

Parents Bulletin

May 2007

Injection Techniques

This area is vast so here are a few facts and tips that may be helpful for both you and your child.

Why insulin works

The only way insulin can work is by binding to the receptors on the surface of cells. Insulin will only take effect when it enters the bloodstream and this insulin in the bloodstream has supplied the cells. At present the only practical and approved method of administering insulin is through injections or infusion through a pump into the fatty tissue under the skin. This is called a subcutaneous injection.

Getting accustomed to injections

Doing an injection is never going to be fun, it can be painful and annoying. Luckily children are very adaptable if they are allowed to take their injections at their own pace. According to Wysocki (1996) the average age for children to adapt to doing their own injections is 8 years old but this is not a hard and fast rule. Some children adapt earlier some later but they will adapt.

How to help your child inject

Try getting your child used to handling their pen or syringe. Perhaps get them to pass you the pen or syringe before they watch you draw up the correct amount of insulin and get them to double check that you have done this correctly, if they are old enough. A good technique is to get your child to practice on an orange or a teddy bear, depending on their age. For young kids the teddy helps to show you what type of sympathy your child expects after an injection as they will express their own feelings of sympathy to their teddy. After they have got used to this they may be ready to inject a parent with a clean needle and with no insulin in the pen or syringe.

When you and your child feel they are ready to do their own injection it is important that an adult shows the child that giving themselves injections is not such a big deal. Even though parents tend to know it is. If parents can overcome their fears of needles and show they are not dangerous, their child will find it easier to learn how to self-inject. A personal tip from my own experience is not to tell your child too far in advance that an injection is due as your child may become anxious. However, some children prefer to know exactly when injections will take place as this makes them feel comfortable. Try to find out which approach suits your child.

Try to find an injection site that hurts less when you press the needle against the skin.

Pain is generated by thin nerves and their endings. The nerves spread like the branches of a tree. If a nerve is hit directly, this will be painful but not dangerous. The position of the nerves can be found by pressing the needle carefully against the skin, and feeling where it hurts more and where it hurts less. Remember to hold the needle so the sharp end will

penetrate the skin and remember to change your needles regularly as the sharper they are the less it hurts (see figure2).

Certain areas on the abdomen and thigh will be less painful to inject into than others because there are fewer nerves but if the same injection place is used continually fatty lumps or lipohypertrophy will develop. This is caused by high insulin levels being injected into the same subcutaneous tissue and this stimulates the subcutaneous tissue to grow and thicken. When this tissue grows and thickens this causes the insulin action time to be delayed because the insulin is not absorbed as quickly. It is very important to rotate injection sites in order to prevent lipohypertrophy. Try to remember to change the needle when injecting in the more sensitive areas as sharp needles will reduce the pain.

Strong association between time watching television and blood glucose control in children and adolescents with type-1 diabetes

A recent study in Norway investigated the relationship between glucose control and the time spent watching television in children and adolescents with Type 1 diabetes. The time spent watching TV and time using a computer was recorded separately by interview. 538 children and adolescents from 9 hospitals took part in the study and the average age was 13.1 years, average duration of diabetes was 5.4 years and average HbA1cs were 8.6%.

The results showed that:

- 62 patients (12%) watched TV less than 1 hour daily; their average HbA1c level was 8.2
- 189 (35%) watched TV between 1 and 2 hours daily; average HbA1c was 8.4%
- 166 (31%) 2-3 hours daily; average HbA1c 8.7%
- 75 (14%) 3-4 hours; average HbA1c 8.8%
- and 46 (9%) watched 4 hours or more; average HbA1c was 9.5%.

It is easy to see an association between TV viewing and HbA1c and this applied even after adjusting for age, BMI and insulin dose. Interestingly there was no association between HbA1c and the use of PC.

Conclusions: Extensive TV watching is associated with poor blood glucose control in children and adolescents with Type1 diabetes.

Published in Diabetes Care, March 19, 2007

When, not if, your child breaks the rules

How do you as a parent or carer deal with it?

Having had diabetes for 32 years since I was five years old, I am a master at deception and putting as much food in my mouth as I can, before my mum catches me. This sounds dreadful and for years I felt terrible knowing that I was able to be so devious and untrustworthy. Then after studying child Psychology I realised that all children will break the rules and this is not because they are bad but because children push the boundaries in order to learn what is and isn't acceptable behaviour in life.

All children love the taste of forbidden fruit so why should children with diabetes be any different. It is only a matter of time before a child or teenager with diabetes wants to know what will happen if they break the rules by missing meals, giving incorrect readings on blood tests, skipping injections and over eating on snacks. Unless seriously afraid of the consequences, a child or teenager with diabetes, will ask the question '**are all these rules really necessary?**' and '**what will really happen if I do what I want**'. When a child begins to ask these questions experimentations will soon follow.

Now we know and accept that the inevitable is going to happen, how do we deal with the concept of 'cheating'.

The word cheating itself has a very negative label. It insinuates deviance, a trickster, a swindler or a fraudster and yet your child is none of these things. If the word cheat or cheating is used too often you run the risk of your child being caught up in the common problem of the self-fulfilling prophesy. Other expressions that can be used are breaking the rules of diabetes. This may sound long-winded but it is a clearer explanation to the child than being called a cheat.

- As a parent you are in the terrible position of wanting the best for your child - perfect blood sugars - yet knowing that it is perfectly normal for your child to be tempted by treats, be too busy to blood test, even inject or to make sure the appropriate food is at hand in case of a hypo. You also cannot reassure your child that cheating is OK as boundaries have to be set. How on earth do you deal with it?
- Try to teach your child to be responsible for their own diabetes care and be proud of their achievements but do not blame your son or daughter when they do not follow their regime. As a parent it is very easy to blame and shout at your child when they break the rules because of your own feelings fear and guilt. Blaming and shaming your child could draw a dividing line between you which could discourage your child from sharing their feelings with you - the temptations they feel and admitting when they have broken the rules. It is vital to keep the lines of communication open because if you are not aware they have broken the rules, it is almost impossible to fix the problem.
- None of us, including adults, can stick to anything 100% (Think of the last diet you were on). And not all of us can tell the truth when we stray. It is a courageous child who can admit to skipping an injection or sneaking a chocolate biscuit, especially when he or she knows how hard you might take these admissions. When your child slips in some way and tells you, it is a good tactic to praise them for their honesty then draw attention to the problem with the slip itself. You can then work together on ways of resolving the problem together. Sometime compromises have to be reached. For example if your child is skipping blood tests maybe you could reduce the amount of blood tests at weekends if they promise to take their sugar with them wherever they go. For younger children, you could offer to do one day on and one day off ie they do their blood test on one day and you or partner do them on the following day. It is important to make sure your child knows you are still proud of them and you know how well they deal with the diabetes.
- Try your best to separate the child from the diabetes. It is the injections, blood tests and special diet that go with the diabetes that is very demanding and not the child themselves. Make sure you and your child sit on one side of the fence and the diabetes and all its demands sit on the other.

Every child will fall off the wagon and cheat in some shape or form. As our conference shows, those of us who have had diabetes for many years are still here to tell the tale! We discuss our bad habits and how we sometimes slip from our regimes and always have done but we are still here, holding down jobs, having families and living our lives as we wish to.

These are Jenny's feelings as a parent when she went through this.....

Looking back I think I was too hard on Bev and perhaps more strict than I should have been, especially when she didn't follow the rules. At that stage I thought that it was

absolutely vital that we all did exactly what we were told by the clinic. Nobody suggested that this would be difficult, if not impossible!

When she was little, she did 'cheat' with food and I realised fairly early on that this possibly accounted for the unexplained high blood sugars. The first time I caught her climbing on to a ladder to reach sweets, I was cross with her. But this upset me as much as it did her and I went into another room and cried, I felt dreadful - sorry for her, sorry I had done it and sorry that diabetes had come into her life.

I then tried a different approach, which was to explain to her that if she really wanted some sweets, to let me know and we could deal with it by adjusting her insulin, by going for a cycle ride or by adjusting things at the next meal. I learnt to be more relaxed about things and so did she - we could talk about if she'd eaten something she perhaps shouldn't have done. I'm sure the breaking of the rules still went on but nobody's perfect.

I used the same technique with diabetes that I used with other issues of behaviour - offered an explanation for why things have to be done. Instead of saying 'Please don't put your feet on the furniture with shoes on', I offered an explanation, 'Please don't put your feet on the furniture *because they will damage it.*' And with diabetes it was 'if you eat too many sweets, then you will feel poorly but if you tell mum, we can change your insulin or go for a bike ride, so that you don't feel poorly.'

By the time Bev was a teenager, I already knew that this was going to be a difficult time. Bev's brother is 19months older, so I was aware that part of being a teenager means that rules are there to break and let's be honest, most of us did it! But with diabetes there are more rules to break and as parents we are only too aware of the possible consequences and we are afraid for our child!

I worked out that you can't make teenagers do the things they are supposed to do - the old philosophy that you can take a horse to water but you can't make it drink. Yes, you can ground them for being late in or for not tidying their bedroom, but you can't ground a teenager with diabetes for not blood testing or for eating burgers in the middle of the afternoon like their non-diabetic friends. I also learned [the hard way] that confrontation doesn't work but trying to talk things through was the best way to handle difficult situations. I tried to understand how she felt and stopped thinking about my worries and my fears for her - possibly the most important lesson I learnt along the way.

We had our ups and downs and of course, I recognise that I didn't always know when she broke the rules! I only really discovered this when she was adult and we talked openly - I'm glad I didn't always know!

Dealing with Treats

Sooner or later children with diabetes are tempted by treats and goodies. This is perfectly normal so try to regulate these temptations by allowing treat to be taken as part of their diet plan. Ice creams, sweets, and biscuits could be allowed on special occasions or only on certain days. With the pressures of advertising and other outside influences this is something parents may find difficult regardless of whether or not their child has diabetes.

The obvious problem is that delicious treats such as biscuits, sweets and ice creams will increase blood sugars unless extra insulin is taken or the treats are exchanged for other sources of carbohydrate and this is all possible. You can also save the treats so that they are eaten before exercise, such as before swimming.

Although the above can be done, sometimes there is nothing wrong with saying no and the reason does not have to be because of your child's diabetes for example:

- *'No you cannot have sweets because it is bad for your teeth.'*
- *'No I do not have enough money'*
- *'No you know our family only has chocolate on a Sunday.'*
- *'No you cannot have those crisps you will spoil your tea.'*

The reality of these statements is still 'no treats' but for the child with diabetes, the difference is huge. If you always say no because of the diabetes, the child will soon learn to hate their diabetes because it appears to be behind all the limitations.

The message that needs to be given to children with diabetes is similar to the message that should be given to all children being brought up in a healthy environment. This message is that you can have some treats but you need to think about how much you are eating. What sets children with diabetes apart from other children is that when they do eat treats, they need be aware of their blood glucose levels and deal with it accordingly.

Most adults allow themselves a treat every now and then. Children with diabetes should be given opportunities to manage their insulin and food in a way that enables them to enjoy treats occasionally, without their blood sugar rising too high.

It is important to get a balance between freedom and responsibility and practice and experimentation helps to achieve this. The trick is plenty of blood tests and a logbook. The blood tests help to assess how you can improve incorporating treats into the regime by showing if you need to reduce other carbohydrates or increase insulin levels. The logbook is to monitor what was eaten, how much insulin was taken and what the blood sugar readings were during the treat process and this will also show patterns forming when treats are given. There is a lot to be learned from patterns forming and although it is never a hard and fast rule, it can become clear that one action is followed by another. For example, some treats such as toffees sweets and ice creams, are faster acting carbohydrates than others and fast acting carbohydrates will send blood sugars high quicker for a shorter length of time than slower acting carbohydrate treats such as chips or crisps. Watching these patterns form will enable you to predict what will happen if your child eats certain foods. Once the effects of treats has been fine tuned, the blood tests and monitoring can be reduced when you and your child feel comfortable.

This chart is a rough guide to what carbohydrates are in foods that your child maybe tempted by. This will help to understand their blood sugar readings and act accordingly. The faster acting carbohydrates are highlighted

Food	Weight	Carbs
Peanut	100g	15g
Crisps	1oz	15g
Popcorn	2cups/23g	15g
Milk chocolate	1oz	15g
Kit Kat	20g	14g

Cream biscuit	1 biscuit	15g
Plain biscuit	1 biscuit	7g
Jelly beans	5beans/19g	15g
Toffee	4 pieces/ 17g	15g
Sponge cake with Chocolate icing	1 slice/80g	45g

Ice Cream	Weight	Carbs
Choc ice	1bar/148g	35g
Ice cream sundae	100g	30g
Vanilla ice cream	½ cup / 72g	17g
Rich vanilla ice cream	½ cup / 72g	24g
Vanilla soft scoop	½ cup / 72g	19g
Ben & Jerry's Ice Cream		
Cherry Garcia	½ cup / 72g	26g
Choc Chip Cookie	½ cup / 72g	34g
Chubby Hubby	½ cup / 72g	33g
Orange & Cream	½ cup / 72g	23g

Reference: Ragnar Hanas A Guild for children, adolescents, young adults and their caregivers page 227

Fifteen grams of carbohydrate is the equivalent to one slice of bread but the difference is that carbohydrate in the above foods is fast-acting and the carbohydrate in bread is slow-acting. If you would like more information about carbohydrates and how they work please contact IDDT on 01604 622827 or email me at bev@iddtinternational.org

Research - maternal cells generate insulin

A study published in the latest Proceedings of the National Academy of Sciences Journal, has found that naturally transferred cells passing from mother to child could help infants with diabetes prepare insulin. British scientists at Bristol University, lead by Professor Edwin Gale, originally carried out research to see if the cells passing from mother to child in the womb were in some way responsible for Type 1 diabetes. This is known as microchimerism - where a living being accepts cells from a genetically different source. However, instead of finding that maternal cells hindered those with diabetes, they found that some maternal cells lodged in the pancreas began producing insulin. The scientists suggest that it is

possible that the maternal cells may even be helping to regenerate damaged tissue. Roughly 20% of children with Type 1 diabetes had higher-than-average maternal DNA in their circulation. By examining the make-up of these maternal stem cells they hope to learn new information about the generation of insulin-producing beta-cells and it opens up the possibility of mother's stem cells being harvested and used to treat her diabetic child.

Dream Trust

Seven years ago IDDT received an email from Dr Pendsey at the Dream Trust clinic in India. Dr Pendsey and his wife founded the Dream Trust clinic which helps families that cannot afford their children's insulin and basic diabetes care. He made contact with IDDT through an organisation in Australia called *Insulin for Life* [IFL] which helps children with diabetes all around the world and IDDT is the UK arm of IFL. Dr Pendsey told IDDT of a child he had tried to help.

Kalpana was a 5 year old little girl with diabetes who visited the Dream Trust clinic regularly with her parents. One day she was brought to the clinic in a coma and ketoacidosis. She had managed to reach the clinic. Her parents had stopped giving her insulin because they simply could not afford it any longer. In desperation they had resorted to alternative medicine. Little Kalpana died.

The cost of treatment per child for one year ranges between Rs6000 and Rs12000 according to the type of insulin and their daily dose. The average yearly income of a labourer is a mere Rs9600 and food and accommodation averages Rs8400 a year. This means the average family find it difficult, if not impossible to commit a quarter of their monthly income for the treatment of just one of their children – the child with diabetes.

We read this story with great sadness and decided it was time to take action and we regularly supplies of unwanted, in-date insulin to the Dream Trust. IDDT extended Dr Pendsey's sponsor a child scheme by appealing to our members to contribute to the £17 a month it takes to keep one child alive. We asked people to donate from as little as £2 a month and this began to make a huge difference to these families in India. IDDT members now sponsor eighteen children whose lives have been made secure and safe because they know where their next injection of insulin will be coming from.

Would you like to help a child that is not getting the insulin they need to stay fit and healthy? You can make monthly payment or make a one off payment by sponsoring one of our runners in the leaflet provided. All the money goes directly to the children that need it most. We have three children that are awaiting your help.

**If you would like to help please contact:
Bev Freeman on email bev@iddtinternational.org
Tel. 01604 622837 or write to IDDT, PO Box 294 Northampton NN1 4XS**

Research

Adolescents with Type 1 diabetes and their families Mothers' anxiety and diabetes control in adolescents

Research carried out at the Universities of Auckland and Utah [Ref 1] examined the relationship between the tendency for mothers of adolescents with diabetes to have anxiety and diabetic control in their adolescent children.

Both the mothers and the adolescents completed surveys assessing their tendency for anxiety, mothers' involvement in diabetes care, management skills of the adolescents, their motivation, mood state and absenteeism due to diabetes. The medical records were also examined to assess diabetic control through the HbA1c results.

The study showed that mothers who had a greater tendency to anxiety reported taking more responsibility for diabetes management tasks and perceived their adolescents as having poorer management skills. Adolescents with highly anxious mothers reported stronger beliefs that their mothers had high control over their diabetes and that their parents were over protective.

For younger adolescents mothers' anxiety was associated with higher HbA1c levels and greater absenteeism. For older adolescents, mothers' tendency to anxiety was associated with lower diabetes care motivation and lower positive effect.

The researchers suggest that addressing the anxiety of mothers may be beneficial to improving diabetes control in their adolescents.

Is there a message from this research?

It is understandable that mothers, or indeed mothers and fathers, are anxious when they have a child with diabetes and that anxiety is often increased when they become teenagers, more independent and want to be like their non-diabetic friends. It is also a time when mothers tend to be excluded at the diabetic clinic because doctors and health professionals perceive the diabetes as belonging to the teenager, which again is understandable. It would be to everyone's advantage, if greater support and help was provided for mothers independently of their children.

Ref 1 J Pediatr Psychol 2007 Jan 29.

Family therapy helps teenagers with Type 1 diabetes

Research in the United States [Ref 1] involving specially tailored family therapy showed that it can help teenagers with Type 1 diabetes to keep their blood sugars under control. It showed that good family communication and problem solving skills are important in helping young people manage their diabetes. However, the researchers acknowledged that the 12-session programme is expensive and complex and its widespread use is impractical so they suggested that there should be an adaptation of the programme to make it less labour intensive and therefore less costly.

104 families of teenagers with poorly controlled diabetes took part in the 12-session programme over 6 months. It included training in 'behavioural contracting' techniques for family members and 'a one-week parental simulation of living with Type 1 diabetes'. The teenagers involved in the family therapy sessions maintained lower HbA1cs up to 18 months from when the programme began.

Psychotherapy Can Help Teenagers Control Diabetes

Another study has shown that intensive, home-based psychotherapy can significantly reduce diabetes-related stress in adolescents with type 1 diabetes [Ref 2]. The researchers investigated whether intensive psychotherapy targeting the family and barriers to good treatment adherence could reduce the diabetes-related stress that adolescents feel, and whether this improves adherence and diabetes control.

The results showed that adolescents who underwent psychotherapy experienced significantly reduced levels of stress compared with those who did not have psychotherapy. It also appeared to be equally effective for younger and older subjects, males and females, and adolescents of different races. The researchers concluded that psychotherapy may

improve psychosocial well-being, adherence and health outcome of teenagers who do not adhere to treatment of their type I diabetes and they are following up the study participants to find out if this improvement lasts over time.

Ref 1 Diabetes Care, March 2007

Ref 2 Journal Pediatrics, December 2005

BITS AND PIECES OF NEWS

Paediatric Regulations come into force

A new EU regulation, EC No 1901/2006 Medicinal Products for Paediatric Use, will come into force in January 2007. It is likely to have a huge impact on the adult and paediatric drug development process in Europe and will lead to an increase in the number of clinical trials with children as participants. This does raise consent issues - will parents want their children to take part in research?

Some children's medicines contain a cocktail of additives.

The Food Commission, an independent body campaigning for safer food in the UK, carried out a study that showed that only one out of 41 medicines aimed at under threes was free of additives. The Food Commission's magazine points out that no colours or sweeteners are allowed in food or drinks for this age group and preservatives are banned, so the researchers say that medicine manufacturers should clean up their act! The drug companies say that only additives that are strictly necessary are put in medicines for this age group while the Food Commission maintain that colourings and artificial sweeteners could be replaced with natural products.

The Medicines and Healthcare products Regulatory Agency [MHRA] state that the use of all additives in medicines has to be justified by the manufacturer before a licence is granted but most medicines could not be manufactured, stored or administered without some additional ingredients as medicines can be unstable.

Just a note: of the medicines studied only Superdrug's Children's Dry Cough Syrup did not contain colourings or preservatives. Morrisons Junior Paracetamol and Superdrugs Junior Paracetamol Suspension contained four different sweeteners.

Lets Cook! Pancakes with Jam

15 grams or 1.5 exchanges per serving.

Cooking time 3 minutes.

Ingredients

- 100g /4oz plain flour
- pinch of salt
- 200ml/7froz milk
- 4.5 tablespoons water
- 2 eggs
- 2 tablespoons of butter
- Jam lightly spread

Method

Place the flour, salt, milk, water and eggs in a blender or whisk with a fork until smooth. Melt the butter and add to the mixture and whisk with a fork. Heat a small heavy frying pan and grease with a little butter. When smoking, pour in enough of the batter mixture to cover the base thinly. Tilt the pan to help the batter spread. Return to the heat and cook until the pancake is brown. Turn the pancake over with a spatula or if you are feeling really adventurous flip it - this is all was a bit of good fun and the kids love it. Fry little on the other side. Tip on to a warm plate, spread lightly with jam and roll up. Continue until all the batter has gone or all children are full. This mixture should cook 8 -12 pancakes depending on the pan size. Freshly squeezed oranges can be used instead of jam this makes a juicy change.

IDDT does the London 10k Run

On Sunday the 1st July 2007 we have some willing and some less willing volunteers to do the 10K run in London. The race starts on Hyde Park Corner and ends at Whitehall.

We have included our 10K run supplement with this Parents Bulletin and hope you, like our runners, will rise to the challenge and get all your friends and family to sponsor one of our runners. This is the only event we ask our members to get involved in and we hope very much that you will help to support the work that IDDT do. The money will go towards providing free information leaflets, the newly diagnosed, providing information and support to parents of children with diabetes, the Dream Trust Hospital and to providing funds for the annual conference and the quarterly Newsletter.

Remember all the work we do comes solely from voluntary donations so the money that you and your kids can help raise is essential to keep all these necessary life lines open to the people that need them most.

Your contribution does not have to be huge just ask one other member of your family or a work college to sponsor one of our runner so that they in turn can run to support your child either now or in the future.

THANK YOU!

Have Your Say!!!!!!

There is always something out there that you could really loose your temper at and diabetes is no exception to that rule. We are setting up this column so you can get your views heard and have your say!!!!!!!!!!!!!!

The published ranter will get a £10 M &S voucher. It does not matter how small or insignificant you think your view is we would like to hear from you or your kids.

Write to: IDDT, PO Box 294, Northampton NN1 4XS or email bev@iddtinternational.org

Your pictures

The front page of the Parents Bulletin was sent in by seven year old Hannah Freeman from Northampton. It is a picture of Hannah and her mum. Hannah's mum has had diabetes since she was five years old. Hannah wrote to us to let us know what she thought about her mum's diabetes

"I sometimes feel sorry for my mummy because she has to do injections sometimes I give her cuddles to make her feel better. She looks after me and we have good fun together."

Would you or your child like to be on the front cover of our Parents Bulletin. Draw a picture and say a few words about whatever you like in the box below. And send it to IDDT (P), PO Box 294, Northampton, NN1 4XS.

**Insulin Dependent Diabetes Trust
Parents Bulletin**

By

Age