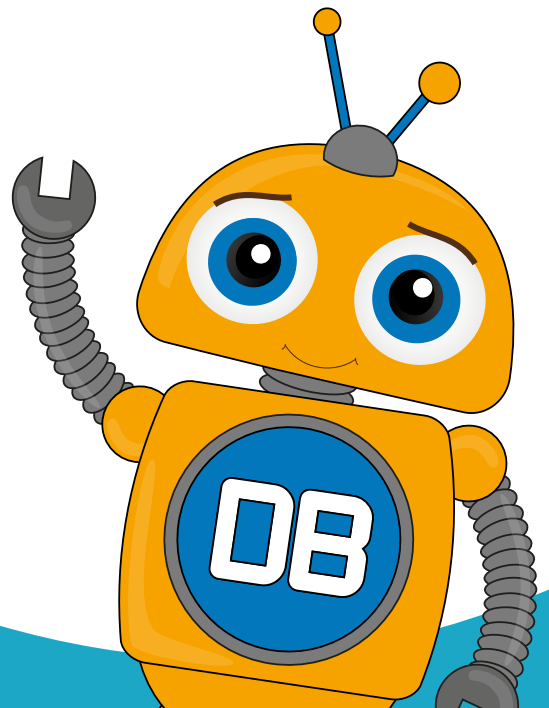


Goals of Diabetes Education

Resources relevant for 12-13 year olds

This handout is designed to explain what you need to know about the management of diabetes. It has been tailored to the educational needs of 12-13 year olds.





DigiBete Structured Education

Goals for 12-13 year olds

HANDOUT FOR YOUNG PEOPLE

General Diabetes Knowledge

You should know about vital organs such as the heart, kidneys and liver. You should also know about your digestive system and the pancreas. You should be able to explain, in your own words, what is type 1 diabetes and the action of insulin.



Food

- You should know which foods and drinks are best to eat for good health and normal growth.
- You should be able to understand food labels for counting carbohydrates and for good health.
- You should feel confident in counting carbohydrates in familiar foods.
- You should understand that the carbohydrates in foods can be slow- or fast-acting (i.e. have a low or high glycaemic index).
- You should be familiar with different forms of food sweeteners if used and be able to recognise names of suitable brands.
- You should know that a frequent intake of less healthy foods or snacks will have a significant impact on body weight and glucose levels.
- Be aware that meal portion sizes should be appropriate for age, size and level of activity
- You should be able to join in and eat with your friends.

Exercise

You should understand that:

- Glucose levels should be checked before exercise. You should know which readings mean that you need to check for ketones and which readings mean you need to eat more carbohydrate before exercising.
- Your target glucose level pre-exercise is 7-10mmol/L.
- If your glucose level is less than 7mmol/L, you should take additional carbohydrate before exercising.
- You should not exercise if blood ketones are above 1.5mmol/L.
- Daily exercise and activity is good for your mental and physical health, for feeling well and for your diabetes management.
- Glucose sensors may help you manage glucose levels more effectively during activity.
- You should do some physical activity for at least 60 minutes a day.
- You should be able to adjust your insulin dose and your food intake to your level of activity.
- You should discuss the importance of checking glucose before, during and after exercise with your parents or carers and your diabetes team.
- You should be aware of any special rules about the use of insulin in competitive sports at regional or national level.



Diabetes Technology

Technology may help you to manage your diabetes more effectively, improving your wellbeing and health. This may include glucose sensors, insulin pumps, smart insulin pens or automated insulin delivery systems. These devices may be used separately or together to allow you to manage your diabetes more easily by providing information allowing regular insulin changes during this rapid growth period.

You and parent(s) should have appropriate and ongoing training and support from healthcare staff to ensure you feel confident in operating or using the technology effectively.

Parents should still support you in setting up and operating the technology.

- You should look after your technology to the best of your ability; devices should be added to home insurance in case of accidental damage or loss.
- You should understand the importance of injection or canula rotation and how to look after skin around sites.



Insulin

Your parents or carers should still continue to supervise your diabetes care.

- You should be able to take your daily insulin on your own.
- You should gradually take over responsibility for changing your insulin doses.

Your insulin doses depend on:

- Your glucose levels.
- Your food intake.
- Your level of activity (e.g. exercise levels).
- You should know how to adjust your insulin or glucose targets before special events such as parties.
- You should have a good understanding of the relationship between food, exercise and insulin (see also Alcohol).
- You should understand that your insulin doses will increase rapidly during growth spurts.
- understand that the timing of your insulin dose before meals can have a significant impact on your glucose levels.

If you use an insulin pump you should:

- Start to learn how to programme your pump with the help of your parents or carers.
- Be able to perform an infusion set change on your own.
- Know how to inject insulin with a pen in the event of a pump failure.

Glucose Monitoring

Glucose monitoring should continue to be a shared responsibility between parents and children.

- You should know the causes and symptoms of both high and low glucose levels.
- You should be able to interpret your glucose levels, recognise patterns and link to lifestyle and weekly events.
- You should be able to read your glucose levels and use these readings to adjust your insulin dose to improve your glucose levels.
- Be responsible for checking, reviewing and responding to data on continuous glucose monitors.
- Understand the significance of arrows on glucose sensors.
- 6-10 blood glucose checks per day is optimal if you do not wear a sensor.
- Enter glucose readings from meters or sensors into pumps or apps for proactive insulin dosing
- Review your own data with a parent and be involved in discussions about potential insulin changes.
- Understand that glucose levels are a tool to assist you with your diabetes management, not just for clinic staff.



Hypoglycaemia or HYPO = Low Glucose Level (3.9mmol/L or less)

You should know the following:

- The causes of low glucose levels.
- How to avoid low glucose levels.
- The symptoms of low glucose levels.
- How to treat low glucose levels.

You can treat your low glucose levels on your own, your parents or carers can help, or the diabetes team can help.

Parents should have an opportunity to revise how to use glucagon annually or access video resources. Expiration dates of stored glucagon should be checked regularly; expired glucagon may not work effectively in an emergency. Some educational facilities may store glucagon on site at a family's request.

Hyperglycaemia or HYPER = High Glucose Level (10mmol/L or more)

You should know the following:

- The causes of high glucose levels.
- How to avoid high glucose levels.
- The symptoms of high glucose levels.
- How to correct high glucose when it occurs.
- The importance of checking for blood ketones.
- Hormones released during puberty cause insulin resistance. Insulin doses will increase frequently during this growth period to help prevent high glucose levels.
- You may develop high glucose levels and ketones within 4 hours if your insulin pump has failed or cannula dislodged.
- Despite wearing a pump, high glucose levels and ketones may require a pen injection to provide effective treatment.

You can treat your high glucose levels on your own, your parents or carers can help, or the diabetes team can help.

Illness

Your parents/carers should know how to adjust insulin to accommodate a fever and understand how to handle episodes of nausea and vomiting, or call the diabetes team for help.

- You should tell an adult if you feel ill.
- If you are unwell, check your glucose levels.
- If you are unwell, check your blood for the presence of ketones, even if your glucose is not out of range.
- You should understand the results of the ketone tests and what actions to take.
- If you are unwell, your parents or carers will look after you.
- You need to eat and drink, even if you don't feel like it.



Menstruation

Around the time of a period glucose levels can change with the increase in hormones. Many girls find that 3-5 days before a period starts glucose levels may rise and then return to normal after a few days. This may be the opposite for some girls.

Girls should:

- Learn how your monthly cycle impacts on glucose levels and recognise any patterns.
- Learn to adjust insulin doses appropriately when using injections or pump.
- Understand the importance of responding to changes in glucose levels and adjusting insulin doses promptly.
- Understand for some girls there is a similar pattern each month and for some each month is different- both are normal.
- Be able to contact and discuss with HCP if support is needed.

Being Away from Home

- You should now be able to manage your diabetes independently when away from parents for a short period of time. If you feel uncertain about this, ask any member of your diabetes team for advice.
- As a precaution, let your teachers know about your diabetes. If you do still need help with certain things, ask.
- If another adult is supervising, such as a sports coach, let them know about your diabetes.
- You should carry some form of identification with you which states that you have diabetes and require insulin. A contact telephone number is also useful. This is because you are more likely to be out of the house with people who do not know about your diabetes.
- Use apps or websites to help with carb counting when eating out.
- Parents may be able to follow continuous glucose readings remotely to help keep you safe.



Social Factors

- There are very few jobs that you cannot do because of your diabetes, but there are some jobs which carry some restrictions for people with type 1 diabetes. You should be aware of these.

Alcohol

Drinking alcohol is definitely not encouraged at this age, however drinking safely is important.

- You should be given practical advice on the special rules that apply when drinking alcohol.
- You should know how different alcoholic drinks affect glucose levels.
- You should know that there is an increased risk of hypoglycaemia after alcohol consumption, including hypoglycaemia while sleeping, particularly after exercise.



Future Health and Routine care

- You should understand that good glucose management is very important for your future health with diabetes.
- You should get your eyes checked every year to make sure there is no damage.
- You should start to understand the relationship between your HbA1c and risk of future complications, and agree your individualised target with your diabetes team and your parents or carers.
- Understand the importance of attending clinic 4 times a year for routine care.
- Regular contact with the diabetes team during times of rapid growth will help you maintain optimal glucose levels and help reduce the risk of long-term complications.
- Know why blood and urine are taken every year at annual review; to check for any early signs of long-term complications or other conditions linked to diabetes.

- You should know the safest way to manage glucose levels after alcohol, depending on your method of diabetes management.
- If using an automated insulin device, consider raising the glucose target overnight or setting activity mode.



Transition

- Your diabetes team should start to discuss how you and your parents/carers will be prepared for transferring your diabetes care from the paediatric clinic to the young adult diabetes services in the future. This process is called transition.
- You may be invited into your appointment alone for a few minutes, before being joined by a parent.



Smoking or vaping

Smoking, vaping or taking drugs can affect your diabetes.

- You should be made aware of the effects that smoking could have on your diabetes and long-term health.
- If you have started smoking you should be offered help to stop.

Emotional Wellbeing

Caring for diabetes can bring significant challenges for young people and their parents. This can be a time of increased family conflict with diabetes cares often adding to this conflict. You may experience low mood or anxiety which may impact on caring for your diabetes. Clinical psychology support is available for both you and parents, recognising the challenges in caring for diabetes and the importance of supporting family wellbeing. Meeting other young people with diabetes, in real life or online, may help share your experience.

- You should have regular opportunities to discuss your thoughts and feelings, including any worries about your diabetes, experiences of bullying or concerns about body image or disordered eating.
- At least once a year, you will be asked questions about your emotional wellbeing to check whether you need any extra support.
- If you need emotional support or help with managing the impact of diabetes on your life, you may be offered the chance to talk to a clinical psychologist if there is one attached to the team.
- You should ask for help from your parents or carers, or your diabetes team, if you start to feel any aspects of your care are becoming overwhelming.
- You should ask for support from your diabetes team if any aspects of your diabetes care are causing major conflict at home or with friends.
- You may be signposted to other mental health support outside the diabetes team.



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