Managing diabetes

Martin Hirst *provides a useful guide to supporting pupils with diabetes at school*

You are almost certain, at some point in your teaching career, to have a child with diabetes in your class. Diabetes falls under the broad umbrella of the SEN and disabilities regulations so schools will be aware of the responsibilities they have to fulfil in this regard. Many parents will object strongly to their child being described as having SEN but unfortunately there is evidence to show that some children with diabetes do not perform as well as their classmates who do not have diabetes. This article looks at not just the practical side of managing diabetes but also the emotional effect it can have on everyone involved, with the aim of minimising the impact that living with the condition can have.

Some facts about diabetes

- There are several forms of diabetes but the main ones are Type 1 and Type 2 diabetes.
- Diabetes is a chronic condition that affects over 3 million people in the UK. Of these, 90 per cent will have Type 2 diabetes and a further ten to 15 per cent will have Type 1 diabetes.
- There are over 23,000 children in the UK, under the age of fifteen with Type 1 diabetes.

Almost every child you are likely to meet with diabetes will have Type 1 diabetes. This type accounts for about ten to 15 per cent of the total number of people with diabetes. It usually affects children and adults up to the age of 40 but can be diagnosed in much older people.

In Type 1 diabetes, the beta cells in the pancreas no longer produce insulin and blood glucose levels rise. Treatment with insulin injections is always required for survival. It is usually diagnosed as an acute condition requiring hospitalisation. The symptoms of undiagnosed Type1 diabetes include frequent urination, excessive thirst, tiredness, blurred vision and weight loss.

There is no cure for Type 1 diabetes and a definite cause has not been established. It is thought that there may be several causes with a genetic link in some people. Research shows that a common virus may trigger the body's immune system to attack its own insulin-producing pancreatic cells.

Treatment of Type 1 diabetes is by managing three factors that all interact to affect blood glucose levels – insulin, exercise and diet. The aim of treatment is to maintain

blood glucose levels at a safe level to avoid either low blood sugar (hypoglycaemia or a “hypo”) or high blood sugar levels (hyperglycaemia or a “hyper”). Blood sugar levels are checked several times a day to maintain blood glucose levels within a safe range.

Diabetes in children

Children of different ages will have different levels of understanding about their condition, different feelings about it and require managing differently.

Smaller children are less likely to understand what is happening to them compared to older children who will have a better grasp of the fact that they have a medical condition that needs to be managed.

Whether you have a toddler or a teenager they might not be able to tell you or sometimes even be aware that they are having a hypo, so you need to keep an eye out for behavioural clues. One of the common signs of a hypo is irritability. It can be difficult to tell the difference between this and a toddler (or teenage) tantrum and always keeping blood testing kit handy is a good idea so you can tell the difference and take the necessary steps.

There is never a good age to be diagnosed with diabetes – it is always difficult. Health professionals often comment that teenagers tend to be either very good or very bad at controlling their diabetes. This is probably because they are a notoriously self-conscious age group and blood testing, injections, regular eating times and diet all contribute to a sense of being different from their peers when they simply want to fit in.

As well as feeling different from their classmates, other children may single a child out for these differences and it is not unheard of for a child with diabetes to become the target of bullying. Bullying is usually born out of ignorance, so it may be a good idea if you run a classroom session to explain about diabetes.

Using insulin

Insulin serves to lower the levels of glucose in the blood, provided by the consumption of carbohydrates. Children will most commonly take insulin either four times a day or twice a day.

It is not uncommon for younger children to inject twice a day and this negates the need to inject at school and therefore having someone responsible for administering insulin. As they get older they will need to begin injecting four times daily, meaning introducing injections at school. However, this should not be a problem as the child will, most likely have taken responsibility for injecting themselves. The more pressing difficulty with teenagers is ensuring they have got themselves organised so they have got the equipment they need.

By far the most common method of insulin delivery is by using a pre-filled, disposable injection pen. Some children use subcutaneous insulin pump therapy as opposed to injections, which delivers a continuous supply of insulin.

Diet and carbohydrates

Carbohydrates are sugars and starches, principally bread, potatoes, rice, pasta and sugars. They provide energy our bodies need for all its various activities. For a child with Type 1 diabetes the pancreas does not produce insulin so blood sugars rise and insulin injections are needed to control blood sugar levels. The aim is to balance the amount of carbohydrate eaten with the amount of insulin given to keep blood sugar levels within a safe range.

It is not unlikely that a child with diabetes will have a hypo while in class. Hypos are initially treated with a sugary food or drink in the classroom so it is important that you and the other children understand that this is not a treat but a necessity. Similarly, a child with diabetes may need to have a snack between meals to maintain blood sugar levels and this may be at lesson time – again, a necessity not a treat. Perhaps this is something you could explain if you run a classroom session on diabetes.

Exercise

Exercise is an important part of school life, be it on the playing field or in the playground. Exercise, formal or informal, scheduled or unscheduled, is important but has the effect of lowering blood sugar levels and increases the risk of a hypo.

It is important for a child with diabetes to eat sufficient carbohydrate before, during and after exercise to avoid a hypo.

Hypos are more likely with more extreme weather conditions, either hot or cold, so this is maybe something to consider as well, for example, whether a child is exercising in a room temperature gymnasium or on a comparatively cold playing field.

Another thing to consider is timetables. You may want to consider swapping the times of PE slots, for example, from morning to after lunch, which would (hopefully) reduce the risk of a hypo.

A final thing to remember is that a hypo can be triggered for up to 24 hours after a prolonged period of exercise, so it is important that both you, the child and parents know when periods of exercise happen.

Blood glucose testing

Children who take insulin will need to test their blood glucose levels on a regular basis. At school this may be:

- before, after and possibly during physical activity
- before a meal
- anytime they feel or you suspect their blood glucose levels are falling too low or climbing too high.

Ideally blood glucose levels should be between 4 and 8mmol/l before meals and no higher than 10mmol/l two hours after a meal.

The school should provide a lockable room with hand-washing facilities, where testing equipment can be stored safely when not in use. Older children may prefer to keep their testing equipment with them so they can test as and when needed.

Hypos

Hypos occur when blood glucose levels fall too low. A hypo is said to occur when blood glucose levels fall below 4mmol/l, hence “4 is the floor”.

Symptoms and warning signs of a hypo include:

- being abnormally tired or sleepy
- bad behaviour, aggression and/or irritability
- confusion and/or inability to concentrate
- hunger
- appearing pale
- sweating
- trembling or shaking.

Children who are having a hypo will usually display some but not necessarily all of these symptoms and sometimes may not recognise they are having a hypo at all.

Treating a hypo is by giving the child a sugary drink or sugary food, followed by some longer-acting carbohydrate to prevent another hypo. There are a few things to do, and to avoid doing, when dealing with a hypo.

What to do:

- stay with the child
- be aware of the emotional distress that a hypo can cause
- give comfort and reassurance
- send for help
- record the incident.

What not to do:

- don’t leave the child alone
- don’t take them to another room; treat them immediately where they are
- don’t send them to the nurse or sickroom
- don’t let other children crowd around.

Hyperglycaemia

Hyperglycaemia (or hyper) is the opposite of a hypo, with blood glucose levels rising. Hyperglycaemia is a potential risk for all children with diabetes but children who use an insulin pump have a slightly increased risk. Symptoms include:

- frequent passing of large amounts of urine
- thirst
- vomiting.

If hyperglycaemia occurs, a pump malfunctions or the child vomits, a parent or guardian should be contacted immediately. If a parent or guardian is not available then emergency medical advice should be sought.

Stress

We all can suffer from stress at times and children are no different. Stress and anxiety can be caused by a variety of things and will affect blood glucose levels. Examples could be:

- difficulties at home, such as divorce
- stress before and during tests and exams
- bullying.

Stress will, in the initial stages, cause blood sugar levels to rise. Stress, if prolonged, will lead to erratic blood glucose levels, and exhaustion amongst other things, so for example, you will need to make sure a child has a quick-acting carbohydrate available during an exam. If you suspect that a child is going through a prolonged period of stress, you may want to consider how best you can support them depending on the cause of the stress.

Communication

Good communication is vital to manage diabetes well and this is both communication within the school as well as between the school and home.

Within the school make sure that everybody who needs to know does know. This is not just teaching staff but also staff such as lunchtime supervisors and door monitors.

It is also useful for parents to have at least one named contact at the school, with which they can discuss their child's diabetes. The same person could also contact the parents when things like stocks of hypo treatments and medication are running low. This information could then be entered onto a central database and provided to all teachers who have contact with the child.

On a day-to-day basis a daily communication book or diary that goes between the school and home is a good idea. The book or diary can be used to record blood testing times and results, any hypos as well as things like lancing and injection sites, which need to be rotated to avoid soreness.

Further information

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