Supporting Children with Diabetes in School

Updated July 2022 – Becki Walling Lead Paediatric Diabetes Specialist Nurse

Introduction

This document was produced by the Children and Young People's West Midlands Paediatric Diabetes Network (CYPWMDN) and Worcestershire Acute Hospitals NHS Trust is part of this network. The aim of this document is to inform staff about Diabetes, help them feel more comfortable about having a young person with diabetes in their school and ensure that the child will be safe and supported at all times. For advice and information about individual children, school should always involve the parent/carers of that child, the school nurse and the Diabetes Team. The Paediatric Diabetes Specialist Nurses (PDSN's) will be a central point of contact and will be available to advise the school.

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Starting or changing schools

The structure for school education is that a PDSN can visit school with any newly diagnosed child or young person with Diabetes who requires assistance with blood glucose monitoring or giving insulin via an insulin pen injection or via an insulin pump. School staff are expected to complete an online training module for school staff ahead of the initial school visit.

A PDSN will train staff to the required level and ask staff to complete an evidence log (see appendices). A parent may need to attend school to supervise this practice and document in the evidence log. Once their evidence log has been completed, a PDSN will then visit to assess and sign staff as being competent to perform care independently. Once a nursery/school/college has members of staff who are trained/competent in their establishment they can supervise other staff to practice ahead of a PDSN visit to assess and sign off their competency.

If there is child starting in a new school, a PDSN will visit the establishment to provide education for staff, alongside the online training module. If a pupil is moving to a new class, the new staff have to complete the online training modules and can observe the current routine in school. They can complete an evidence log and a PDSN can visit school to sign off competencies when ready.

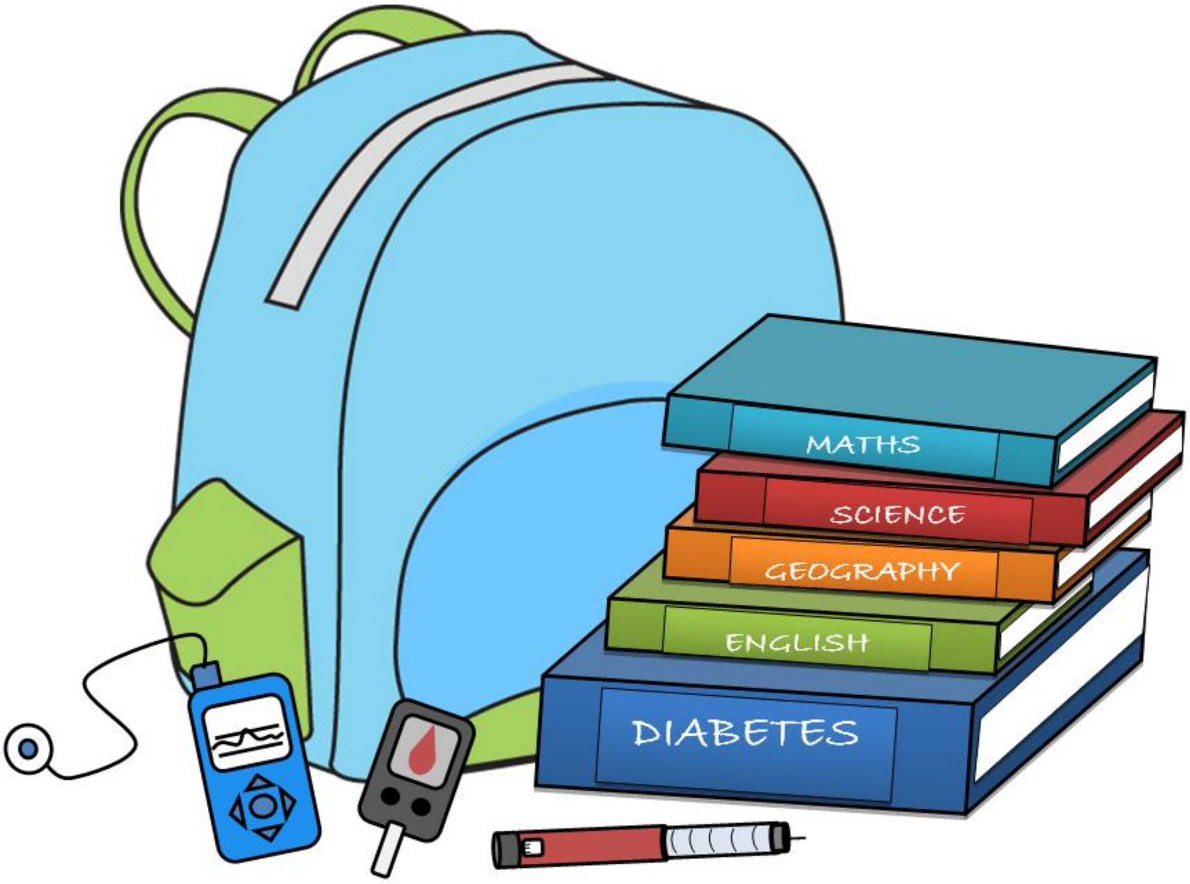
Notification Process

Stages	Process	By whom
1	Parent notifies school of diagnosis	Parents
2	School informs appropriate staff- recommend a team of 4 members of staff are trained	School
3	PDSN contacts school to arrange training and supply details of online training module to be completed ahead of PDSN school visit	PDSN
4	PDSN/school staff and/or parents attend a meeting to provide education and discuss IHCP	PDSN School Parents
5	When staff training complete and IHCP in place, child can return to school	School PDSN
6	On return to school, staff practice BG monitoring and administration of insulin possibly under parents' supervision until they feel competent	School Parents
7	Once staff feel competent to manage diabetes care independently, they contact PDSN to arrange a school visit and assessment	School PDSN

8	If staff pass the assessment, parents no longer need to attend school to supervise. If they do not pass, further supervision required and a further PDSN visit to assess competencies will be needed.	School Parents PDSN
9	School to contact PDSN annually for education/assessment updates and keep a record of those staff trained in school	School
10	School IHCP can be updated by parents and school for any minor amendments and annually re-date. Any major changes to diabetes treatment, PDSN will supply new IHCP	School Parents PDSN

Guidance for the Management of Children and Young People with Diabetes in Education (2022)

Children and Young People's West Midlands Diabetes Network



Written by the Children and Young People's with Diabetes West Midlands Network (CYPWMDN)

Date: October 2021

Review Date: October 2023

This guidance is aimed at enabling the safe management of Children and Young People (CYP) with diabetes within schools in the West Midlands region through providing general information and direction for all those involved in their care. The document has been developed by a multidisciplinary working party in line with current school guidelines from a variety of sources.

This guidance will form part of the management of CYP with medical needs in schools document. These guidelines are evidence based using the best current information/research available; this is listed in the reference section.

Supporting Policies, Documents and Guidance

This guidance should be read in conjunction with the following national and local policies and guidance: -

- Making Every Young Person with Diabetes Matter (Department of Health, 2007)
- Guidance for the Management of Children and Young People with Diabetes in Schools (Dudley Primary Care Trust, 2007)
- Supporting pupils at school with medical conditions (Department of Health, 2015)
- Supporting Children and Young People with Diabetes for Nurses in School and Early Year Settings (Royal College of Nursing, 2013)
- Position Statement: Caring for Children with Type 1 Diabetes in Nurseries, (Diabetes UK, August 2018)
- Special Educational Needs and Disability code of practice: 0 – 25 years of age (Department of Education and Department of Health, January 2015)

Summary of Content

This guidance covers a number of key issues concerning the management of diabetes within a school setting including what is diabetes, insulin regimens, disability discrimination, diet, blood glucose monitoring (BGM), exercise, emergency procedures and treatment, individualised health care plans (IHCP), training and the implications of having a child or young person with diabetes in the school environment.

Guidance developed in consultation with

The CYPWMDN Schools working group, which consists of Paediatric Diabetes Specialist Nurses (PDSN's), Paediatric Diabetes Dietitians, Birmingham Schools and Early Years Medical advisors, and education services, within the West Midlands Region.

Process and Frequency of Review

These guidelines will be subject to review every two years unless there is significant clinical change needed. This review will be coordinated with the CYPWMDN working in close consultation with education and service users.

Glossary

BGM – Blood Glucose Monitoring – this is the monitoring of blood sugar levels and will be referred to as blood glucose.

CYP – Children and Young People up to the age of 19 years old with Type 1 Diabetes.

CGM/FGS– Continuous Glucose Monitoring – this is technology that continuously monitors blood glucose levels and is a device that the child wears continuously.

Dietitian – The dietitians are able to give advice on managing diabetes in relation to diet and exercise. Every CYP with diabetes receives advice from a registered dietitian.

Family – this includes parents, carers, guardians, and other family members involved in the care of the CYP.

Glucose Gel – refers to any rapid acting glucose gel

Hyperglycaemia – This is when the blood glucose level is too **HIGH** (Hyperglycaemia) See page 27.

Hypoglycaemia – This is when the blood glucose levels drop too **LOW** is often called a 'Hypo' See page 23.

IHCP – Individualised Healthcare Plans

Insulin – Insulin is the hormone that helps glucose, produced from the digestion of carbohydrate in food, to move into the body cells where it is used for energy. All CYP with Type 1 diabetes require daily doses of insulin.

PDSN – Paediatric Diabetes Specialist Nurse (refers to all nurses working in diabetes); this person only works with CYP with diabetes and have special expertise and experience in diabetes care for CYP. The PDSN offers specialist advice to help CYP and their family to manage their diabetes. All CYP are also under a Consultant Paediatrician for their diabetes care, at their hospital and a General Practitioner.

School – includes early year settings, primary, secondary, special, academies, colleges, universities and any other educational establishment.

Seizure – Involuntary uncontrolled movements by a person, caused by muscle contractions.

CONTENTS

Introduction

The incidence of CYP with diabetes is increasing and now affects over 29,000 CYP under the age of 25 years old in England and Wales (NPDA, 2019-20 report), so most school staff will come across at least one child with diabetes during their career.

Diabetes Mellitus is a condition, which develops when the body is unable to maintain the correct amount of glucose in the blood.

There are two main types of Diabetes and the management of these is different.

- Type 1 is solely Insulin Dependent
- Type 2 (previously known as non-insulin dependent diabetes) can be treated with diet, tablets (oral medication) and/or insulin.

Type 1 Diabetes

- The majority of CYP with diabetes have Type 1 Diabetes (accounting for 96% of the population of England and Wales).
- This means that these CYP are unable to produce their own insulin as the cells in the pancreas that produce it have been destroyed.
- Without the insulin, the child’s body cannot use glucose for energy, and this is life threatening.

All CYP who have Type 1 Diabetes require insulin (either via injections or an insulin pump) and dietary modifications for life. It cannot be cured and can be life threatening

Type 2 Diabetes

- Tends to affect mostly adults and management includes regulating their diet, taking medication and many are now requiring insulin injections.
- The incidence of Type 2 diabetes is increasing in CYP due to changes in society; linked to the increase in childhood obesity.
- In Type 2 diabetes the pancreas is still producing some insulin but it is ineffective or slow.
- CYP with this type of diabetes are managed on oral medication together with a ‘healthy diet’ and exercise.
- CYP with Type 2 diabetes may require insulin therapy at a later time if oral medication becomes ineffective.

What is insulin and what does it do?

- Insulin is a hormone that is produced by the pancreas, which helps glucose enter the cells of the body to be used for energy.
- We obtain glucose from the sugary and starchy (carbohydrate) food that we eat.
- For people without diabetes insulin is produced automatically and enables the glucose from the food eaten, to pass into the cells and at the same time maintain the correct amount of glucose in our blood stream.
- For those with diabetes the blood glucose level rises without the production of insulin. The kidneys pass the excess glucose into the urine causing frequent passing of urine, increased thirst and gradually tiredness and weight loss.
- For more information on this, please visit the Diabetes UK website for their campaign about the 4T's (Toilet, Thirst, Tiredness, Thinner) https://www.diabetes.org.uk/get_involved/campaigning/4-ts-campaign

Diabetes cannot be cured, but it can and must be controlled

Key Point

THESE ARE THE MAIN SIGNS AND SYMPTOMS OF TYPE 1 DIABETES:
1. Frequent passing of urine
2. Increased thirst
3. Tiredness
4. Weight Loss

How are children and young people with diabetes cared for?

CYP with diabetes are cared for by a team of professionals, these include a Paediatrician, General Practitioner, Dietitian, and a PDSN who will liaise with the school at diagnosis or if problems arise. The PDSN is an excellent resource for school. The family of the child will know the PDSNs at their hospital who are responsible for their child's care.

Key Point

Parents should meet with the relevant school personnel as soon as possible to devise the IHCP.

Aims and Recommendations

Aim

- To ensure the safety of the CYP with diabetes in early years settings and all educational establishments.

This guideline along with the training will enable staff to feel confident about having a CYP with diabetes in their educational establishment and ensure that the CYP with diabetes will be safe at early year's settings, school or college.

Diabetes does not prevent participation in activities but may require the following considerations:

- Extra toilet privileges
- Extra care if unwell
- Provisions for privacy for blood testing / injecting in school/or managing a pump or CGM/FGS
- Extra supervision
- Eating at additional or different times, especially during physical education.
- Extra support at times of exams

Duty of care

Schools and educational authorities are legally responsible to provide:

- Adequate supervision
- No discrimination based on the CYP's medical condition.
- A safe environment

(For more information please go see the Children's and Families Act (2014) and Supporting Pupils at School with Medical Conditions (DoE, 2015)):

Responsibility of staff – including supply staff

- To ensure the safety of the CYP with diabetes whilst in their care.

Responsibility of the family:

- To inform the school of their child's medical condition and particular requirements.
- To provide the schools with appropriate medical supplies including emergency 'Hypo box'.

Global recommendations

"Children and young people with diabetes should have the same social rights as their non-diabetic peers, and no stigma nor discrimination should be attached to Diabetes" (International Society of Paediatric and Adolescents Diabetes, 2014).

- Diabetes should not alter a child's/adolescents academic potential
- Diabetes should not be the cause for being excluded from any type of activity nor for non-attendance at school or college
- Education and the social integration within school and college is of fundamental importance (Department of Health, Making Every Young Person with Diabetes Matter, 2007)

Disability Discrimination Act/Equality Act 2010

Some CYP with medical needs are protected from discrimination under the Disability Discrimination Act (DDA) 1995/Equality Act 2010.

The public sector Equality Duty, as set out in 149 of the Equality Act, came into force on 5 April 2011, and replaced the Disability Equality Duty.

Responsible bodies for schools **must not** discriminate against pupils in relation to their access to education and associated services. This covers **all aspects** of school life including: school trips, school clubs, and activities. Schools should make reasonable adjustments for disabled children including those with medical needs at different levels of school life; and for the individual disabled child in their practices, procedures and school policies.

Children and Families Act 2014

Section 100 of the Children and Families Act 2014 places a duty on governing bodies of maintained schools, proprietors of academies and management committees of PRUs to make arrangements for supporting pupils at their school with medical conditions.

In the meeting the duty, the governing body, proprietor or management committee must have regard to guidance issued by the Secretary of State under this section.

Supporting Pupils at School with Medical Conditions, DFE December 2015

On 1 September 2014 a new duty came into force for governing bodies to make arrangements to support pupils at school with medical conditions, and was updated in December 2015. This statutory guidance in this document is intended to help school governing bodies meet their legal responsibilities and sets out the arrangements they will be expected to make, based on good practice. The aim is to ensure that all children with medical conditions, in terms of both physical and mental health, are properly supported in school so they can play a full and active role in school life, remain healthy and achieve their academic potential.

School staff may be asked to perform the task of giving medication to children but they may not, however, be directed to do so. The administering of medicines in schools is entirely voluntary and not a contractual duty unless expressly stipulated within an individual's job description. In practice, many school staff do volunteer. If a decision is made that medication is not going to be given, the school will need to consider what other measures are to be taken when children have long term conditions or otherwise need medication. These measures must not discriminate. They must promote equitable education and the good health of all children.

Common law duty of care

Anyone caring for children, including teachers and other school staff, has a common law duty of care to act like any reasonably prudent parent. This relates to the 'common law': the body of law derived from court decisions made over the years, as opposed to law which is set down in statute. The duty means that staff need to make sure that children are healthy and safe, and in "exceptional" circumstances the duty of care could extend to administering medicine and/or taking action in emergency. The duty also extends to staff leading activities taking place off site, such as visits, outings or field trips.

Safeguarding

CYP with medical conditions are entitled to full-time education and they have the same rights of admission to school as other children. In effect, this means that no child with a medical condition should be denied admission, or be prevented from taking up a place in school due to circumstances in relation to arrangements for their condition that have not been made.

Schools therefore must ensure that the arrangements they put in place are sufficient to meet their statutory responsibilities and should ensure that policies plans, procedures and systems are properly and effectively implemented to align with their wider safeguarding duties.

Accommodation

Regulation 5 of the School Premises (England) Regulations 2012 (as amended) provide that maintained schools must have accommodation appropriate and readily available for use for medical examination and treatment and for the caring of sick or injured pupils. It must contain a washing facility and be reasonably near to a toilet. It must not be teaching accommodation.

Paragraph 23B of Schedule 1 to the Independent School Standards (England) Regulations 2010 replicates this provision for independent schools (including academy school and alternative provision academies).

Insulin Regimens

What is insulin and what does it do?

- Insulin is a hormone which is produced by the pancreas, which helps glucose enter the cells of the body to be used for energy.
- We obtain glucose from the sugary and starchy (carbohydrate) food that we eat.
- For people without diabetes, insulin is produced automatically and enables the glucose from the food eaten, to pass into the cells and at the same time maintain the correct amount of glucose in our blood stream.
- For those with diabetes, the blood glucose level rises without the production of insulin. The kidneys pass the excess glucose into the urine causing frequent passing of urine, increased thirst and gradually tiredness and weight loss.
- For more information on this, please visit the Diabetes UK website for their campaign about the 4T's (Toilet, Thirst, Tiredness, Thinner) https://www.diabetes.org.uk/get_involved/campaigning/4-ts-campaign
- CYP who develop Diabetes have stopped producing insulin and the only way to replace it is by injecting insulin either via a pen device or pump.
- Insulin has to be injected because it is a protein, if it is swallowed like a medicine it would be broken down and made useless.
- There are a number of different insulin regimens that CYP with diabetes can use.
- Most CYP are on intensive insulin therapy which involves a multiple daily injection regimen or insulin pump therapy. A minority of CYP inject insulin two or three times a day but intensive insulin therapy can give better health outcomes and greater flexibility.
- Whatever insulin regimen is used there is a need to monitor glucose levels in the body – this is done by BGM (finger prick tests) and/or by CGM/FGS sensors (please see page 11).

Multiple Daily Injection Regimen (MDI)

This involves a rapid acting insulin given before breakfast, midday meal, evening meal and snacks. The dose is calculated depending on the amount of carbohydrate being consumed and the blood glucose level. A long acting insulin is then given once or twice a day usually around bedtime and/or breakfast time. The insulin is injected using a pen device that holds a number of injection doses but requires to be fitted with a new pen needle for every injection. CYP on this regimen will need to have an appropriate, private area identified where injections can be given and/or supervised (see self-administration of insulin in school page 12).

Insulin Pump Therapy (CSII)

A growing number of CYP have their insulin via a pre-programmed, continuous subcutaneous infusion pump. This involves insulin being dripped in to the CYP 24 hours a day, every day, via a cannula – a tube placed under the skin, into the fat layer on the tummy, buttocks or legs (the same place used when injecting with a pen device). In most cases this cannula is attached to the pump by a length of tubing which can be un-clipped from the cannula if necessary, but only for up to an hour a day. As with MDI additional insulin is given for all carbohydrate consumed and to correct the blood glucose level and this is delivered via the pump itself which can be remotely controlled from a handset.

Continuous Glucose Monitoring/Flash Glucose Scanning (CGM/FGS)

Real-time continuous glucose monitoring (CGM) and flash glucose scanning (FGS) are technologies in the management of type I diabetes. When used, it replaces the need for the majority of blood glucose tests (finger pricks). In addition, some CGM systems can communicate with insulin pumps and automatically adjust the insulin dose.

CGM technology provides continuous, automatic recording of the glucose concentration in the subcutaneous tissue (fat layer under the skin) via a sensor inserted into it. Frequent measurements are taken and sent to a device (mobile phone or receiver) or are viewed by scanning the sensor in FGS. Sensor glucose readings are slightly behind that of blood glucose readings (lag time). Directional arrows indicate the glucose trend and how quickly it’s changing and can help improve diabetes management. The majority of sensors have the facility to sound alarms in the case of high or low glucose levels. Dependent on the sensor used, parents/ carers may have the ability to follow the glucose readings on their own mobile phone at home.

Key Point

Schools please note: CGM/FGS systems frequently require the use of a paired mobile phone. For this purpose, the phone is considered to be a medical device and its use in school should be permitted.

Supervised administration of Insulin in School Policy

The only treatment for Type 1 diabetes is insulin replacement via pen injection or an insulin pump.

It would therefore be **severely** detrimental to a CYP’s health if insulin were not administered during the school day.

Roles and Responsibilities

Close co-operation between schools, nurseries, families, health care professionals and other agencies will help provide a suitably supportive environment through education and training for CYP with diabetes.

It is vitally important that the responsibility for the individual CYP’s safety is clearly defined and that each person involved with CYP with diabetes is aware of what is expected of them and has received adequate training and are competent to do so.

Self-Management

It is good practice to support and encourage CYP, who are able, to take responsibility to manage their own insulin from a relatively early age and schools should encourage this. However, it is essential that they also continue to provide adequate support and supervision.

The age at which CYP are ready to take care of and be more responsibility for their diabetes does vary. This should be discussed with the CYP alongside their family and diabetes specialist team.

For young children and those with disabilities who are unable to administer their own insulin, staff volunteers will be sought and trained appropriately by your paediatric diabetes specialist team. School staff need to be confident and competent in the appropriate knowledge and skills to enable them to deliver diabetes care according to the IHCP. It should be noted that parents/carers need to supervise and support staff following the initial training.

Storage of Insulin

All CYP with diabetes should have insulin stored at school; this includes their insulin in their pen device in use (if on a multiple daily injection regimen), a spare insulin cartridge for their pen device and a spare vial if they are on an insulin pump. It is family’s responsibility to ensure that a container is provided with the insulin in and that is clearly labelled with the name of the child together with date of birth and form/class. This spare insulin should be placed in a refrigerator.

The refrigerator can contain food but the insulin should be kept in an airtight container and clearly labelled as above.

CYP should know where their own medicine is stored.

Insulin that is opened can be kept at room temperature for 1 month.

Access to Insulin

CYP need to have immediate access to their insulin when required, it should be agreed in the care plan where the insulin is to be stored and which members of staff have had suitable training to support/supervise or administer the insulin injection/pump boluses.

Disposal of Insulin

Families are responsible for ensuring that date-expired insulin is returned to a pharmacy for safe disposal.

Families should also collect any leftover insulin at the end of each term to ensure that expiry dates are not exceeded.

Sharps Disposal

Sharps bins should always be used for disposal of needles from insulin pen devices and blood glucose monitoring lancet and pump cannulas.

Sharps bins should be situated proximal to where the injections/blood glucose tests are taking place.

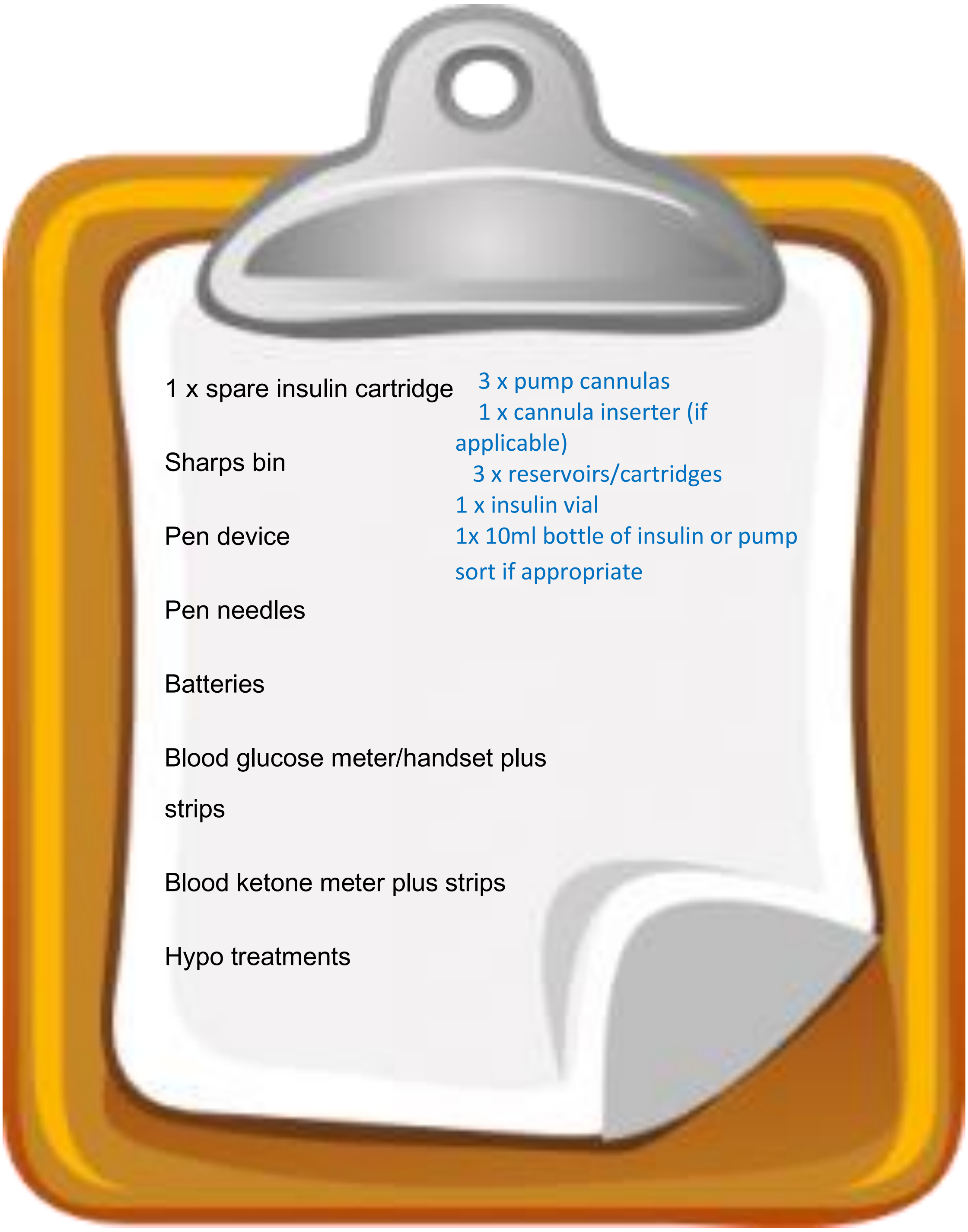
Sharps bins can be obtained by families on prescription from the CYP’s GP or local council. Your local paediatric diabetes team can advise on this.

Sharps bins should be kept in a safe place.

Once the sharps bin is around two thirds full, families should be informed so that a further sharps bin can be obtained on prescription for the GP/local council. The closed and locked sharps bin, should be picked up by parents and returned to the GP/pharmacy for safe disposal or via local policy.

Schools diabetes supply list

Below is a list that should be provided by families to be kept in school (those items in blue are for pump users only)



1 x spare insulin cartridge

Sharps bin

Pen device

Pen needles

Batteries

Blood glucose meter/handset plus strips

Blood ketone meter plus strips

Hypo treatments

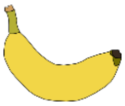
3 x pump cannulas
1 x cannula inserter (if applicable)
3 x reservoirs/cartridges
1 x insulin vial
1x 10ml bottle of insulin or pump sort if appropriate

Food and Diabetes

All CYP with or without diabetes should be having a healthy, balanced diet. There is no such thing as a ‘diabetic’ diet. CYP with diabetes should choose either packed lunches or a cooked school meal as they wish. Whichever meal option they chose they will need to count the carbohydrate for that meal and receive the appropriate dose of insulin. Many CYP can independently count carbohydrate but younger children will need help doing this. Your diabetes team will advise and support you on this.

What are carbohydrates?

See Appendix 1 ‘Where do you find carbohydrate’



Carbohydrate foods are broken down and provide us with energy in the form of glucose. There are different types of carbohydrate including fast release (sweets, full sugar drinks, sweet puddings, white bread) and slow release (wholegrain bread, rice, pasta, milk, fruit, and potatoes). Slow release carbohydrates can help to keep blood glucose levels stable and it is recommended to have a source of these at each mealtime.

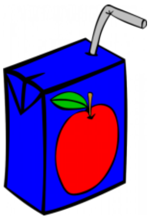
Why do we carbohydrate count?

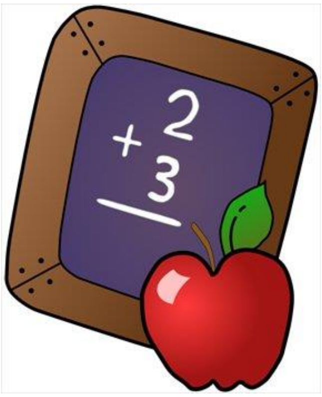
Carbohydrate counting allows CYP to have greater flexibility (amount and timing of food) in what they are eating and can provide better blood glucose control. It also means that CYP are not excluded from birthdays/cake sales as long as the ‘treat’ foods they are having are carbohydrate counted and form part of a balanced diet. Your diabetes team can support you and provide you with appropriate resources for carbohydrate counting. CYP will have an insulin: carbohydrate ratio for each meal which you will be advised upon; a small child may need a small ratio (e.g. 1:25 = 1 unit of insulin to 25 grams of carbohydrate) compared to a teenager (e.g. 2:10 = 2 units of insulin to 10 grams of carbohydrate) and this will give different doses of insulin for the meal.

See Appendix 2 ‘Insulin: Carbohydrate Ratio Sheet’

What about drinks/fluids?

Full sugar drinks are not recommended apart from for treating hypos (see hypo section page 23). Drinks that are suitable include water, no added sugar squash and ‘diet’ or ‘zero’ option drinks.





Blood Glucose Monitoring

CYP with diabetes need to monitor their blood glucose throughout the day to ensure they maintain good glycaemic control. Blood glucose is obtained by taking a small finger prick sample of blood and applying it to a blood glucose monitoring strip. The blood glucose needs to be taken at regular intervals during the day.

Please note that some children have continuous glucose monitoring systems and please refer to their IHCP. (For CGM/FGS information please see page 11).

Key Point

THE TARGET BLOOD GLUCOSE LEVEL IS 4 – 7MMOLS

Times that CYP will be required to check their Glucose routinely (via finger prick, CGM or FGS):

- Before meals
- Before/ after P.E./ swimming
- Prior to mid-morning and/or mid afternoon snack

Other times they will need to check their Glucose will be:

- When CYP exhibits symptoms of hypoglycaemia
- When CYP exhibits symptoms of hyperglycaemia
- When feeling unwell
- Before/ during/after exams or other stressful situations
- Any other time that is specified in the child's IHCP

Who does Glucose monitoring?

- CYP at senior school should be able to check their own blood glucose and within reason, be able to act appropriately upon those readings
- Some CYP at primary school will have the skills to check their own blood glucose but will need supervision with the procedure and assistance in acting upon the readings
- CYP who are too young or are not competent to check their own blood glucose will need this doing for them by a member of school staff
- Any staff member who has volunteered to undertake glucose monitoring **must be trained and competent**– usually a minimum of 3 staff members per school

Where does Glucose monitoring need to take place?

This should be agreed with the CYP, Family and school staff. CGM/FGS readings can be taken anywhere. Blood glucose monitoring (finger pricks) can be undertaken in the classroom, office, medical room or any other area where hands can be washed – IT IS NOT appropriate to use the toilets and this includes disabled toilets.

Procedure for Blood Glucose testing by school staff (only to be undertaken by trained and competent staff).

1. The CYP and you need to wash and dry hands using soap and water (**<u>alcohol free</u>** wipes can be used in exceptional circumstances)
2. Put on gloves, ideally latex free
3. Insert blood glucose test strip into meter
4. Wait for blood sample sign (usually a blood droplet)
5. Select the right depth marker on the finger picker device
6. Obtain a sample of blood from the **side of a finger, excluding thumb and index fingers**. The sites must be rotated to avoid nerve damage
7. Gently squeeze the finger to obtain a drop of blood
8. Touch end of test strip to blood droplet and allow the blood to be absorbed by the strip
9. The meter will begin to count down when enough blood has been obtained
10. Record blood glucose result in child's diary and/or school monitoring book

What can affect Glucose readings?

It is not easy to maintain glucose in target level all the time as this will depend on several factors, these can include:

- Growth spurts
- Stage of puberty
- Prescribed insulin doses (carb ratios)
- Diabetes mismanagement
- Illness
- Activity
- Stress

Interpretation of Glucose results

Glucose levels should ideally be between the target of 4-7mmols. Action may need to be taken if the glucose level falls outside of the normal range **(please refer to IHCP for full management of the pupil as advice may differ from this document).**

Below 4mmols	Between 4-7mmols	8-14mmols	Above 14mmols Or if unwell
Treat as hypoglycaemia using fast acting glucose - refer to individual health care plan (IHCP)	Target glucose level If eating give insulin for food as per IHCP No other action to take	Correction insulin may be required as per IHCP This will be on top of usual insulin required for food CYP may need to use the toilet frequently and drink sugar free fluids	Blood ketones should be tested as per IHCP Correction insulin may be required. See child's IHCP If food is to be eaten, then usual meal insulin will be required May need to use the toilet frequently and drink sugar free fluids If feeling unwell with high sugars and/ or ketones, contact child's parents
If child is vomiting, having difficulty in breathing, semi-conscious/unconscious or is having a seizure please dial 999 for an ambulance immediately and contact parents			

Storage of Blood Glucose Meters

Blood glucose meters should be kept in a dry place away from extreme temperatures and away from dust, preferably in the pouches they are provided with.

In primary school the blood glucose meter should be in easy reach of the child to enable testing when needed – usually in the classroom with their emergency hypo box.

In senior school, CYP should be allowed to carry their blood glucose meter with them around the school to test when needed. A spare meter should be kept in the medical room.

If used, mobile phones/ CGM receivers/ FGS readers should be kept with CYP at all times to avoid signal loss alarm sounding.

Sharps Boxes

All sharps and test strips **MUST** be disposed of correctly in a yellow sharps box.

There may be different policies in different areas regarding the disposal of sharps boxes – please discuss this with the parents'/school nurse.

School Management on a day to day basis

To ensure that schools can support pupils with diabetes effectively, it is essential that an individual healthcare plan (IHCP) is developed.

The IHCP will provide clarity about what is required to support a CYP with diabetes in school. It should be developed in partnership with the Paediatric Diabetes Specialist Nurse, School Staff, the Child and their family.

The healthcare plan should be signed and dated by:

1. Parents/ carers
2. The child/ young person (where appropriate)
3. School representative
4. Paediatric Diabetes Specialist Nurse

Everybody involved in the care planning process should be provided with a copy of the IHCP.

It is the responsibility of the school to ensure that the healthcare plan is reviewed annually or earlier if the CYP needs have changed.

The IHCP should include information about:

- Emergency contact details
- Description of the child's condition
- Glucose monitoring
- Insulin administration
- Storage of glucose monitoring kit and insulin injections
- Disposal of sharps
- Physical activity management
- Hypoglycaemia management
- Hyperglycaemia management
- Any additional information relevant to the CYP e.g. exams, school trips, after school clubs

Emergency Supply Box – 'Hypo Box'

The family should provide the school with a box of emergency supplies. The box must be clearly marked with the CYP's name.

The contents of the box should include:

- **Fast acting glucose**
    - Glucose tablets/ sweets (e.g. Jelly Babies, Haribo)
    - Small bottle/ small can of full sugar drink (e.g. Lucozade, Coke)
- **A tube of Glucose Gel**

- **Long acting carbohydrate**
    - Packet of plain biscuits/cereal bars

All staff must be aware of where the hypo box is kept

The hypo box/ hypo supplies must be taken with the CYP if moving around the school premises.

It is the family's responsibility to check the contents of the box and ensure that it is adequately stocked.

Guidelines on how to use the contents of a hypo box are included in the child's IHCP; it is also advisable to keep a copy of the IHCP inside the hypo box.

Exercise Management

Having diabetes does not stop a CYP from taking part in physical activity. There are many benefits of taking part including

- Improves fitness and well-being
- Encourages a lifelong healthy lifestyle
- Builds self-esteem, confidence and team work

Exercise of any kind increases the use of energy and therefore CYP with diabetes are likely to see a change in their blood glucose level. Therefore, the CYP may need a change to their diabetes management before during or after sport please see their IHCP.

CYP should check their glucose level before and after exercise. This will help to guide the management required to maintain their glucose levels within normal limits and keep them safe. Glucose levels may vary depending on timing, duration and intensity of exercise.

The information below provides general guidance on what to do for different glucose levels at the start/during exercise. Please refer to IHCP for individualised management.

Glucose level	**Action Required**
If Glucose below 4mmol/L	Treat hypo and give follow up snack (10-15g of slow release carbohydrate e.g. cereal bar, piece of fruit, plain biscuit.
If Glucose between 4 and 8mmol/L	Give fast acting carbohydrate at the start of exercise e.g. Lucozade/dextrose tablets, please see IHCP for guidance.
If Glucose between 9 and 13mmol/L	Do not give any fast acting carbohydrate before exercise.
If Glucose above 14mmol/L check for ketones	If Ketones present above 0.6mmol/L then avoid exercise and discuss with parents.

Key Point

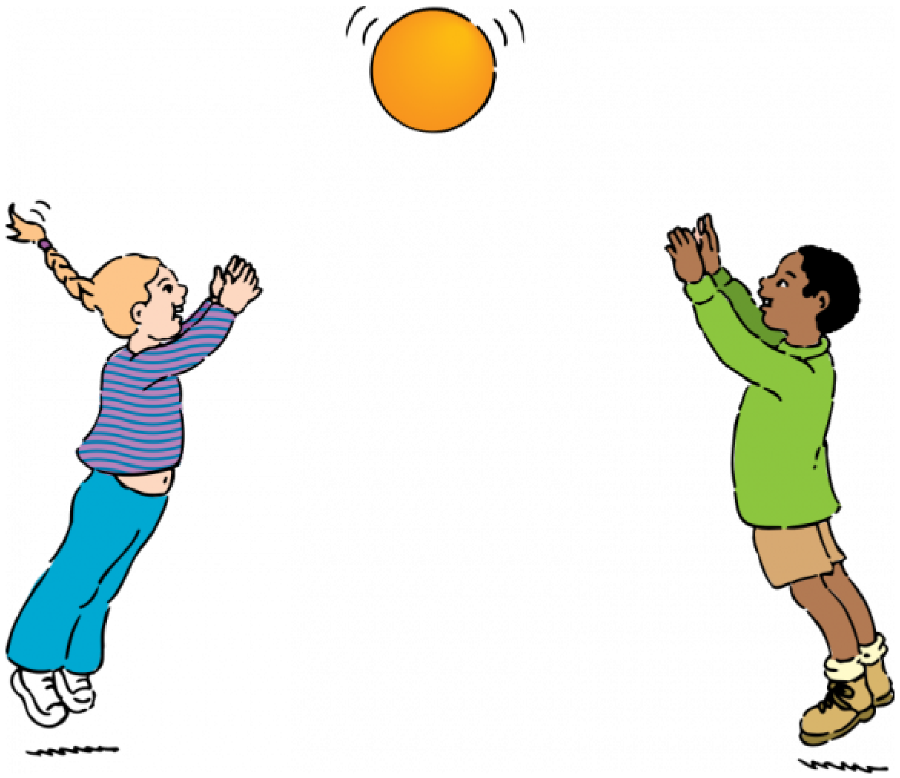
For swimming please discuss with diabetes team for individual CYP plan.

What about Insulin Pumps?

For CYP using an insulin pump they may need to disconnect the device **from the cannula** during activity and reconnect once finished. The pump should be stored in a secure place if disconnected. Other pump users may keep the pump connected and just reduce their insulin dose; it will be documented in the IHCP for the CYP.

What about Hypos?

Always carry hypo treatments and ensure that hands are washed appropriately before blood glucose testing. If you notice that hypos are happening frequently with exercise, then please discuss with the family who will liaise with the paediatric diabetes team.



School Trips

CYP with diabetes should have the same opportunities to enjoy school trips as the rest of their class.

Going on a day trip should not cause any problems as the routine management of diabetes will be similar to the day-to-day management at school.

Residential trips are fun, promote confidence and independence and will therefore enhance self-esteem. Every CYP with diabetes should have an equal opportunity to attend a residential school trip with their peers.

School trips must be discussed well in advance and a plan developed through discussion with the child, parents, teachers involved in the trip and the PDSN.

Information required will include:

- Duration of the trip
- Journey details
- Timing of activities
- Type of activities
- Timing of meals
- Facilities available

CYP who are reliably independent in their diabetes management will be able to:

- Inject insulin
- Test their blood glucose levels
- Recognise and treat hypos early
- Calculate the carbohydrate value of their meal and give the appropriate dose of insulin
- Understand how exercise will affect their blood glucose levels and take appropriate action to manage activities

CYP who are not fully independent in their diabetes management will require supervision and help from trained and competent staff members.

Parents of younger children could be invited to attend the trip if the child with diabetes is not fully independent. **However, this is not a requirement of parents to do so.**

Supplies

CYP should have their hypo treatments, starchy snacks and their blood glucose meter with them at all times during the trip.

Insulin should be stored in a cool dry place away from sunlight or sources of heat.

Management of Hypoglycaemia

Key Point

This is an emergency situation and treatment should be given promptly where the hypo has occurred. Ensure the child is in a safe environment, avoiding relocating the child wherever possible. Children should not be left alone during a hypo.

Hypoglycaemia (hypo) is the most likely problem to be experienced in school. This is when the blood glucose drops below the normal level of 4mmol/L. The lower the blood glucose level the more the brain is deprived of energy.

Hypos can happen quickly, but most CYP will have warning signs that will alert them, or the people around them to a hypo.

Below is a list of some of the signs and symptoms:

• Excessive Sweating	• Trembling/Shaking	• Feeling Weak or Cold
• Confusion	• Slurred Speech	• Personality/Change
• Pins and Needles	• Nausea and Vomiting	• Paleness
• Anxiety	• Headache	• Sleepiness
• Blurred Vision	• Hunger	• Pounding Heart

The symptoms can be very different for each CYP and the child's family will be able to describe what their child's warning signs are on their IHCP.

Common Causes of Hypoglycaemia are:

- A missed or delayed snack or meal
- Not enough food to fuel an activity/exercise
- Too much insulin given
- Cold or Hot Weather
- Stress
- Vomiting and Diarrhoea

Warning: Some children do not have appropriate warning signs of hypoglycaemia and/or do not recognise the onset of a hypo. This is more prominent in children under 5 years of age.

Key Point

Hypoglycaemia must be treated immediately because if untreated, the child may become unconscious and/or have a seizure; however, this is very unusual as the majority of children can identify a hypo with the above symptoms.

Mild Hypo – The CYP is conscious but blood glucose is low.

The treatment of hypoglycaemia is to give the child fast acting glucose to raise the blood glucose; this may be given as any of the following, please see IHCP for amount fast acting glucose to give:

- Lucozade Original
- Dextrose tablets
- Other treatments may be recommended in the IHCP by the CYP's PDSN

Re-test blood glucose after 15 minutes. (Please refer to IHCP for full management of the pupil as advice may differ from this document).

If the blood glucose is 4mmol/L or above: to give an additional food in the form of a starchy carbohydrate snack, unless they can access their meal immediately, to prevent the blood glucose dropping again. For example:

- Two plain biscuits
- Cereal bar
- Piece of fruit
- Glass of milk

NB: If the child is on an insulin pump they do not need the extra starchy carbohydrate.

Key Point

Children should not be left alone during a hypo. They must always be accompanied and supervised.

Moderate Hypo – The child is unable to co-operate but able to swallow and is conscious.

- **Glucose Gel should be used as instructed on the CYP's IHCP.**

Some of the glucose in the Glucose Gels will be absorbed through the lining of the mouth but will require swallowing to aid recovery. It may take between 5 – 10 minutes to work.

1. Recheck blood glucose 15 minutes later
    a. If blood glucose still less than 4mmol/L and not co-operating, repeat Glucose Gel
    b. If blood glucose still less than 4mmol/L and co-operative, repeat fast acting GLUCOSE as outlined in MILD Hypo.
    c. If blood glucose greater than 4mmol/L give additional starchy carbohydrate containing food as above.

Key Point

Glucose Gels should NEVER be used in CYP who are unconscious and therefore unable to swallow.

Severe Hypo – The child is unconscious and unable to swallow

Treatment is URGENT:

Never try to give any treatment by mouth to someone who is unconscious and/or having a seizure, follow the procedures below:

1. **Place child in the recovery position.**
2. **Ensure the airway is open and that the child is breathing.**
3. **Stay with the child while someone calls 999 and informs the parents.**

Severe hypos with unconsciousness and seizures are treated by an injection of GLUCAGON which can be given by the ambulance crew or parents on arrival.

School staff **are not expected** to give this injection due to maintaining competency for this rarely performed procedure.

General Points

- On recovery from a severe hypo the CYP should be collected by family and taken home.
- Following a mild or moderate hypo once the CYP feels better they should return to class and normal activities
- Family must be informed of all hypos at the end of a school day and documented as per school health and safety emergency policies and procedures.
- The brain takes 45 minutes to recover after a hypo and it is likely to affect concentration in lessons or exams.

Key Point

Glucose monitoring is the only way to confirm hypoglycaemia. It is also a valuable tool if the diagnosis is uncertain, e.g. if children try to mimic the symptoms of hypoglycaemia in order to eat sweets or if children are confused about their symptoms.
Glucose measurements also confirm the return of blood glucose towards normal levels after a hypoglycaemic episode.

HYPOGLYCAEMIA FLOW CHART

('Hypo' or Low 'Blood Glucose')
Blood Glucose 4mmol/l or below

Signs and symptoms can include;

• Excessive Sweating	• Trembling/Shaking	• Feeling Weak or Cold
• Confusion	• Slurred Speech	• Personality/Change
• Pins and Needles	• Nausea and Vomiting	• Paleness
• Anxiety	• Headache	• Sleepiness
• Blurred Vision	• Hunger	• Pounding Heart

Mild Hypo

The child can eat and drink and is cooperative

Step 1:
Treat immediately with one of the following refer to IHCP:

- Lucozade Original
- Dextrose tablets
- ……………………….
- ……………………….

Step 2:
Retest Blood Glucose 15 minutes later.

Step 3:
If blood glucose is still below 4mmol/L repeat Step 1 and retest Blood Glucose a further 15 minutes later.

Step 4:
Once blood glucose is 4mmol/L or above, give starchy carbohydrate e.g. 2 plain biscuits or a glass of milk or a piece of fruit.

Moderate Hypo

The child is conscious but not cooperative

Step 1: Give Glucose Gel as per IHCP

Step 2: Re-test blood glucose 15 minutes later

Step 3: If blood glucose is still below 4mmol/L repeat Step 1 and retest blood Glucose a further 15 minutes later.

Step 4: Once blood glucose is 4mmol/L and above give starchy carbohydrate e.g. 2 plain biscuits or a glass of milk or a piece of fruit.

Severe Hypo

The child is unconscious and/or having a seizure and so unable to swallow

Step 1: Place child in the recovery position.

Step 2: Ensure the airway is open and that the child is breathing.

Step 3: Call 999 and stay with the child while someone waits to direct the ambulance and informs parents.

Management of Hyperglycaemia

Hyperglycaemia is higher than the CYP’s target blood glucose levels. Further treatment is required when blood glucose levels are 14mmol/L and above.

The symptoms of Hyperglycaemia below are those which also precede diagnosis of Type 1 Diabetes:

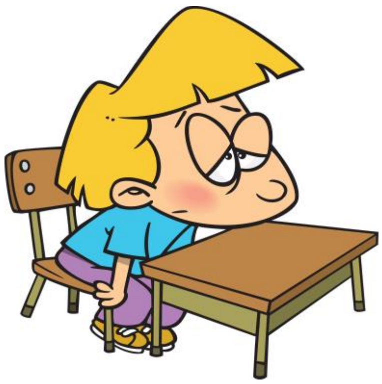
• Excessive thirst	• Passing urine frequently
• Tiredness/Lethargy	• Blurred Vision/Headache
• Nausea and Vomiting	• Abdominal Pain
• Weight Loss	• Changes in Behaviour/Personality

Common causes of Hyperglycaemia are:

- **Too much sugary food**
- **Not enough insulin/omission of insulin**
- **Illness/Infection**
- **Stress**
- **Less activity/exercise**

Warning: The above symptoms should also alert staff to consider the possible onset of diabetes in a CYP not yet diagnosed with Type 1 diabetes.

If teaching staff notice that the CYP is thirstier than usual and frequently going to the toilet, they should report it to the CYP’s family so the necessary adjustments can be made to the insulin doses.



Hyperglycaemia Flowchart

('Hyper' or 'High blood glucose')

Blood Glucose 14mmol/l or above

When the blood glucose levels are 14mmol/L and over Ketones must be checked

Signs and symptoms can include:

• Excessive thirst	• Passing urine frequently
• Tiredness/Lethargy	• Blurred Vision/Headache
• Nausea and Vomiting	• Abdominal Pain
• Weight Loss	• Changes in Behaviour/Personality

Key Point

When the blood glucose levels are 14mmol/L and over Ketones must be checked

High Blood glucose levels (Over 14mmol/L)

NO KETONES (less than 0.6mmol/L)

→

Step 1: Drink sugar free fluids

Step 2: Correct high blood glucose with corrective dose of insulin detailed in the IHCP.

Step 3: Check blood glucose levels 2 hours later.

High Blood glucose levels (Over 14mmol/L)

Blood Ketones over 0.6mmol/L to 1.0mmol/L

Child well and no vomiting

→

Step 1: Drink sugar free fluids

Step 2: Correct high blood glucose and ketone levels with corrective dose of insulin detailed in the IHCP.

Step 3: Contact parents

Step 4: Check blood glucose and

High Blood glucose levels (Over 14mmol/L)

Blood Ketones over 1.0mmol/L and/or unwell/vomiting

→

Step 1: Contact parents to collect as child SHOULD NOT BE IN SCHOOL.

Step 2: If vomiting and/or having difficulty breathing call **999.**

Sick Day Rules at School

If the CYP with diabetes is vomiting or unable to eat their meals due to nausea, their family should be informed immediately and the CYP should be sent home accompanied by the family.

Whilst waiting for the family to arrive the CYP should not be left alone.

During an illness, such as influenza or tonsillitis, blood glucose levels are likely to rise. Diabetes control can become less stable for a period of time because more insulin is needed to control the blood glucose levels.

To prevent dangerously high blood glucose levels, which if left untreated can lead to a life-threatening condition called ketoacidosis, CYP need careful monitoring and treatment with extra insulin at home.

The signs indicating that ketoacidosis may be developing include:

- Rapid, laboured breathing
- Abdominal pain
- Headache
- Sweet acetone (pear drop) smell to the breath
- Nausea and Vomiting
- Severe dehydration

Key Point

Ketoacidosis can be the mode of presentation in a CYP previously undiagnosed with diabetes and hospitalisation is urgently required.

Emergency Procedures

- As part of general risk management processes all schools should have arrangements in place for dealing with emergency situations.

- All staff should know who is responsible for carrying out emergency procedures.

- The IHCP should include instructions as to how to manage an individual CYP in an emergency and identify who has the responsibility in an emergency.

Blood Glucose Levels – Brain Function and Educational Examinations

Brain Function

The brain relies on glucose for its energy supply.

Therefore, when the blood glucose level is low during a hypo, thinking, reactions, abstract thoughts, reflexes and other aspects of brain function deteriorate.

Examinations

CYP perform best in examinations when their diabetes is well controlled.

Due to emotional stress and anxiety before and during exams, blood glucose can fluctuate between high and low levels.

When blood glucose levels are high, there is an increased need to urinate. Easy access to toilets needs to be granted.

When blood glucose levels are low, the brain is deprived of glucose for energy causing cognitive and other changes (see section on hypos)

Blood glucose levels should be measured immediately before exams; this is the CYP’s responsibility to do so. The immediate access to blood glucose meters should be allowed during all examinations.

CYP with diabetes need to be allowed to bring food and drinks in case of hypos during an examination.

High blood glucose is associated with poor diabetes control, may also affect brain function but the effects are not as clear cut as with low levels.

High blood glucose levels may be accompanied by an inability to concentrate and mood changes (especially irritability), headaches, thirst and frequency of urination.

Key Point

Some examination boards allow additional time after the end of the exam, if a mild hypo has occurred immediately before or during an exam. If a hypo does occur, a claim for special consideration can be made.

Warning: After an episode of hypoglycaemia, cognitive ability and brain function may not return to normal for several hours. Moderate-severe hypos may cause prolonged severe headaches, which will further affect performance.

Recommendation: Prior to exams a request for special consideration in relation to the occurrences and effect of high and low blood glucose levels whilst sitting an exam should be made in writing to the educational authority/exam board.

Family and Other Topics

Impact of diabetes on the CYP and their family

Diabetes treatment is lifelong, continuous, at times painful and frequently frustrating for the individual and family.

The demands of diabetes are relentless and can cause enormous stress on children and young people, their parents or guardians and the rest of the family.

The threat of developing long-term complications of diabetes (retinopathy, neuropathy, and nephropathy) adds to the stress of the disease.

This uncertainty can cause great anxiety and impact on the day to day well-being and psychological development of the CYP and their family.

It is important for members of staff to also be aware of the emotional stresses faced by siblings of CYP.

Siblings should not be expected to take over the responsibility of supervising their brother/sister with diabetes at school.

School attendance and absenteeism

A CYP with diabetes which is well controlled are no more prone to infections to any other students. School attendance should therefore be unaffected apart from routine clinic appointments usually every 3 months.

Occasionally unstable diabetes can lead to hospital admissions or more frequent clinic visits for a period of time.

Each CYP has 4 routine clinic appointments per year this should not affect their percentage attendance record.

It is uncommon for diabetes to be the cause of significant absenteeism.

Diabetes Training Record

Each school that has a CYP with diabetes must ensure staff are trained in diabetes management and update their knowledge and skills annually.

Contact Details and Resources List

Birmingham Women's and Children's Hospital NHS Foundation Trust
Steelhouse Lane
Birmingham
B4 6NH
Tel: 0121 333 9272

University Hospitals of Derby and Burton NHS Foundation Trust – Queen's Hospital, Burton
Belvedere Road
Burton upon Trent
Staffordshire
DE13 0RB
Tel: 01283 566333 ext. 5680

George Eliot Hospital NHS Trust
College Street
Nuneaton
Warwickshire
CV10 7DJ
Tel: 024 7635 1351

University Hospitals of Birmingham NHS Foundation Trust – (3 sites)
Heartlands Hospital
Bordesley Green East
Birmingham
B9 5SS
Tel: 0121 424 7811

Good Hope Hospital
Rectory Road
Sutton Coldfield
Birmingham
B75 7RR
Tel: 0121 424 7811

Solihull Hospital
Lode Lane
Solihull
B91 2JL
Tel: 0121 424 7811

South Warwickshire NHS Foundation Trust
Lakin Road
Warwick
CV34 5BW
Tel: 01926 495 321

The Dudley Group NHS Foundation Trust
Russells Hall Hospital
Pensnett Road
Dudley
West Midlands
DY1 2HQ
Tel: 01384 456111

The Royal Wolverhampton Hospitals NHS Trust
New Cross Hospital
Wolverhampton Road
Wolverhampton
West Midlands
WV10 0QP
Tel: 01902 307999

The Shrewsbury and Telford Hospital NHS Trust- (2 sites)
Royal Shrewsbury Hospital
Mytton Oak Road
Shrewsbury
SY3 8XQ
Tel: 01743 261000

Princess Royal Hospital
Grainger Drive
Apley Castle
Telford
TF1 6TF
Tel 01952 641222

Walsall Healthcare NHS Trust
Walsall Manor Hospital,
Moat Road,
Walsall
WS2 9PS
Tel: 01922 656570

Worcester Acute Hospitals NHS Trust – (3 sites)
Alexandra Hospital
Woodrow Drive
Redditch
B98 7UB
Tel: 01527 503030

Kidderminster Hospital and Treatment Centre
Bewdley Road
Kidderminster
DY11 6RJ
Tel: 01562 823424

Worcestershire Royal Hospital
Charles Hastings Way
Worcester
WR5 1DD
Tel: 01905 763333

Wye Valley NHS Trust
County Hospital
Union Walk
Hereford
HR1 2ER
Tel: 01432 355 444

University Hospitals Coventry and Warwickshire NHS Trust – (2 sites)
University Hospital
Clifford Bridge Road
Coventry
CV2 2DX
Tel: 024 7696 4000

Hospital of St Cross
Barby Road
Rugby
CV22 5PX
Tel: 024 7696 4000

University Hospital of North Midlands NHS Trust (2 sites)
Royal Stoke University Hospital
Newcastle Road
Stoke-on-Trent
ST4 6QG
Tel: 01782 715444

County Hospital
Weston Road
Stafford
ST16 3SA,
Tel: 01785 257 731

Department for Education and Skills
Tel: 0870 000 2288
Website: www.dfes.gov.uk

Department of Health
Tel: 020 7210 4850
Website: www.dh.gov.uk/publications

Diabetes UK
Care Line: 0845 120 2960
Website: www.diabetes.org.uk

References

Australasian Paediatric Endocrine Group for the Department of Health and Ageing (2005) ***Clinical practice guidelines: Type 1 diabetes in children and adolescents.*** National Health and Medical Research Council, Australian Council. www.apeg.org.au

Diabetes UK
http://www.diabetes.org.uk/
Diabetes UK guide to diabetes
http://www.diabetes.org.uk/Children-and-diabetes/
4Ts
http://www.diabetes.org.uk/Get_involved/Campaigning/Our-campaigns/4-Ts-campaign/
Type 1 essentials
http://www.diabetes.org.uk/Get_involved/Campaigning/Our-campaigns/Type-1-essentials/
Make the Grade
www.diabetes.org.uk/schools

Guidance for the Management of Children and Young People with Diabetes in Schools (Dudley Primary Care Trust, 2007)

ISPAD Clinical Practice Consensus Guidelines 2009 Compendium: Paediatric Diabetes;
Vol 10; Supplement 12.
https://www.ispad.org/?page=ISPADClinical

ISPAD Guidelines 2014: Diabetes education in children and adolescents
http://c.ymcdn.com/sites/www.ispad.org/resource/resmgr/Docs/CPCG_2014_CHAP_6.pdf

JDRF Talking T1 Schools Programme
www.jdrf.org.uk/schools

Children and Families Act 2014
http://www.legislation.gov.uk/ukpga/2014/6/contents/enacted

Making Every Young Person with Diabetes Matter. April 2007. Department of Health.
http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_073675.pdf

National Paediatric Diabetes Audit Report 2015-2016 (28th February 2017) HQIP and RCPCH
http://www.rcpch.ac.uk/national-paediatric-diabetes-audit-npda

Position Statement: Caring for Children with Type 1 Diabetes in Nurseries, (Diabetes UK, August 2018)

Ragnar Hanas: Type 1 Diabetes in children, adolescents and young adults: 5th Edition

Diabetes guidelines for schools, colleges & early years settings compiled by Claire Pesterfield and Kate Wilson on behalf of the East of England Paediatric Diabetes Network Diabetes in Schools working Group Sept 2013
Diabetes_guidelines_for_schools_colleges_and_early_years.pdf

Supporting pupils at school with medical conditions (Department of Health, 2015)

Supporting Children and Young People with Type 1 Diabetes in Education
http://www.diabetesinscotland.org.uk/Publications/Paediatric/Supporting%20Children%20and%20Young%20People%20with%20Type1%20Diabetes%20in%20Education_onscreen.pdf

Supporting Children and Young People with Diabetes for Nurses in School and Early Year Settings (Royal College of Nursing, 2013)

Definition and diagnosis of diabetes mellitus and intermediate hyperglycaemia
Report of a WHO/IDF consultation
http://www.who.int/diabetes/publications/diagnosis_diabetes2006/en/index.html

Special Educational Needs and Disability code of practice: 0 – 25 years of age (Department of Education and Department of Health, January 2015)

Acknowledgments

We would like to acknowledge The Dudley Group NHS Foundation Trust who wrote the original document which has been updated to cover the whole of the West Midlands region.

We would also like to acknowledge the following people who were involved in this working group:

Lesley Drummond, Waseema Azam, Louise Collins, Victoria Howard, Deborah McCausland, Raphaella McEwan, Andy Orzechowska, Alison Peasgood, Chris Rumney, Paitra Sparkes, Beckie Wood, Marie Atkins, Sue Ricketts.

Update on working group 2021: Lesley Drummond, Jane Humphries, Debbie McCausland, Paitra Sparkes, Beckie Wood, Jo Elford, Marie Atkins.

Appendix 1: Table 1

<table>
<tr><th colspan="4">Where do you find Carbohydrates?</th></tr>
<tr><th>Sugars</th><th colspan="2">Natural Sugars
These are found naturally in food
Fructose Lactose</th><th>Starches</th></tr>
<tr><td rowspan="2">• All foods containing added sugar (sucrose) are carbohydrate foods
• They include sugar which may be added to food
• Ordinary fizzy drinks, squashes
• Sugary cereals
• Sweets and chocolates
• Honey, jam and marmalades
• Sweetened fruit juice
These raise blood glucose levels rapidly</td><td>• Fresh fruit
• Frozen, tinned or dried fruit</td><td>• Milk
• Milkshakes
• Ice cream
• Yogurts
• Fromage frais</td><td rowspan="2">These carbohydrates have a more complex structure
• Potatoes
• Rice
• Pasta
• Bread
• Breakfast cereals and oats
• All flour products: pizza pastry and baked foods
These often take longer to digest and so are excellent choices as they raise blood glucose levels gradually.
Lentils beans and other pulses*
* not to be used as the main starchy carb at a meal. They also contain protein and will release carbohydrate very slowly.</td></tr>
<tr><td colspan="2">These raise Blood glucose levels gradually. They contain useful nutrients such as vitamins and minerals so are important as part of a balanced diet.</td></tr>
</table>

Appendix 2 ‘Insulin: Carbohydrate Ratio Sheet’

Carbs (g)	Insulin: Carbs Ratio (ICR)							
	1:30	1:20	1:15	1:10	1 ½ :10	2:10	2 ½ :10	3:10
10	½	½	½	1	1½	2	2½	3
20	½	1	1½	2	3	4	5	6
30	1	1½	2	3	4½	6	7½	9
40	1½	2	2½	4	6	8	10	12
50	1½	2½	3½	5	7½	10	12½	15
60	2	3	4	6	9	12	15	18
70	2½	3½	4½	7	10½	14	17½	21
80	2½	4	5½	8	12	16	20	24
90	3	4½	6	9	13½	18	22½	27
100	3½	5	6½	10	15	20	25	30
110	3½	5½	7½	11	16½	22	27½	33
120	4	6	8	12	18	24	30	36
130	4½	6½	8½	13	19½	26	32½	39
140	4½	7	9½	14	21	28	35	42
150	5	7½	10	15	22½	30	37½	45

CHILD NAME………………………STAFF MEMBER……………………………………….

SCHOOL……………………………………………………………………………………….

RECORD OF PRACTICAL KNOWLEDGE AND SUPERVISED PRACTICE

There is no limit to the practical observations and supervised practice that can be undertaken by the trainee with the child's parent/guardian or trained and competent school staff member, but there needs to be sufficient evidence of recorded practice before competencies can be signed off i.e. two to five episodes.

No	Date	Record of Procedure carried out	Names and signatures of designated supervisor
1	*Example* *00/00/00*	*Example identify what procedure has been carried out-* *Blood glucose monitored or Insulin injection or bolus given via pump or hypo treatment given* *Comment on how it was carried out*	**1** *Mrs Jane Smith/ signature*

No	Date	Record of Procedure carried out	Names and signatures of designated supervisor and education support staff member