

**Physical Activity:  
What if my child has  
Diabetes?**



**Advice for  
Parents / Carers**

## About this booklet

This booklet is for parents or carers of children and young people who have diabetes. It explains the benefits of physical activity for your child and provides information to enable you to encourage your child to exercise safely. It aims to make sure your child is not discouraged from being active and attempts to overcome any anxieties your child may have about physical activity.

This booklet does not replace the advice that health professionals involved in the care of your child may give, based on their knowledge of your child's condition.



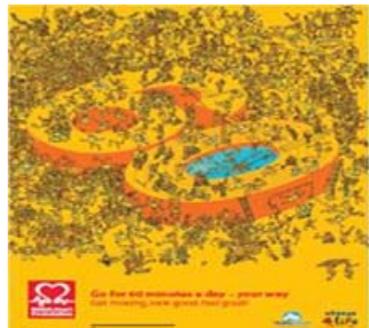
### Is it safe for my child to exercise?

Yes, there are very few children and young people who will be advised not to do any physical activity. Every child is different and most children who have diabetes will know what preparations they need to take before becoming more physically active.

### How much exercise is recommended for children and young people?

Public health guidelines recommend that children and young people up to the age of 18 years old should do at least 60 minutes of at least moderate-intensity physical activity a day, every day of the week.

This recommendation applies to all children and young people, including those who have diabetes. The 60 minutes can be accumulated throughout the day, in 10–15 minutes bouts of activity.



## What are the benefits of regular physical activity and exercise?

There is lots of evidence that regular physical activity benefits long-term health. This applies to everyone, including children and young people who have diabetes. Below is a list of some of the general benefits of regular physical activity.



- ♥ It improves health by helping to maintain a healthy heart, develop strong muscles and bones.
- ♥ It helps maintain a healthy body weight.
- ♥ It may help to reduce stress and anxiety.
- ♥ It can help your child feel good about themselves.
- ♥ It provides opportunities for your child to mix with others and make friends and can help improve your child's social skills.
- ♥ It can improve emotional well-being.

**IN ADDITION:** Regular physical activity can help improve overall diabetes control by maintaining lower blood sugar (blood glucose) levels. It can also help your child maintain a healthy weight, which will improve diabetes control and help reduce the risk of developing complications related to diabetes in later life.

## Why should I encourage my child to be physically active?

Combined with a healthy balanced diet and medication, physical activity is an important part of your child's treatment.

Some parents/carers of children with diabetes often worry about the risk of their child having a 'hypo' (low blood sugar) when taking part in sporting or physical activities, particularly if their



child takes certain medications. The truth is that children and young people with diabetes need regular physical activity to help control their condition.

Encouraging your child to understand how their body responds to different kinds of physical activity and keep their blood sugar stable is all part of learning how to manage their condition.

## What can I do to encourage my child to be physically active?

### ♥ Encourage a variety of activities

Providing opportunities for your child to try alternative activities will allow your child to find those activities they enjoy and those they can cope with better.

### ♥ Encourage active play

For example, encourage your child to try simple activities such as dancing, skipping, Frisbee or different ball games.



### ♥ Try to be more active as a family

For example, where possible try walking and cycling to school or the shops, family outings to local parks and local play areas, swimming, bowling.

### ♥ Reduce sedentary activities

It may be helpful to monitor how much your child watches television/spends on the computer and to consider ways to reduce this time. For example:

- Try setting some boundaries to reduce sitting-down time, such as only allowing your child to watch one or two favourite programmes per day or play one or two computer games per evening.

- Consider alternative activities such as interactive computer games, active hobbies/games.
- Before allowing your child to watch television or play computer games introduce conditions such as they must walk the dog, do some active household chores, wash the car or help with the garden.



It is recommended that children and young people should spend no more than 2 hours per day in sedentary activities, such as sitting watching television, reading, homework tasks or playing computer games.

♥ **Be positive**

Support and encouragement about what your child is achieving is important as it will foster a willingness to continue being active.

♥ **Set a good example by being physically active.**

Children who have one or both parents who are physically active are more likely to be active themselves.

**What types of activity are 'best' for my child?**

**The simple answer is any physical activity, sport or exercise that they enjoy!** Children are more likely to be more motivated to be active if they enjoy what they are doing.

Aerobic or continuous activities are the ones which are best for looking after the heart and keeping a healthy weight e.g. jogging, walking, swimming, cycling. These types of activities also have the advantage that the duration and intensity can be controlled. This is particularly important when your child is learning how to manage their condition.



Careful diabetes management to prevent low blood sugar is important in all physical activities. It is important that children have stable blood sugar levels. This is especially important for adventurous activities, such as rock climbing or scuba diving.

**It is important to encourage your child to participate in physical activities that are appropriate for their age, that are enjoyable and that offer variety .**

### **When is the best time for my child to be physically active?**

- ♥ Plan ahead! In some instances your child may be physically active shortly after a meal, but if this is not the case, then your child may need extra snacks before, during and after the activity. Adjusting their medication may also be an option - have a chat with your child's diabetes care team.
- ♥ The best time will depend on your child's daily routine, but as your child will be eating and taking medication at regular times, participating in physical activity at the same time each day (when possible) is the best option.
- ♥ **If your child takes insulin they will need to consider where to inject if they are going to be active.** For example, if they inject in their arm and then take part in a tennis game the insulin will be absorbed more quickly as active muscles take up insulin faster. This has the potential of causing a hypo so it might be best for your child to inject in an alternative site, e.g. their stomach.



- ♥ **Your child may need to check their blood glucose levels more frequently before, during or after activity.** This is particularly important if the planned activity is likely to be strenuous or of a longer duration and/or your child has poor blood sugar control or is not feeling well.

### Important points to think about before activity

- ♥ **If blood sugar levels are too low (below 4.0mmol/l)**

Your child should **NOT** be physically active until this has been treated by eating some fast acting carbohydrates such as glucose tablets, a sugary drink (non-diet) followed by long acting carbohydrates such as a sandwich, pasta. **See section:** *What should I do if my child has a hypo?*

- ♥ **If blood glucose levels are high**

If blood glucose levels are **14mmol/l or above** then your child should **NOT** take part in physical activity. When children have high blood glucose levels (higher than 14mmol/l) their body might start to produce ketones. Your child should test for urine ketones using the test strips provided by their doctor. **See section:** *What should I do if my child has urine ketones?*

### Are there any exercises or activities that my child should avoid?

Ask your child's diabetes consultant or specialist diabetes nurse if there are any activities that it would be better for your child to avoid.

How well your child's diabetes is controlled may change over time, so it is important to monitor how they respond to different activities.



## What about taking part in PE, sports and physical activity at school?

Taking part in physical education and other physical activities at school is important for your child, both for their long-term health and well-being and their social integration into school life.

Encourage your child to take part in PE and physical activity at school and in after-school clubs – at their own pace and within their own limitations.

It might help put your mind at rest if you discuss any concerns you have regarding your child's involvement in PE with the teacher or school nurse.



**REMEMBER:** Your child's teacher might also want to be told about the level and type of activity your child can do and any preparations they need to make prior to your child being active.



Most children who have diabetes will know what steps they need to take before participating in PE lessons, sports or other activities.

## What else can I do to encourage my child to be active?

- ♥ Ensure the activity is aerobic (e.g. walking, swimming, cycling, dancing) and includes the large muscles groups, e.g. legs.
- ♥ Encourage your child to start off slowly and gradually build up the amount of activity they do.
- ♥ Encourage your child to be physically active throughout the day, aiming for at least 60 minutes of physical activity per day.



- ♥ Select activities and/or sports carefully, according to your child's needs and abilities so as to avoid your child becoming disheartened over difficulties and discomforts.
- ♥ To prevent your child getting injuries during physical activity encourage them to always start activities with a gradual warm-up and end with a gentle cool-down.
- ♥ Remember that your child does not have to be 'sporty' or join a team or a gym in order to take part in physical activity. Walking or dancing to their favourite music, for example, are excellent forms of exercise and cost nothing.
- ♥ If your child enjoys sport, that is fine, but if they don't it really doesn't matter. Just find another way to keep them active doing something they enjoy.
- ♥ Encourage your child to try out new activities with their friends.



**REMEMBER:**

**You can adjust your child's diabetes management to suit their lifestyle.**

**Your child's lifestyle does not have to be adjusted to fit their diabetes.**

**Any activity is better than none at all!**

## What should I do if my child has a 'hypo'?

A 'hypo' or becoming hypoglycaemic is when your child's blood sugar level drops below 4mmol/l. This can be caused by:

- ♥ Too much of certain diabetes medication.
- ♥ A delayed or missed meal or snack.
- ♥ Not enough food intake, in particular carbohydrates.
- ♥ Unplanned or long periods of strenuous exercise/activity.
- ♥ Alcohol OR
- ♥ Sometimes for no obvious reason.

## What are the signs and symptoms of a 'hypo'?

Everyone may experience different signs and symptoms when going hypo, but warning signs can include:

- Hunger
- Drowsiness
- Sweating
- Glazed eyes
- Paleness
- Shaking or trembling
- Anxiety
- Lack of concentration
- Fast pulse
- Headache
- Mood changes, especially confusion, anger, irritability or aggression



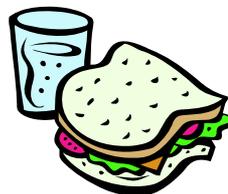
## What should I do if my child has a hypo during physical activity?

Diabetes UK<sup>1</sup> recommends you should do the following:

- ♥ **Never leave your child on their own or send them off to get food, ask someone else to get it for them.**
- ♥ Give your child a fast acting carbohydrate e.g. glucose tablets, glucose gel, lucozade, sugary drink (non-diet) straight away. If you have no fast acting carbohydrates with you, send someone else nearby to get something urgently.

♥ If your child refuses to take food or drink, Glucogel, honey or jam can be massaged into the inside of their cheek.

♥ Once your child has recovered, give them a slower acting carbohydrate e.g. sandwich, two wholemeal biscuits, cereal bar or their next meal if it is due.



♥ Check blood glucose levels after 15 minutes and if your child is still hypo, retreat as above.

♥ Once recovered your child should be able to get involved in the physical activity again.

♥ **If your child becomes unconscious do not give them anything to eat or drink. Place them in the recovery position (lying on their side with their head tilted back) and call an ambulance immediately.** You need to tell the paramedics that your child has diabetes.

♥ Try not to panic – this can be treated. It is likely that your child needs to be given glucagon by injection. Paramedics can give this and family members can be taught how to use it by your child's diabetes team too.

## How can I help prevent my child from going hypoglycaemic during physical activity?

♥ Discuss with the child's diabetes care team whether your child needs to check their blood sugar level before taking part in any physical activity or exercise. Keeping a record of these readings can help you to better monitor blood sugar levels. This record can also be used to discuss your child's blood sugar levels with their diabetes care team if you are worried.



♥ Getting the medication and carbohydrate intake right to match the intensity of your child's physical activity is difficult to begin with. However, your child's diabetes nurse or doctor can help you to plan for physical activity and advise on whether additional snacks are needed. It will get easier.

♥ Your child might also need to have a carbohydrate snack after the activity, unless it is just before a meal.

♥ After prolonged and hard activities your child may also need extra snacks in the 36 hours after as their body will still be using up sugar to replace their stores in the muscles.

♥ Remember that most children and young people get to know their condition very well. Your child will usually learn to recognise for themselves when they are going 'hypo' and will know how to treat this.



## What about hyperglycaemia?

Hyperglycaemia refers to a high blood sugar (glucose) level (above 10mmol/l), and can occur if too little medication is taken to match the food eaten, or too little physical activity is undertaken. In the longer term, high blood glucose levels can lead to long term complications.

If hyperglycaemia is suspected, your child should test their blood sugar levels and check for the presence of ketones in the urine if the blood glucose is 14 mmol/l or above.

**If your child has ketones, do not let them participate** in physical activity. Physical activity or exercise can raise the sugar

even higher and lead to ketoacidosis.

If blood glucose levels are high, but ketones are not present there may still not be enough insulin for the muscles to be able to create the energy needed for exercise. In this situation, your child should wait until their blood sugar levels have come down before taking part in any physical activity.

### **What is Ketoacidosis?**

Ketoacidosis occurs when ketones are present in the body. Ketones are poisonous and make the blood very acidic, hence the term ketoacidosis. Ketoacidosis usually takes at least 24 hours to develop, but once it starts it will get worse until you take action.

The most likely time for your child to develop ketoacidosis is when they are feeling unwell as part of the body's response to illness is to release more glucose into the blood stream. During periods of illness it's important to check for ketones.

### **What are the signs of ketoacidosis?**

- ♥ Being more thirsty than normal
- ♥ Going to the toilet more often than normal
- ♥ Tiredness
- ♥ A faint smell of acetone (pear drops or nail polish remover) on the breath
- ♥ Dry skin
- ♥ Deep breathing and fast pulse
- ♥ Feeling sick and vomiting

**If you are in any doubt at all, contact your child's doctor or a member of your child's diabetes care team. If untreated ketoacidosis can lead to unconsciousness and in severe cases a diabetic coma.**

## For more information on:

### ♥ Heart health visit the British Heart Foundation (BHF):

The British Heart Foundation (BHF) is the nation's heart charity, saving lives through pioneering research, patient care and vital information. <http://www.bhf.org.uk>

- Over-11s: <http://www.yheart.net/Over 11's>
- Under-11s: <http://www.bhf.org.uk/Under 11's>

### ♥ Physical Activity visit the BHF National Centre for Physical Activity and Health (BHFNC) website:

<http://www.bhfactive.org.uk>

### ♥ Diabetes UK Careline: 0845 120 2960 Mon-Fri, 9am-5pm

Email: [careline@diabetes.org.uk](mailto:careline@diabetes.org.uk)

<http://www.diabetes.org.uk/Guide-to-diabetes/My-life/>  
(Information for parents, children and teenagers).

### ♥ Places to be active visit the Active Places website:

<http://www.activeplaces.com>

The BHF and BHFNC produce a number of resources on physical activity for parents and young people:

*'Get Kids on the Go'* is a booklet designed for parents and includes tips and tools for encouraging children to be active.

*'Pocket Play Pack'* is a small z-card with lots of activity ideas for children.

To obtain a free copies of these resources simply call 01604 640016 or email: [ds-bhf@mail.dataforce.co.uk](mailto:ds-bhf@mail.dataforce.co.uk)