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ACKNOWLEDGEMENTS

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Anna Dean, Teacher – Mater Hospital Special School
Deb Foskett, Registered Nurse and Credentialled Diabetes Educator – Private Practice Gold Coast
Liz Herbert, Registered Nurse and Credentialled Diabetes Educator – Mater Children’s Hospital
Lisa Hingst, Teacher and parent
Helen Kearney Clinical Nurse Consultant and Credentialled Diabetes Educator – Royal Children’s Hospital
Rebecca Hamon, Registered Nurse and Credentialled Diabetes Educator
Jenny Matthews, Registered Nurse and Credentialled Diabetes Educator
Leah Mertens – Queensland Teachers Union
Cathy Newcombe – QCPCA
Marina Noud, Registered Nurse and Credentialled Diabetes Educator – Mater Children’s Hospital
Meredith O’Connor, Diabetes Liaison Teacher – Mater Hospital Special School
Ros Pay, Registered Nurse and Credentialled Diabetes Educator - Mater Children’s Hospital
Julie Pearson, Registered Nurse and Credentialled Diabetes Educator – Gold Coast Health Service District
Trish Rohl, Clinical Nurse – Education Queensland
Andrea Sanders, Registered Nurse and Credentialled Diabetes Educator – Diabetes Queensland
Karen Shann, Clinical Nurse and Credentialled Diabetes Educator – Royal Brisbane Children’s Hospital
Chris Sheehan, Registered Nurse and Credentialled Diabetes Educator – Gold Coast Health Service District
Department of Education and Children’s Services – Government of South Australia
a) What is diabetes

Diabetes Mellitus (often abbreviated to diabetes) occurs when the body cannot produce enough insulin or when the insulin the body makes does not work properly.

Insulin is a hormone produced in the pancreas. After food is digested, carbohydrates in the food are broken down into glucose which then enters the blood stream. Insulin enables the body to use this glucose for energy by opening the channels to allow the glucose to enter into the cells.

There are two main types of diabetes, and some other rare forms:

Type 1 diabetes

Type 1 diabetes is the type that is most commonly found in children and adolescents.

It occurs because the pancreas loses the ability to make insulin and is a lifelong condition. People with type 1 diabetes need to be given insulin to stay alive. Insulin can only be given by injection or an insulin pump. Management of type 1 diabetes requires a combination of daily insulin doses, regular blood glucose testing, healthy eating and physical activity.

Nothing can be done to prevent type 1 diabetes. Type 1 diabetes is an auto-immune, life-threatening condition caused when the body’s own immune system attacks the insulin-producing cells in the pancreas and destroys them, resulting in no production of insulin.

Type 1 diabetes is NOT a lifestyle-related condition and is not contagious. There is a genetic tendency in the development of type 1 diabetes but the actual cause is unknown. However, research is continuing.

Type 1 diabetes is usually diagnosed in children and young adults but can occur at any age.

Signs and symptoms of type 1 diabetes may occur over a period of days and weeks. They may include excessive thirst, increased urination, mood changes, lethargy and weight loss. Without insulin the condition progresses to a life-threatening state marked by dehydration, high blood glucose levels (hyperglycaemia) and a breakdown of fat leading to a build up of acids (ketones) in the blood (ketoacidosis) leading to coma and death, if not treated.
Type 2 diabetes

Type 2 diabetes is different from type 1 diabetes. People with type 2 diabetes are able to make insulin but when it is released into the blood stream it is unable to work properly. This is known as insulin resistance. The effect leads to high blood glucose levels, known as hyperglycaemia.

Type 2 diabetes is usually diagnosed later in adulthood, but it is now being diagnosed in younger people. Type 2 diabetes is associated with some of the following risk factors:

- being overweight/obese (particularly around the waist)
- a family history of type 2 diabetes
- certain ethnic populations (Melanesian, Polynesian, Chinese or people from the Indian sub-continent)
- Indigenous Australians

Type 2 diabetes requires ‘lifestyle modifications’ such as healthy eating, weight management and physical activity. Treatment may also include tablets and insulin therapy.

b) Managing diabetes in the school environment

Managing diabetes is about maintaining a balance between factors which lower blood glucose levels (BGLs) like insulin and exercise, and those which raise BGLs, such as food and stress hormones.

This is illustrated in the diagram below.
Managing diabetes is all about understanding and learning to make adjustments for these factors. Students with type 1 diabetes must be given the opportunity to participate fully and freely in day-to-day activities. With planning and support, students can participate safely and have a productive and fun time at school. Reasonable adjustments that allow the student to participate in education and training on the same basis as other students must be made. An educational authority must not discriminate by treating the student unfavourably in any way connected to the student’s training or instruction.

To support students with diabetes, teachers may need to:

- make special consideration during exams and tests
- make special considerations when planning sport, excursions, camps and other activities
- allow access to water for drinking (due to increased thirst)
- allow students to eat at additional times in class or during sport to treat low BGLs when in class plus when involved in physical activity
- allow extra toilet access
- provide some individual supervision (eg insulin administration, BGLs and pump management)
- provide special consideration for privacy when testing BGLs and/or injecting insulin (as requested)

Children and adolescents with diabetes are no more likely to be sick than other young people and can generally be expected to do everything their peers do. If a student with diabetes is unwell (eg viral infection) they may need time away from school due to the need for increased blood glucose monitoring and insulin adjustment.

School attendance should not be significantly affected by routine doctor or clinic visits. Routine diabetes management includes third monthly medical reviews. An exception to this may occur around times of peak development periods. Occasionally, a hospital admission may be required for a short period of time. It is uncommon for diabetes to be the cause of significant absenteeism.
Teaching staff training and support

At enrolment or at the time of diagnosis, the parent should discuss their child’s diabetes management and support needs with the Principal or delegated officer. The Principal will then be able to arrange diabetes education for relevant staff members. Training can also be arranged for school staff who volunteer to support students with diabetes.

Ketone testing and glucagon administration are not generally expected of school staff because of a clinical assessment and an interpretation of results are required. However, as risks of each case must be assessed individually, the Principal in collaboration with the student/parent and treatment team will determine if this support is required at school. Consideration must also be given to updates and refresher training.

Individual and emergency health plans

To provide specific support to a student with diabetes, it is essential for the school to have both an Individual and Emergency Health Plan to cater for the student’s specific health requirements at school.

An Individual Health Plan (IHP) provides a daily guideline for the management of a student’s health condition and may contain instructions concerning the routine medication regime while an Emergency Health Plan (EHP) provides step-by-step directions of how to safely manage a predictable medical emergency specific to certain chronic health conditions. It also explains the correct use of emergency (rescue) medication.

Individual and/or emergency health plans must be developed by appropriately qualified health professionals.

The student’s Individual Health Plan and Emergency Health Plan must be reviewed annually or if management changes. If no changes are required then the Health plans are signed off by the parent, appropriate health professional (eg. Diabetes Educator) and school Principal.

If changes are required, new health plans are developed in conjunction with an appropriately qualified health professional and the school Principal.
c) Insulin, delivery devices, access

The only medication used for treating type 1 diabetes is insulin. Insulin can only be given by injection or by an insulin pump. Insulin is necessary to maintain blood glucose levels within an individualised recommended range.

Excessive insulin will cause a drop in blood glucose levels (hypoglycaemia) while insufficient insulin will result in elevated blood glucose levels (hyperglycaemia). Insulin doses must not be missed unless instructed by a Doctor or Diabetes Educator.

Young people with type 1 diabetes are treated each day with one to five insulin injections (usually at mealtimes) or with insulin given continuously by an insulin pump. The dose of insulin is adjusted according to patterns of BGLs. Timing of injections is as important as timing of food.

The dose is determined after consideration of carbohydrate intake and BGL. The treating doctor will prescribe insulin. Parents or adolescents determine daily doses based on support from the treating medical team.

The dose of insulin is adjusted according to patterns of blood glucose levels, carbohydrate intake and exercise. If school staff are involved in administering/supervising insulin the parents are responsible for providing a plan and to inform the school staff of the dose requirements. The student’s Individual Health Plan will reflect this and be signed by the appropriate health professional.

Points to note:

- Students are often on three to four injections per day and may need insulin at school, including before and after school care.
- If a student is self-administering insulin at school, staff may need to arrange a private area for the student to administer their insulin under supervision. For high school students with the maturity, understanding and intelligence to manage their own health condition and make their own decisions, the input of their parents is not required.
- Students using insulin pumps may require supervision/assistance with administering insulin bolus doses.
Insulin storage

- Storage of insulin needs to be considered as part of the risk assessment and in consultation with the school Principal, parent/guardian/carer. It should never be stored in a locked cupboard or safe.
- Insulin ‘in use’ should be stored below 30 degrees and away from direct sunlight and heat sources but not allowed to freeze if placed in a refrigerator.
- Students may store insulin in their cold lunch box or specific insulated pack.

Insulin delivery systems

- Insulin pen device
- Insulin syringe
- Insulin pump

Insulin pen device

Insulin pens offer a convenient and accurate method of administering insulin. These devices are either prefilled (disposable) or reusable. Insulin manufacturers have specific insulin pen devices available for their insulin type.

- insulin pen devices hold a cartridge of insulin
- when using a pen device the person is able to dial up the prescribed dose and self administer the insulin into the subcutaneous fat layer under the skin
- it is important that a new insulin pen needle is used for each injection and that it is removed from the pen device following the injection
- an ‘air shot’ must always be done before dialling up a dose

Please refer to Giving Insulin via an Insulin Pen Device - General Information
Insulin syringes

- may be chosen by some students to administer their insulin.
- are available in a variety of sizes and needle lengths.
- are disposable and designed for single use only.
- should be disposed of in an appropriate sharps container after use.

Insulin pumps

Insulin pumps are an alternative means of delivering insulin for children and adolescents with type 1 diabetes. An insulin pump is an expensive, computerised medical device that continually delivers small amounts of insulin through tubing and a cannula inserted subcutaneously (usually abdomen or buttocks). Students often wear their pump under their clothes, in a pouch hooked to their belt, or in the pockets of their shorts/pants.

HOW AN INSULIN PUMP WORKS

- Insulin pumps can be disconnected for short periods (1-2 hours) during the day for showers, swimming or contact sports.
- The pump needs to be stored in a safe, dry place away from direct sunlight. (A staff member/adult’s pocket is ideal)
- Younger students, who cannot take on the responsibility of delivering insulin boluses without adult supervision, may be able to have their pump pre-programmed to cover meal times at school.
- If pumps are pre-programmed the student must be supervised to eat the carbohydrates provided by the parent.
There is an increasing sophistication in the design and functionality of insulin pumps. Therefore, each pump will vary or be individual to the student.

The insulin pump is programmed to give small background doses of insulin (basal insulin) continuously throughout the day and night, depending on the individual’s needs. Each time the person eats carbohydrate, they activate the pump to deliver a burst of insulin (bolus) to cover the amount of carbohydrate they have eaten. An extra bolus can also be given to treat a high blood glucose level (correction dose). In this way the insulin pump simulates the way that a healthy pancreas would function.

Please refer to Insulin Pumps at School – General Information

d) Blood glucose monitoring

The management of diabetes depends on balancing the effects on blood glucose by:

- carbohydrate food
- physical activity
- insulin

Diabetes management is commonly less stable during infections/illness, emotional stresses and puberty. Target ranges for blood glucose levels should be detailed in the student’s Individual Health Plan. These targets are not the same for every student. Effective diabetes management is not about maintaining an exact number – rather aim to have the blood glucose level within the target range.

Blood glucose monitoring is undertaken by pricking the student’s finger using a device called a lancet to obtain a drop of blood and using a meter to determine the amount of glucose in that blood sample. The blood glucose meter and lancet must not be shared.

It is impossible to determine blood glucose levels by how the student feels or looks.

The target blood glucose level range is individual and will be detailed in the student’s Individual Health Plan.

Blood glucose testing is essential to monitor:

- the effect of food, activity and insulin
- hypoglycaemia and hyperglycaemia
- diabetes management when the student is unwell

Some younger students or students with disabilities are unable to manage blood glucose testing and will require assistance. Single use blood letting devices that prevent needle stick injuries are available for this occasion.
School staff assisting with blood glucose monitoring should use Standard Precautions as a first line approach to preventing infection.

Standard precautions include:

- good hygiene practices, including hand washing
- use of personal protective equipment
- appropriate handling and disposal of sharps and other infectious waste
- appropriate cleaning and disinfection of contaminated items.

Precautions should be adopted for contact with all blood and body fluids. It is recommended that students use lancet devices which minimise the risk of needle stick injuries to staff.

Most students will know how to prick their finger, measure their blood glucose level using their own meter and what action if necessary should be taken. Results outside of target range should be actioned as per the Individual Health Plan. Very young students newly diagnosed or with a disability may need support with aspects of this procedure or require full support by school staff.

Testing blood glucose levels provides an accurate tool to guide decision making on diabetes management. It is important to record the blood glucose level in the student’s logbook/diary or other communication book in place for student.

For information on blood glucose monitoring please refer to Blood Glucose Monitoring at School: General Information

e) Hypoglycaemia (Hypo)

Please refer to the student’s Emergency Health Plan for treatment of hypoglycaemia

Hypoglycaemia (or often called a “hypo”) is a low blood glucose level which occurs when there is not enough glucose in the blood stream for the body to function.

**A HYPO MAY BE CAUSED BY:**

- too much insulin
- the amount of physical activity (in relation to type of carbohydrate timing and insulin doses)
- not enough carbohydrate food
- excitement and stress (mood changes)
- alcohol
- temperature extremes
Each student may experience a hypo at different blood glucose levels. The level will be indicated on the Individual Health Plan as the range can vary between students.

The student’s Individual Health Plan and Emergency Health Plan must be referred to for range and appropriate action/s.

Hypos may occur at any time, but there is a greater chance of this happening prior to a meal or during/after physical activity.

Hypos may be dangerous. The individual symptoms can progress very quickly from mild to severe. Immediate treatment is crucial and must not be delayed.

**Signs of hypoglycaemia (Hypo)**

Mild/moderate
- shaky
- pale
- dizzy
- sweating
- complaining of headache
- feeling hungry
- mood change e.g. becoming tired and withdrawn
- individual expressions of feeling funny

Severe
- extremely drowsy or disorientated
- having a fit or convulsion
- unconscious


If a student is observed experiencing hypo signs or displaying behavioural changes and/or asks to test their blood glucose level, they must be supervised by an adult to test BGL and appropriate action taken.

**Hypo Information to be included in Individual and Emergency Health Plans.**

Management of a hypo should be detailed in the student’s Individual Health Plan and their Emergency Health Plan.
Plans should include:

- the student’s individual hypo signs and symptoms
- food/drink to give to treat hypos
- where the hypo kits (which includes the child’s blood glucose meter plus emergency food provided by the parents) are to be kept
- emergency contact details

If a hypo is managed effectively at school without ambulance support, the parent should be advised and the incident should be documented according to the school’s record keeping procedures as per the agreed plan. This enables the parent to ensure daily management is adjusted accordingly.

**Treatment of hypo**

Mild/moderate hypos can be treated by giving glucose food/drinks by mouth. The parent is responsible for providing and maintaining the student’s preferred hypo kit treatment. A student having a hypo must be supervised until treatment is completed and student is fully recovered. If medical assistance is required, refer to school-based policies and procedures in relation to documentation.

Every student’s specific hypo treatment is different and should be documented in their Individual Health Plan and Emergency Health Plan.

In the event of a mild to moderate hypo, follow the procedure in the student’s Emergency Health Plan, which should include the following:

- the student must not be moved (unless unsafe) and treated where the student is
- give fast-acting glucose food/drink immediately to raise the blood glucose level
- wait 10 to 15 minutes and repeat blood glucose test
- if the level is still not above the specified level, repeat the fast-acting glucose food/drink treatment
- if the blood glucose level has reached the target level, follow up with slow-acting glucose food/drink (examples listed) if required
• if there is still no improvement, call an ambulance. State clearly that the person has diabetes, and whether he or she is conscious
• if unconscious, place student on their side
• maintain airway, breathing and circulation while awaiting the ambulance
• inform emergency contacts as per Emergency Health Plan
• document the event as per school record keeping procedures

Examples of fast-acting glucose food/drink used to treat hypoglycaemia:
• 4 large glucose jellybeans or 7 small glucose jellybeans OR
• Lucozade®* – 80-100mls (1/3 cup) OR
• soft drink (NOT diet) – 150mls OR
• three 5g glucose tablets OR
• fruit juice 125-200ml OR

Examples of slow-acting glucose food/drink used to treat hypos:
• sandwich OR
• 2 plain or sweet biscuits OR
• muesli bar OR
• a piece of fruit OR
• a glass of milk OR
• packet of biscuit mini pack OR
• 200g tub of yoghurt.

Severe hypos
• do NOT give any food/drink via the mouth as the student may choke
• place student in the recovery position (on side)
• phone ambulance – Dial 000 and state diabetes emergency
• if GlucaGen®† injection is available; this may only be given if training has been received for this procedure (in rural or remote locations where ambulance may be delayed)
• inform emergency contacts as per Emergency Health Plan

** Lucozade is a trade mark of the GlaxoSmithKline group of companies
† Registered trademark of Novo Nordisk A/S
Teaching staff are not expected to administer GlucaGen®†. The first emergency response for a student with severe hypo is to dial 000 and state a diabetes emergency. A medically qualified paramedic or ambulance officer will administer a GlucaGen®† injection if required.

In school settings where emergency services are not available within 10 minutes of a student having a severe hypo, such as if the school is in a remote location, school camp or excursion, schools should discuss options for emergency treatment with parents and document the decision made to support the student.

School staff may volunteer to administer GlucaGen®† if a qualified health professional is unavailable. If school staff volunteer to be trained to give GlucaGen®† by an appropriately qualified health professional, regular refresher training will also be required due to infrequency of use and a need to remain proficient.

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f) Hyperglycaemia

Hyperglycaemia (high blood glucose level) is when there is too much glucose in the blood stream. The blood glucose level is usually above 15mmol/L.

High blood glucose levels can be caused by:

- not enough insulin
- eating too much carbohydrate food
- sickness or infection
- stress
- reduced physical routine

Please refer to the student’s Individual Health Plan for treatment of hyperglycaemia.

Signs and symptoms of hyperglycaemia

Mild/moderate

- excessive thirst
- frequent urination
- lethargy
- change in behaviour (usually irritable)
- lack of concentration
- blurry vision
School staff may easily become aware of these symptoms if a student is constantly asking for permission to go to the toilet and to obtain a drink. Staff may also notice the student’s ability to concentrate or to complete tasks has decreased. If this occurs, a blood glucose test should be done and the student’s Individual Health Plan for treating hyperglycaemia followed if required.

Severe

- rapid, laboured breathing
- sweet-smelling breath
- abdominal pain
- vomiting and/or diarrhoea

If the student displays these symptoms, call an ambulance – dial 000 and state it is a diabetes emergency. Contact parent immediately.

Refer to the student’s Individual Health Plan or Emergency Health Plan for the appropriate response for managing an episode of hyperglycaemia. Document the incident according to the school’s record keeping procedures.

g) Sick day management

Occasionally, other illnesses may cause nausea and vomiting. As a result, food may not be absorbed and a low blood glucose level will be experienced. During illness, such as influenza and tonsillitis, the body needs more insulin, and diabetes control becomes less stable for a period of time. Unless treated, not only will blood glucose levels rise, but the body may make ketones and a life-threatening condition called diabetic ketoacidosis (DKA) can develop.

Vomiting is a danger signal. Students with diabetes who are unwell, especially when vomiting, need to be seen by a doctor urgently. If emergency contacts are not available, then a transfer by ambulance to hospital is needed immediately.

Students with diabetes should always be accompanied and supervised by an adult. They should never be sent by themselves to seek first aid assistance or left unattended when feeling unwell, whether from high or low blood glucose levels or for some other reason. Generally, it is safer to send for adult assistance to come to the student. It is not safe practice to send the student with another student to find assistance.
Ketone testing

Ketone testing is a clinical assessment which involves either testing of blood, similar to the blood glucose test or by a urine test.

If the child has had two or more blood glucose levels above 15mmol/L, there is concern the child may not have sufficient insulin available at the time and changes start to occur in the body in response.

This situation is more likely to occur if:

- the child / young person is not well with an intercurrent infection
- the insulin dose is not sufficient or the prescribed dose has deliberately not been given

Managing such a situation requires a level of assessment by an experienced care giver or if that is not possible, by an appropriately qualified Health Professional. It may be the case that extra insulin is required.

Teachers are not expected to become involved in this level of monitoring due to the level of clinical assessment and interpretation of results required.

However if the child is on an insulin pump – please refer to the Individual Health Plan as management varies in each situation.

e) Equipment storage and sharps disposal

Blood glucose monitoring equipment must be within easy access for the student at all times. It must not be locked away in a cupboard or classroom.

Wherever the student goes, so too should the blood glucose meter, hypo kit and Emergency Health Plan. This includes the classroom, the school oval, the playground, class excursions.

It is recommended that additional hypo kit/s should be available for use, if required, in an alternative place eg. School Office.

Sharps disposal

All schools should ensure they have sharps disposal kits made available. The kit should include a sharps container, disposable gloves and a copy of the Guidelines for the disposal of needle/syringe in a sharps container. See the fact sheet for further information Health & Safety Fact Sheet – safe handling at [http://education.qld.gov.au/health/pdfs/healthsafety/usedneedles-factsheet.pdf](http://education.qld.gov.au/health/pdfs/healthsafety/usedneedles-factsheet.pdf)
The Queensland Clean Needle Helpline on 1800 633 353 is available to access information regarding needlestick injury, report incidents of unsafely discarded needles and syringes and to find out where and how used sharps can be safely disposed.

To minimise the risk of the sharp puncturing the container it is best to use one that complies with AS/NZS4261:1994. Schools should dispose of sharps containers via a Queensland health recommended facility or a facility recommended by your local council.
Actions for managing students with type 1 diabetes

Strategies for school staff to support students with type 1 diabetes

a) Sports and Exercise

Students with diabetes should be encouraged to exercise.

Exercise:

• improves fitness and well-being
• encourages a lifelong healthy lifestyle
• builds self-esteem, confidence and teamwork
• improves the action of insulin and helps with the blood glucose control

Exercising muscles uses more glucose for energy. This may cause the blood glucose level to fall either during, immediately after, or, in the case of prolonged or intensive exercise, hours later. If the exercise is intensive and sustained, extra carbohydrates may be needed before the sport. If the sport has been particularly vigorous or lengthy, extra carbohydrates may be needed after the sport as well. This will be detailed in the student’s Individual Health Plan:

Special precautions for exercise

Students with diabetes need additional supervision during exercise. Younger students may need to have meals supervised, especially before exercise.

A student’s Individual Health Plan should detail how staff will ensure food and drink is available to treat low blood glucose levels at physical activity and sporting locations. Uniforms or clothing may need to have a pocket to allow the student to carry hypo foods to treat low blood glucose levels. A ‘bum’ bag is also useful for easy access to their hypo kit. School staff supervising younger students participating in sports activities need to carry a blood glucose monitor, hypo kit and Emergency Health Plan. If the blood glucose meter is not available and the student is demonstrating signs of a hypo then treat as per the plan.

EXERCISE MAY NOT REDUCE HIGH BLOOD GLUCOSE LEVELS, DESPITE A COMMON BELIEF THAT THIS IS THE CASE.

It is not appropriate to ask a child to exercise for the sole purpose of decreasing their blood glucose level.
b) Food guidelines

The foods routinely recommended for diabetes are based on the same healthy eating principles recommended for all people. Families are responsible for providing the school with their student’s specific hypo treatment (glucose food/drink).

Diabetes control is a balancing act between carbohydrate food eaten, exercise and insulin. All these factors affect blood glucose levels. A regular intake of carbohydrate food is essential to avoid hypoglycaemia from occurring. Parents should provide schools with the right type and amount of food and drink needed for their child. If any difficulties are noted with the student’s food, contact the parent or note it in a communication book or blood glucose level diary.

The food plan for diabetes includes the:

Type of food - food containing slowly absorbed carbohydrates must be eaten with every meal.

Timing of meals - most food plans are based on three main meals (breakfast, lunch and dinner) and three snacks (morning, afternoon tea and at bedtime). If the interval between meals and snacks is too long - such as, greater than two hours - a low blood glucose level can occur and an additional snack may need to be eaten. Meal and snack times must not be delayed. These children on insulin pumps and insulin injections at each main meal may be more flexible with meal times.

Quantities of food - the amount of food for each meal is also important and meals should never be skipped. Families are taught to count carbohydrate grams.

Very young students may require extra supervision at meal and snack times to ensure they eat the food provided and not share food with other students. Most students will have a food plan that fits in with regular school routines, avoiding the need to eat regularly in class or at odd times.

The following foods are a source of slowly absorbed carbohydrates which maintain blood glucose levels:

- bread
- fruit
- biscuits and crackers
- ice-cream and yoghurt
- cereals
- potato chips
- muesli bars
- rice
- pasta
- milk
Parties and other events

Students with diabetes are able to join in with special events such as parties and break-ups. Consideration needs to be given to the type of activity, food, monitoring of the diabetes and insulin requirements.

Foods like sandwiches, pizza, popcorn, fruit and ice-cream are all suitable. Small amounts of party foods such as cake, biscuits and lollies may also be suitable for the student to eat. Low-joule diet soft drinks can be provided or brought from home. However, a discussion with the parent prior to the event may assist in planning for the party or event.

c) Camps

Camps enhance self-esteem, are fun, and promote confidence and independence. Students with diabetes can participate fully within a camp program. Usually students attend camp when they are reliably independent in the care of their diabetes. This includes the ability to:

- inject insulin
- attend to blood glucose testing as required
- recognise and treat hypos early
- understand the food plan and carbohydrate serves
- understand the need for meals to be on time
- understand the need for extra food before, during and after exercise.

In preparing for camps, schools follow departmental policies and procedures which take into account procedures for managing students’ medical conditions such as diabetes. A parent/caregiver may be encouraged to attend the camp if the student with diabetes is not fully independent with their diabetes cares.

Most high school students should be able to manage their own care independently, but their age and length of diagnosis still needs to be considered by schools.

Camp organisers require parents to complete and submit a medical form for the camp or excursion. This will include details of the student’s health needs. Parents should meet with the camp organisers prior to the camp to discuss the student’s medical needs, camp activities and possible implications for their child engaging in camp activities and overnight stays.
A detailed plan outlining the student’s medical requirements when attending the camp and engaging in camp activities should be completed by the diabetes educator or medical practitioner of the student. A parent/caregiver may be encouraged to attend the camp if the student with diabetes is less stable or not fully independent with their diabetes care. Given sufficient time, the camp organisers may be able to organise additional supervision.

Importantly, organisers should be mindful of their choice of location in the event of a student requiring health service support. If the location of the camp is not within close distance to a hospital with ambulance transfers available, an attending adult must be trained in how to administer GlucaGen ®†. The school needs to ensure that in the event of a severe hypoglycaemic episode, a student on a camp is able to be treated.

GlucaGen ®† training must be provided by an appropriately qualified health professional to ensure the safety of the student on the camp.

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Planning for camps

Parents and staff need to discuss the care and support plans for the camp including but not limited to:

- food planning
- prevention of hypos
- blood glucose testing including a 2am blood glucose test
- recognising and treating hypos (including GlucaGen ®† training if nearby hospital support unavailable)
- strategies if the person becomes unwell (including the potential for blood or urine ketone testing)
- when to call for help and 24 hour emergency medical access
- storage of medication and emergency medication
- phone access and mobile coverage.

All members of staff should be informed about the Individual Health Plan and Emergency Health Plan. The extra exercise at camps increases the risk of hypos. Insulin dosages are usually reduced, but staff members are not expected to be involved with adjusting doses. Slowly absorbed carbohydrate foods such as breads, cereals, pasta, and potato should be served with every meal and snack time. Meals need to be served at regular times. Additional carbohydrate food, such as, dried fruit, are needed for exercise and must be readily accessible where the exercise is taking place.
Supplies for camping

The student with diabetes needs to make sure he or she has all the required diabetes equipment, hypo foods, and contact details of doctor/hospital and parent. They also need to be able to keep the insulin cool in hot weather if a refrigerator is unavailable. Safe sharps disposal (for syringes, needles and lancets) should also be arranged. Students should have access to hypo foods during the night.

d) Excursions

Students with diabetes can participate fully in an excursion when reasonable adjustments are made. For a child to attend an excursion, a risk assessment form – Variation to School Routine – School Excursion must be completed prior to attending the excursion.


Details which need to be considered include:

- notifying parents early
- timing of meals and details of food provided
- timing of insulin injections and blood glucose tests
- the need to carry an adequate supply of food (sandwiches, dried fruit, muesli bars or biscuits) and water without relying on purchasing food or snacks when needed
- exercise or activities included
- taking a copy of the Individual and Emergency Health Plans
- mobile phone access
- inviting a parent to attend.

e) Exams and tests

Student with diabetes who have stable blood glucose levels have more potential to perform to the best of their ability during exams and tests. When blood glucose levels are unstable the student may have difficulty concentrating and may not perform to their potential. During exams and tests, students may also need more frequent access to toilets.

Students need to be allowed to have access to their food and blood glucose monitoring equipment in case of hypos during an exam or test. Discussions should occur beforehand to determine allocation of additional time if a low blood glucose level has occurred immediately before or during an exam or test. Students should have access to a water bottle to drink fluids throughout the exam. **Special consideration forms for students must be completed ahead of time** which allow for special provisions, special arrangements or variation to student participation during the examination process.
f) Detention/withdrawal from regular classroom

If a student is attending a classroom for detention or withdrawn from their regular classroom, the student must have access to their blood glucose monitoring equipment and hypo kit. The student must also be permitted toilet privileges and able to eat if necessary in the detention/alternate classroom. Supervising teachers must have access to and the time to read the student’s Individual Health Plan and Emergency Health Plan prior to detention.

g) Relief teachers, specialist teachers, non-contact teachers

The Principal needs to inform relevant school staff, including specialist teachers and non-contact teachers, of the requirements of students who have medical conditions and their specific health needs.

When relief teachers are employed during classroom teacher absences, the school Principal will risk assess the situation to:

- determine what school staff have received training in diabetes management and who would be appropriate to manage the class or provide support to the relief teacher
- ensure that medical procedures required to be supervised or performed at school are attended to by a school staff member or relief teacher appropriately trained to do so
- ensure the relief teacher reads and understands the student’s diabetes management as set out in the student’s Individual and Emergency Health Plans
- ensure the relief teacher understands the provisions to ensure that the student’s parents are notified of issues related to that student’s diabetes management as agreed in the student’s Individual and Emergency Health Plans.

h) Playground duty

Staff responsible for playground duty must be provided with adequate information regarding students with diabetes and be provided time to read the student’s Individual Health Plan and Emergency Health Plan so that it is clearly understood what to do in the recognition and management of hypos. Access to communication tools such as a walkie-talkie, mobile phone or whistle is also recommended to notify others of an emergency. The student’s hypo kit and Emergency Health Plan must be made readily available and be easily accessible.
i) Staff continuity

There needs to be consideration given to maintaining adequately trained staff during times of staff changeover. Appropriate training in diabetes management needs to be provided prior to the support staff commencing duties with a new class where a student with diabetes attends.

j) Psychosocial

Diabetes is a diagnosis that has significant impact on the individual student and their family. Students, their parents and their siblings and close friends have to work at establishing routines and treatment. Other people caring for the student need to understand the complexity and responsibilities of diabetes management.

Students with diabetes can be worried about and even avoid managing their diabetes at school because of concern of appearing different to other students. This can in turn lead to problems such as social isolation and refusing to go to school which can be indicative of depression and/or anxiety. It is therefore important to establish a culture of inclusion and to support young people with diabetes so they can participate fully and safely.

Parents must be able to discuss all aspects of routine and emergency care with the school staff and others involved. It is important that communication is open between families and school staff so that management of diabetes is as optimal as possible. Regular communication can work to ensure that all involved have a shared understanding of the student’s Individual Health Plan and Emergency Health Plan and an understanding of the roles and responsibilities of all involved in the care of the student with type 1 diabetes. This can prevent anxiety and concerns for both school staff and families.

In younger students, management of diabetes is harder to achieve due to normal stages of development. The ability to perceive low blood glucose level (hypoglycaemia), eat correct carbohydrate serves and manage varying physical activity levels are difficult aspects to manage for young students. Thus young students need support and guidance in managing the daily tasks of diabetes management. Students with intellectual/other disabilities will need individual assessments as to the type and amount of assistance/supervision required.

Adjustment to diabetes for young people and their families is often an ongoing psychological process. Education and childcare workers can be supportive and mindful of the chronic nature of this condition and the nature of treatment which is continuous and demanding.
Actions for school personnel and parent/guardian

a) Role of the Principal

- Establishes a school climate that:
  - promotes normalisation and inclusion of students with health conditions
  - supports students capable of self-administering medication
  - discourages discrimination against students requiring medication or with a health condition

- ensures relevant training in management of specialised health conditions is provided by appropriately qualified health professionals

- facilitates the development of Individual and Emergency Health Plans for the student in collaboration with the student, parent, Diabetes Educator and school staff

- requires all school activities (including excursions, camps, physical education, swimming, sport and outdoor education) to include a planning component addressing the needs of students requiring medication or management of a health condition. This plan should be addressed within the school’s risk management approach

- ensures each Individual Health Plan and Emergency Health Plan is current (based on information from the parent) and includes required information (provided by medical practitioner or qualified health professional where applicable):
  - telephone numbers for parent/guardian/carer, medical practitioner / qualified health professional and ambulance
  - requirements - medication, dosage, when and how medication is administered
  - triggers, reactions, warning signs and symptoms of a possible emergency
  - instructions on emergency first aid treatment
  - limitations or guidelines for specific activities such as swimming, sport, outdoor education, camps and physical education
  - confirming signature by parent/guardian

- ensures that equipment and consumables, including medication such as a blood glucose monitor and hypo kit to treat a hypoglycaemic event are stored properly and are accessible at all times (ie not locked in cupboard or a room). This includes after hours access if the student attends school-operated before or after-school care or participates in extracurricular activities on the school grounds outside normal school hours

- ensures sharps are disposed of appropriately

- approves the wearing of medical alert jewellery on school grounds or during school activity if requested by parents or the student
• advises staff to the presence of student with diabetes
• ensures Individual and Emergency Health Plans are reviewed annually or when changes in diabetes management occurs
• ensures staff are aware that the student’s personal information remains confidential within the confines of Section 426 of the Education (General Provisions) Act 2006

b) Role of the parent

The parent:
• informs the Principal/year co-ordinator of the school upon enrolment, or if the student is enrolled, as soon as possible after diagnosis, that their child has diabetes
• advises the Principal/year co-ordinator of the student’s need to test blood glucose levels and self-administer insulin in accordance with the student’s ability to manage their health needs
• consults with the school to develop an Individual Health Plan and Emergency Health Plan for the student with diabetes
• consults with the school staff in the development of additional plans for out of school activities (camps, excursions)
• provides a written request for the relevant school staff to administer or assist a student with the administration of a prescribed medication and ensure medication has the original dispensing label with the student’s name and dosage and method of administration information in consultation with the diabetes health team
• provides the equipment and consumables, including medication (for example, blood glucose monitor, hypo kit), and ensures it is not out of date
• replaces the medication when it expires or after it has been used
• provides medical identification jewellery where appropriate and approved
• provides food for hypo treatment
• provides consent to contact the appropriately qualified health professionals about their child’s management
• ensures that they/or nominated emergency contacts are accessible to provide advice/directions in care
c) Role of the classroom teacher and support staff

The classroom teacher:

• reads and becomes familiar with the diabetes guidelines for schools and the student’s Individual Health Plan and Emergency Health Plan
• adheres to the student’s Individual Health Plan and Emergency Health Plan
• completes training in management of a student with diabetes
• recognises the signs and symptoms of hypoglycaemia and acts promptly
• supports the student to access
  - extra toilet privileges
  - drinking water
  - additional foods as appropriate
  - blood glucose testing equipment
  - hypoglycaemia kits
• supervises, when necessary, the student’s self administration of insulin, food consumption, blood glucose testing
• includes the student with diabetes in all school activities
• consults with parents in relation to out of school activities
• reports concerns with the student’s health or diabetes to the parent
• reports and records student BGL results or important information as agreed in the Individual and Emergency Health Plan
e) Education and training – additional support resources

Children and teens - www.diabeteskidsandteens.com.au

This is a website for kids and teens with type 1 diabetes. This website also contains information to assist teachers and staff. The school pack is designed to assist teachers and staff in schools to understand type 1 diabetes and how to manage the student with diabetes in the school setting.

Diabetes Queensland - www.diabetesqld.org.au

Diabetes Queensland is a not-for-profit organisation committed to improving the lives of people with diabetes by providing practical support and education for people with diabetes.

Juvenile Diabetes Research Foundation (JDRF) - www.jdrf.org.au

JDRF is committed to improving the lives of the type 1 community by keeping them informed about the latest developments in type 1 diabetes research and by providing a range of support services.

Sweet – The Diabetes Transition Program - www.sweet.org.au

This program actively engages health professionals and young people with the aim of reducing the ‘drop out’ rate and improving health outcomes in young people with diabetes.
Tools for diabetes management in schools

a) Diabetes Care Plan
b) Emergency Health Plan
c) Individual Health Plan
d) Emergency Health Plan: Insulin Pump
e) Individual Health Plan: Insulin Pump
f) Insulin Pumps at School – General Information
g) Blood Glucose Monitoring at school – General Principles
h) Giving Insulin via an Insulin Pen Device - General Information

Available at www.diabetesqld.org.au/diabetes-school-guidelines
Appendices

Glossary of terms

**Appropriately Qualified Health Professionals**

- Endocrinologist
- Paediatric Endocrinologist
- Paediatrician
- Physician
- General Practitioner
- Registered Nurse – Credentialled Diabetes Educator
- Education Queensland – Registered Nurse

**Basal** – The rate the insulin slowly enters the body via the insulin pump over 24 hours.

**Blood Glucose Level (BGLs)** - The amount of glucose in a given amount of blood.

**Bolus** – The delivery of extra insulin via the insulin pump, when a meal is about to be eaten.

**Cannula** - A cannula is a small tube which can be inserted under the skin, and is connected to a pump for the continuous delivery of insulin. Frequently called a set.

**Carbohydrate** – Foods that contain starches and sugars and are the body’s preferred source of energy. These are the foods that directly affect blood glucose levels.

**Correction Dose** - An extra bolus can also be given to treat a high blood glucose level.

**Diabetes Ketoacidosis (DKA)** – is a life threatening condition caused by lack of insulin. This occurs when the blood glucose and the ketones in the blood are very high and the person becomes very dehydrated often with nausea, vomiting abdominal pain, laboured breathing and unusual smelling breath. DKA is a medical emergency.

**Emergency Health Plan (EHP)** - provides clear step-by-step directions of how to safely manage a predictable medical emergency specific to certain chronic health conditions and the correct use of emergency (rescue) medication.

**Emergency kit (insulin pump)** – a pack containing insulin syringes or pen device and other pump consumables as necessary. To be used in the event of insulin pump emergency.

**Hypo Kit** – a pack containing quick acting and longer acting carbohydrate food for the treatment of hypoglycaemia. The food will be individualised according to the student’s needs as listed in the Individual Health Plan.

**Individual Health Plan (IHP)** - provides a daily guideline for the management of a student’s health condition and may contain some instructions concerning the routine medication regime.
Glucagon – Glucagon is a hormone produced by the pancreas that causes the liver to release glucose from body stores, this raises blood glucose levels. Manufactured glucagon is injected to raise blood glucose levels in a person with severe hypoglycaemia.

Ketones - In diabetes, ketones are produced from fat as an alternate energy source when there is a lack of insulin in the blood stream and the glucose that is present in the blood is unable to be used for energy. Ketones can be detected in both urine and blood.

Parent - Person/s responsible to make health decision for the student. This could be a biological parent, Child Safety Officer, approved carer.

Standard Precautions - Standard precautions are work practices that assume that all blood and body fluids are potentially infectious. Standard precautions should be used as a first-line approach to preventing infection and should be adopted for contact with all blood and body fluids.
Bibliography


Insulin Product Information - Consumer Medicine Information provided by Pharmaceutical Manufacturers.