too sore to eat. Discuss this with your diabetes team. Depending on how unwell they are it might be helpful to see your GP who might be able to prescribe treatment to help. It is important to check their blood glucose regularly (2 hourly). If not eating offer them frequent small amounts of sugary fluids to stop them getting dehydrated and provide them with energy. It is important that insulin is never stopped, and even though they might not be eating they will need insulin to allow glucose into the body's organs and cells to fight the infections. If blood glucose levels are high ketones must be checked and more insulin will be needed. It is very important to make your diabetes team aware of this so they can give you advice and support.

3 Will my other children get diabetes?

It is possible (but by no means certain) that your other children may have inherited a genetic tendency to diabetes. This doesn't however mean they will develop diabetes, and overall very few siblings do get Diabetes as there are a number of triggers to developing diabetes, which probably have to happen at particular times and possibly in a particular order to start the disease process off. There are a number of research groups who are trying to work out which children are at higher risk of getting diabetes, and work around ways diabetes may be prevented in the future, but these studies are still in the early stages. Your Local Diabetes team may be able to tell you more about this. Overall the risks are in terms of numbers a 1 in 15 chance if a brother or sister has diabetes. If your mother has diabetes the chance is 1 in 50-100, and 1 in 20 if your father has diabetes. If both a parent and a brother or sister has diabetes the chance is 1 in 10.

4. My child's insulin dose is going down – could his diabetes be getting better? Will it go away?

It is not uncommon after diabetes is diagnosed, and once insulin has been started for the pancreas to recover a little as blood sugars come under control, and to continue to produce a little insulin. This means that after a couple of weeks the insulin doses initially started to bring sugars under control, will sometimes be less. This is called the honeymoon effect. Very rarely children have come off insulin for a couple of days or weeks during their honeymoon period. They do always need to go back on insulin as the honeymoon period ends.

5. Will there come a point when my child can be managed with tablets, like his granddad?

No, Type 1 Diabetes can only be managed by replacing insulin. At the moment the only safe ways of giving insulin treatment is by insulin injections or an infusion of insulin using an insulin pump. Researchers have looked at other ways of giving insulin such as by inhaler, by creams applied to the skin and by mouth but these have not worked well for several reasons.

6. I've given the rapid insulin injection at bedtime by mistake, instead of his usual long acting injection – what should I do.

This is a common accident. The rapid action insulin will work more rapidly than the long acting insulin, but be out of the system quicker. The long acting dose is also often much higher than the usual doses given of novorapid with meals. It would be important to give plenty of carbohydrate to eat and to check the blood sugars hourly for the next 4 hours and then if they remain above 6 then check 2 hourly over the rest of the night. Hypoglycaemia should be treated with your usual treatments and extra long acting carbohydrates and you should notify your Diabetes team if you have a hypo following this, or attend your local A+E department.

You can work out how much carbohydrate you may need to consume in the next couple of hours by looking at your insulin to carbohydrate ratio at that time of day if you normally carbohydrate count. For Example: If your ratio is 1 unit to 10 grams of carbohydrate and you have given 16 units, you are likely to avoid hypo if you can eat/ drink a total of 160grams of carbohydrate.

5. I want my child to has an insulin pump but she doesn't, how can I persuade her it is better for her?

As your child has to live with and manage her diabetes, if she doesn't want to have a pump it will only cause resentment and problems if it is forced on her. Having said that some young people decide against a pump without knowing much about it. It is worth discussing this with your diabetes team, who will be able to give your daughter all the information she needs to make an informed choice.

F. Questions about forgotten insulin doses

1. I have forgotten to give Angela her mealtime rapid insulin.

It is important to know how long ago the meal was. If you remember and the meal was less than an hour ago it is still reasonable to give the rapid acting insulin dose calculated for the meal. If it is more than an hour ago then check the blood glucose and give a correction dose of rapid insulin instead. The blood glucose should be repeated after 2 hours and if blood glucose readings are still above target a further correction dose can be given.

2. I have forgotten to give Carter his bedtime long acting insulin.

What you do in this situation depends on just how long after the usual dose is it now. If it is within an hour or two of the usual time I would give the normal dose as soon as it is remembered. If it is more than 2 but less than 6 hours I would give the usual dose, but reduce the next days dose by a couple of units. If it is more than 6 hours but less than 14 hours after the dose is due I would advise giving a half dose of the long acting dose at that point, and then the usual dose the following evening. If it is more than 14 hours I would give correction doses of rapid insulin to correct high blood sugars only, then give the next long acting insulin dose at the normal time. It would be important to ensure blood glucose levels are checked frequently the following day and correction doses are given if blood glucose levels are running high.

2. James gets angry that he can't have sweets with his brothers on his way home from school. What should I do?

I really don't blame James for being angry; I would be too, wouldn't you? James will struggle to come to terms with his diabetes if it sets him out as different and at a disadvantage compared to his brothers. James should not (other than having blood tests, counting carbs and giving insulin) be treated any differently than his brothers. It is important that the whole family support James in this. Giving James sweets on the way home is not practical as you can't inject for them. If it's a decent walk you might give him one or two (for activity) then give him the rest at home with insulin, or you might choose to give them all sweets when they get home instead, so James can have his insulin. Sweets should not be a daily treat for any child (bad for teeth, as well as causing the glucose to rise) so why not swap the sweets for a 10g portion of fruit for the walk on most days- that shouldn't cause too many problems with the blood glucose.

3. Sally is fed up of writing blood glucose readings in her diary, and from day to day most of her readings seem to be ok. Is there really any point in continuing to write them down?

It can be tiresome to write the readings down each day, and if this is causing difficulties one way forward might be to set aside one day a week for 10-15 minutes to transfer the readings from the meter into the book into the correct time columns. If a different meter is used in school its important this meter readings are also transferred. It would be important then at this time each week to look at the diary to look for any patterns of higher blood glucose readings at any particular times in the day which might warrant insulin dose adjustment. These patterns are very difficult to spot on a day -to- day basis and don't really stand out until a whole series of readings are viewed.

4. My child is getting lumpy where he injects, should I be worried

Lumpy sites are a problem and prevent insulin being absorbed properly. This can lead to erratic high and low glucose readings and poor control. It is important to ensure injection sites are rotated fully. Your diabetes team will be able to check the injection sites and advise on site rotation.

7. I've given Sophie her insulin for her dinner but she is refusing to eat it. What can I do?

This is another common problem. To avoid Sophie making a habit of this it's best to avoid making a fuss. Yes, there is a risk that her blood glucose will go low and you should check hourly blood glucose over the next 2 – 3 hours as well as additional blood glucose checks if she is showing symptoms of hypoglycaemia. You know how to treat hypoglycaemia and should use the guidance you have been given by your diabetes team for hypoglycemia treatment as and when this happens.

8 How many blood glucose checks should I do each day?

We would recommend performing on average 6 to 8 blood glucose checks a day with a minimum of 4 checks per day. 6 to 8 checks sounds a lot, but there is good evidence that the more blood glucose checks performed on a regular basis that are interpreted and acted on the better the Diabetes control.

9 When should I check blood glucose levels?

We would recommend checking blood glucose before meals and before bed. This means that if blood glucose readings are high before meals additional insulin can be given at the mealtime to help correct the blood glucose as well as covering the carbohydrate being eaten. It is also useful to check blood sugars 1.5-2 hours after eating. If blood sugars are out of the target range following eating at particular mealtime on a regular basis this may suggest that the insulin to carbohydrate ratio for that particular mealtime needs adjusting. We would also suggest check the blood glucose 2 hours after correction doses of insulin have been used. If the correction doses do not normally bring the blood glucose into the target range then the correction factor (insulin sensitivity) will might need adjusting. It is important to check blood glucose before during and after exercise of significant activity, or of course if your child has symptoms of hypoglycaemia.

10 What should the blood glucose levels be?

The targets for blood sugars on the whole would be 4-7 mmols/L. These targets do vary however depending on the time of day and timing in relation to the meals. 1.5 to 2 hours after meals the normal levels should be between 5 and 10mmol/L, pre-meal blood glucose should be 4-7 mmol/L. Blood glucose readings overnight should ideally be 4.5-9 mmol/L. Sometimes children need more individualized targets so please discuss your targets with your diabetes team

C. Questions about Diabetes control

1. What is the HbA1c?

The Hb A1C gives a longer term idea as to whether most of the blood glucose reading have been within target or above target. It measures how much glucose has stuck to a protein in the red blood cells. If the blood sugars have been generally high for the last 2 months the greater the amount of glucose stuck to the red blood cells, and the higher the HbA1c measurement. A single blood glucose reading only tells you what the blood glucose is at that moment in time. Four blood glucose readings in a day would only tell you what your blood glucose was at 4 moments in the day. The HbA1c gives more information about what is happening over a longer time period in between readings. It can help tell you if there are times you are running higher blood glucose readings, even though your tests at the moments you are testing might be mostly in range.

2. Why am I being told to keep this below 7.5% (58mmol/L)

There have been a number of important research studies that looked at the risk of getting long-term complications of diabetes such as eye disease (retinopathy) and kidney disease (nephropathy) as well as nervous system problems, heart disease amongst others. These studies also measured HbA1c. The research clearly showed that those patients whose diabetes was very carefully managed and whose HbA1cs were less than 7.5% (58mmol/mol) had a minimal risk of getting the complications. For those taking part that had higher HbA1cs, every 1% reduction in HbA1c halved the risk of complications. Your Diabetes team will want to work with you to make sure that your child has the best healthy start with Diabetes and to help you both learn the best ways to care for their diabetes as they get older to ensure they live a long and healthy life.

4. Harris doesn't seem to know when he is hypo any more – he used to be so good at telling. Why is this, should I be worried?

This is a very important question. If hypos have been happening too frequently the body adjusts itself to having lower blood glucose levels and so doesn't raise the alarm until the blood glucose levels are very low indeed. When this happens there is a risk that a severe hypo could happen unexpectedly with no warning at all. This is dangerous. Warning signs are vital to allow us to treat hypos at the mild stage and avoid severe hypos. If you have lost awareness this must be discussed with your diabetes team as a matter of urgency. They will be able to review your blood glucose readings, hypos, insulin doses and blood glucose targets as well as help you consider the causes of hypos might be.

4. My friend's daughter uses an insulin pump. When she has a hypo she only takes fast sugar, but I have been told to give my daughter a snack after giving the fast sugar. My daughter is on injections. Why have they been told something different, am I doing this wrong?

There are different amounts and type of insulin from pump to multiple daily injection. If on multiple daily injections the long acting insulin you have will cause the blood glucose to fall again.

As there is no long acting background insulin on pump there is no need for a snack when the blood glucose is corrected

E. Questions that may arise if you are struggling to get your child to comply

1. I keep finding chocolate wrappers hidden in my child's room; I don't know what to do!

This is a difficult situation and parents and carers are often very angry when they find this has been happening. It's important to talk to your diabetes team regarding this. It is also important, when you have calmed down, to talk with your child and be honest and say what you've found. It can be helpful to find out which they like best of the sneaky chocolates they've had, and why they felt they didn't want anyone to know they were having them. For example: Are they afraid? Do they want to fit in? Do they have a problem with injections? Are they being allowed fewer treats than their brothers and sisters because of diabetes?

Talk about times that would be good to eat such sweet treats, and check what sort of times do they really miss sweet treats- could they have treats on some of these occasions and have insulin with them. Talk about it being OK to have treats now and again, and the important of having insulin with the treats to make sure the blood glucose is well controlled.

The blood glucose stores in the liver also take time to build up to full again (up to 24 hours). Overnight when you are sleeping or the next day when you are normally active, when the blood glucose starts to drop the liver won't have enough stores to release enough glucose, so a hypo happens. This hypo has happened a long time after the extra activity that lead to the hypo happening and so is called a delayed hypo. Delayed hypos are preventable by having the right amount and type of carbohydrate during and after exercise. Your Diabetes Team will be able to give you advice on how to manage sports and extra activities to avoid delayed hypos. It is especially important to participate in sports and remain physically active with diabetes as this will keep you healthy for the future.

2. My child seems to get lots of hypos, why?

There are many different possible reasons for this. It is important to discuss this problem with your diabetes team. They will need to know about the pattern of blood glucose readings in the diary, and whether the hypos are happening at any particular times of the day. They will also need to know whether there have been any changes in activity that might be leading to this. If so they can help you prevent them. All children with well-controlled diabetes will have regular mild hypos which can be easily corrected, however if your child is going hypo without being aware of it this is serious and must be flagged to your diabetes team as a priority.

3. If Tara has a hypo at night – will she sleep through it?

When blood glucose levels fall overnight the liver will usually release glucose from its stores to keep the blood glucose in the normal range and avoid hypo. If there is too much insulin around or the liver stores have run a bit low then hypos can happen during the night. The vast majority of children do seem to wake up with most of these. If you are worried about nighttime hypos please talk to your diabetes team about the best way of avoiding these.

3. My doctor has said that Cathy's HbA1c is very high. I don't get it – all the readings in her diary are normal. Has anyone else found this?

Do discuss this with your team. We come across this quite commonly. Sometimes young people get very worried and frightened if they see they are getting high blood glucose readings and will find it easier to write down numbers in their diary that they know you want to see and that they prefer to see (even if these aren't the blood glucose readings on their meter!) It is therefore always worth checking that the tests in the diary match with the readings in the meter. This can be done when you sit down to review the blood glucose diary on a weekly basis. Many young people go through this phase, and it is important to explore their fears and worries, and help them to realize there is no such thing as bad blood glucose. Reassure them that high readings just mean we need to think about the reasons for these and think about whether adjusting the insulin doses might help.

4. My child seems to need different amounts of insulin with different meals, is this normal?

This is very common. Many children and adults are more resistant to insulin at breakfast time and so need higher doses (i.e. higher ratios) at that time. This is due to normal rises in some hormone levels during the night. Some children also need higher ratios with their evening meals.

5. When I give my child corrections for high blood glucose readings sometimes it works and sometimes it doesn't. Why is this?

There are a couple of possible reasons for this. It would be important to check whether there are any particular times of the day that the correction doses appear to work less well. Just as we often need different insulin to carbohydrate ratios at different times of day we also need different correction doses (or insulin sensitivity factors) in different time periods. Another reason might be that the injection sites are lumpy as this makes the absorption of insulin very unpredictable, such that if the insulin isn't being absorbed well from a site then the blood glucose will be less well controlled. It is also worth checking that the correct injection technique is being used.

6. **I have just had an argument with my son. His blood sugar was high when he came home after he had been playing out with friends. I assumed he'd been eating something he shouldn't have and now he's complaining I don't trust him. Has this happened to anyone else?**

This is a difficult and very common position. There are many causes of a high blood glucose reading, other than having eaten something without insulin (although this of course can too cause high blood glucose). Blood glucose readings may be high if the last mealtime carb was underestimated, the dose was given into a lumpy site, the young person has exercised strenuously, or if the young person is very stressed. If the young person has had a hypo during the afternoon this can also cause it. Whilst it's tempting to jump to conclusions and sometimes your conclusions will be right, this will not always be the case and this will also cause problems with your relationship. It's important to talk together about what the different causes for high glucose might be, to praise them for having tested and to correct the high glucose together. If this is happening very frequently then discuss it with your diabetes team.

7. **My child is getting lots of high blood glucose readings, what should I do.**

It is important to discuss problems like this with your diabetes team. Look for patterns of high readings in the diary with their help to see if adjusting insulin doses might help. It is also important to make sure the correct techniques for injections is being used and that the injection sites are not lumpy. It might also be worth checking whether more support might be needed with carb counting or thinking about whether portion sizes have increased. Children are growing and as they grow they need more insulin. Children and young people who are going through puberty often need up to twice as much insulin as they needed before. It is important to increase insulin regularly by talking with your diabetes team between clinic visits to get the best diabetes control. When young people are growing at their fastest they may need dose adjustments every week or so

8. **If my child eats pasta at teatime his blood sugar seems very high the next morning, even though its normal at bedtime**

Pasta is a great healthy high energy food, and it tends to be absorbed very slowly (it has a low glycaemic index). Because it is absorbed slowly it can still be being absorbed hours after the mealtime insulin is out of the system. This leads to the later rise in blood sugar. Sometimes giving the mealtime insulin after, instead of before the meal can be useful if eating pasta, or even giving a proportion of the mealtime insulin at the mealtime and then the rest a couple of hours later. This is often easier to manage when on insulin pump therapy.

9. **I have been advised to use correction doses of insulin at mealtimes if John's blood sugar is high. Are there any times when I should not correct?**

We would advise not correcting a high blood sugar if the high blood sugar has occurred within a few hours of a hypo. Usually in this case the blood glucose will fall of its own accord, unless the hypo has been over treated. We would advise rechecking the blood glucose 1-2 hours later.

D. Questions about hypos's

1. **Our diabetes nurse thinks my son is having delayed hypos. What is this and what causes it?**

Delayed hypos are quite common and can be difficult to recognize. These happen most commonly when a young person is very active or sporty and takes part in an activity without having enough carbohydrate on board. While the young person is active, provided there is not too much insulin around, their blood glucose levels start to drop as glucose is being used by the muscles. As the blood glucose drops the liver releases its stores of glucose to prevent a hypo. After sport if the young person doesn't eat enough carbohydrate the liver won't be able to build its glucose stores back up properly.