Core Skills Training Guide

Paediatric Diabetes Dietitian (Band 6)

Caring for Children with Type 1 Diabetes

Name of Assesse	
Name of Lead Assessor	
NHS Trust / Health Board	
Date Core skill document Commenced	
Expected date of completion	
Date for review	

Introduction

This core skills training guide has been developed by the Paediatric Sub Group of the Diabetes Specialist Group at the British Dietetic Association.

This guide is intended to support a new or current band 6 Paediatric Diabetes Dietitian, begin to, and then enhance clinical understanding of type 1 diabetes, and work on core skills that are needed to provide a competent, knowledgeable and skill based level of care to service users. This guide can be used to structure learning, streamline core skill development and enhance evidence base for appraisals. Additionally this guide can be used by a dietitian returning to practice, to support a dietitian to enhance a single area of knowledge, or can be used purely as a handbook to develop practice. There is no suggested time-line to complete the guide. The assesse and assessor could collaborate on completion dates.

The guide is divided in to different clinical skill topics and each topic has the following:

- Core Skill Performance Criteria – what it is that you will be required to understand and/or demonstrate?
- Underpinning Knowledge and Evidence – how you have evidenced your learning? (Written work including but not limited to reflection, evaluation of policy or guideline, critique of articles, direct observation, simulation or case scenarios).
- Self –Assessment – have you demonstrated the Core Skill sufficiently?
- Endorsement of Skill – to be agreed with a senior team MDT member. If you are a lone worker, or line manager does not have clinical diabetes knowledge, a member of the Paediatric Diabetes Sub Group can support as a mentor
- Practical training/learning log if required – dates training/learning was observed/completed

In the tables, boxes filled in with grey are not required to be completed.

Agreement:
This Skills booklet is to be used as an addition for learning and development and is not intended to replace local/regional clinical training by senior diabetes dietitians. This booklet is intended as a 'self-directed' programme for guidance of learning and is not validated. By completing this booklet, it does not guarantee 'safe, competent practice' by the assesse.

Signed by Assesse:_____ Signed by Assessor/Senior MDT member:_____ Date:_____

Core skill 1: Demonstrate familiarity with Type 1 diabetes and the clinical guidelines relevant to caring for children and young people (C&YP) with diabetes

			Self-Assessment (initial & date)			Endorsement of Skill	
	Core Skill Performance Criteria	**Underpinning knowledge and evidence**	**Observed/ discussed**	**Performed under supervision**	**Performed with minimum supervision**	**Assessor**	**Date**
1	Demonstrate understanding and familiarity of: • NICE guideline: Diabetes (type 1 and type 2) in children and young people: diagnosis and management (NG18) • NICE guideline: Continuous subcutaneous insulin infusion for the treatment of diabetes mellitus (TA151) • ISPAD Clinical Consensus Guidelines 2018						
2	Understand the diagnostic criteria for type 1 diabetes and what target blood glucose readings should be						
3	Be familiar with symptoms of type 1 diabetes						
4	Understand and be able to explain what glycated haemoglobin (HbA1c) is and what is the recommended target Explain the significance of HbA1c for long term health. Understand that 'Time in Range' or						

	'Time in Target' is an excellent marker of long term blood glucose control and is a user-friendly marker for patients to track at home						
5	Familiarise with the clinical guideline for management of a patient newly diagnosed with type 1 diabetes at your Trust/Health Board Understand that the patient may experience a 'honeymoon' period when the pancreas will still be producing a small amount of insulin. Understand that when a patient comes out of their 'honeymoon' period, insulin requirements could increase quickly						
6	Familiarise with the clinical guideline for management of hyperglycaemia and sick day rules at your Trust/Health Board						
7	Familiarise with the clinical guideline for management of hypoglycaemia at your Trust/Health Board and where to seek emergency treatment in different clinical areas						
8	If applicable, understand the dataset and requirements of • Best Practice Tariff for children's diabetes • NPDA Audit						

	Understand how your Trust collates the relevant data and what your contribution towards data management involves						

Core skill 2: Identify clinical and practical skills required to fulfil the role of paediatric diabetes dietitian

			Self-Assessment (initial & date)			Endorsement of Skill	
	Core Skill Performance Criteria	**Underpinning knowledge and evidence**	**Observed/ discussed**	**Performed under supervision**	**Performed with minimum supervision**	**Assessor**	**Date**
1	Identify and demonstrate the use of standard blood glucose testing equipment (finger lancing device / blood glucose meter)						
2	Be able to change date/time of meters and record blood glucose readings from a meter in a logical format. Be able to locate 7 day blood glucose averages on meters. Understand that 7 day blood glucose average reading can correlate with HbA1c						
3	Familiarise with smart meters (if available) – be able to locate insulin to carbohydrate ratios and insulin sensitivity factors						
4	Familiarise with and demonstrate use of the Libre meter (if available) – understand this is Flash Glucose Technology, not Continuous Glucose Monitoring. (Refer to Core skill 6)						
5	Familiarise with insulin pen devices available and the unit increments each pen delivers. Know suitable injection sites and						

	practise with demonstration equipment if able. Understand injection sites need to be rotated						
6	Familiarise with and be able to explain in detail the action of long acting insulins. Understand that long acting insulin is administered to achieve normal blood glucose control in the fasted state (consider glycogenolysis)						
7	Familiarise with and be able to explain in detail the action of fast acting insulins. • Explain how fast acting insulin works with carbohydrate and describe a meal plan/routine to coincide with this insulin regime • Understand that fast acting insulin is administered pre meal to reduce the post prandial rise in blood glucose readings • Understand that the timing of administration is crucial to achieve good post prandial blood glucose control. Some fast acting insulin brands can be administered 15-30 minutes pre meal						

Learning Log:

	Date Completed
Organise training from insulin and meter company representatives or liaise with internal nursing team for training	

Core skill 3: Identify and understand the role of digestion and absorption of carbohydrate foods in diabetes management

	Core Skill Performance Criteria		Self-Assessment (initial & date)			Endorsement of Skill	
		Underpinning knowledge and evidence	Observed/ discussed	Performed under supervision	Performed with minimum supervision	Assessor	Date
1	Explain that a healthy, balanced diet is encouraged and all food groups should be included daily. Advise that carbohydrate restriction is not required.						
2	Understand digestion and absorption of carbohydrate and understand how this process can impact blood glucose readings. Understand that: - carbohydrate is both starch and sugar and both digest to glucose - glucose passes from the gut into the blood stream - insulin binds to insulin receptors on the cell wall, activating glucose transporters. Glucose can then move from the blood into the cells of the body - different carbohydrate foods are broken down to glucose at different speeds - fibre plays a role in						

	managing blood glucose readings as it can help slow the digestion and absorption of carbohydrate - fat and protein metabolism can also impact blood glucose readings to a lesser extent in some circumstances						
3	Identify and discuss in detail foods and fluids that contain carbohydrate Discuss why some foods that do contain carbohydrate can be eaten without insulin (some vegetables, pulses, nuts for example) due to the high fibre content						
4	Understand and discuss the role of Glycaemic Index (GI) in diabetes management Explain low GI foods are favoured as they have a lower impact on post prandial blood glucose readings however not all low GI foods are a healthy choice (for example chocolate)						
5	Determine what advice your Trust/Health Boards suggests for snacks/supper. Determine if carbohydrate containing snacks/supper can be offered						

	without insulin (this will be a local agreement)						
6	Discuss the inclusion of sweeteners in the diet Explain there might be a delayed glycaemic response with some sweeteners						
7	Adapt recipes to be suitable for a patient with diabetes						
8	Adapt recipes to be suitable for a patient with coeliac disease						
9	Adapt recipes to lower the calorie content						

Core skill 4: **Apply principles of learning, teaching, empowerment and care planning to encourage patients to self-manage their diabetes using structured education**

	Core Skill Performance Criteria		Self-Assessment (initial & date)			Endorsement of Skill	
		Underpinning knowledge and evidence	Observed/ discussed	Performed under supervision	Performed with minimum supervision	Assessor	Date
1	Familiarise with the Diabetes Team goals for HbA1c and blood glucose targets						
2	Familiarise with diabetes education materials available including – healthy eating, snacks, meal routines, general diabetes care						
3	Observe a paediatric diabetes specialist nurse deliver education to a newly diagnosed patient						
4	Observe a specialist paediatric diabetes dietitian deliver education to a newly diagnosed patient, including carbohydrate counting						
5	Deliver a carbohydrate counting session to a newly diagnosed patient • Discuss interpreting a food label and how to work out carbohydrate content from the 100g column and 'per portion' column • Discuss using the Carbs and Cals book or App for estimating						

	carbs and for working out exact carbs with weighing • Discuss importance of weighing and demonstrate how to weigh Understanding: • Assess parent/carer/patient understanding by asking them to re-cap what has been taught • Assess maths ability of parent/carer/patient to ensure safety • Determine suitability of parent/carer/patient to carry out carb counting at home and out of the home Be aware that in order to meet Best practice Tariff, Level 3 carbohydrate counting needs to be completed within 2 weeks of diagnosis (England only)						
6	Understand that an Insulin to Carbohydrate Ratio (ICR) is the amount of fast acting insulin that is required to match a pre-determined amount of carbohydrate. (An acceptable ICR is identified when a two hour post meal blood glucose reading is within 2-3mmol/l or the pre-meal reading).						

	Describe what an Insulin to Carbohydrate ratio is to a patient and convey why ratios are beneficial to manage blood glucose readings Understand that an Insulin Sensitivity Factor (ISF) or Insulin Correction is the amount of fast acting insulin required to reduce a blood glucose by a predetermined number of mmol's. Describe that at each meal or snack time the dose calculation may include both an ICR calculation and an ISF calculation if blood glucoses are above target. *Note: Each Trust/Health Board will differ on how and who within the MDT sets ICR's and ISF's ratios. Familiarise with your local agreement*						
7	Familiarise with reputable online resources for carbohydrate counting for different age groups						
8	Apply working knowledge of the criteria above to facilitate and carry out an effective Annual Review with a patient if applicable (Each Diabetes Service will vary in content of an annual review. Agree these parameters within your MDT)						

Learning Log:

	Date Completed
Read Trust/Health Board Dietetic guideline for newly diagnosed patient with type 1 diabetes – if available	
Read Trust/Heath Board specific Newly Diagnosed Education resource – if available	
Familiarise with carbohydrate counting resources and useful websites	

Core skill 5: Understanding the principles, delivery and treatment of diabetes using continuous subcutaneous insulin infusion therapy (pump therapy)

			Self-Assessment (initial & date)			Endorsement of Skill	
	Core Skill Performance Criteria	**Underpinning knowledge and evidence**	**Observed/ discussed**	**Performed under supervision**	**Performed with minimum supervision**	**Assessor**	**Date**
1	Able to discuss principles of insulin pump therapy and patient eligibility Understand that only fast acting insulin is used in an insulin pump						
2	Familiarise with the insulin pumps offered in your service						
3	Understand how to set and review bolus calculator settings in pumps (use a demo pump): - Locate bolus calculator - Locate Insulin to Carbohydrate ratios - Carry out a bolus - locate last bolus given - locate Insulin Sensitivity Factor - locate blood glucose targets						
4	Understand how to set and review basal rate settings Be familiar with how to set a						

	temporary basal rate and scenarios that would require a temporary basal rate (exercise, illness)						
5	Understand that an insulin pump can deliver boluses in different ways. Familiarise with the different terminology used by different pump companies (dual wave, square wave, extended bolus, superbolus). Describe scenarios when using an advanced bolus is advantageous over a standard bolus (high fat/protein meals, low/high GI meals, parties, takeaways, eating out, cinema, high post prandial peaks)						
6	Familiarise with procedure for management of hypoglycaemia with an insulin pump						
7	Familiarise with procedure for management of high ketones and know who to direct patients to for safe management of high ketones						
8	Observe a paediatric diabetes nurse (or pump company representative) start a patient on an insulin pump						
9	Work with senior MDT colleagues to carry our insulin pump reviews and adjustments (if applicable)						

Learning Log:

	Date Completed
Read Trust/Health Board guideline for use of Continuous subcutaneous insulin infusion therapy (insulin pumps)	
Read ISPAD Clinical Practice Consensus Guidelines 2018: Diabetes Technologies, Chapter 21	
Locate and complete online training packages available from insulin pump companies	
Locate pump therapy and exercise management resources (if available)	

Core Skill 6: **Understanding the principles of and the management of diabetes using Flash Glucose Monitoring and Continuous Glucose Monitoring**

	Core Skill Performance Criteria		Self-Assessment (initial & date)			Endorsement of Skill	
		Underpinning knowledge and evidence	Observed/ discussed	Performed under supervision	Performed with minimum supervision	Assessor	Date
1	Able to discuss principles of Flash Glucose Monitoring (Flash) and Continuous Glucose Monitoring (CGM) Understand that Flash and CGM are measuring interstitial fluid between cells rather than actual blood glucose						
2	Understand that Flash is not 'real-time' but rather a reflection of the blood glucose readings for the last 8 hours Understand that CGM is monitoring and displaying 'real time' blood glucose readings						
3	Have an appreciation of which patients are eligible for Flash or CGM funding (this will vary locally)						
4	Understand and explain that there is a 'lag time' between actual blood glucose readings and sensor glucose readings (this will vary between devices) Understand and explain that these						

	devices show ‘trend arrows’ as to which direction the blood glucoses is moving and that the direction of the arrow can impact on decision making. Understand that CGM and Libre 2 (Flash) have alarms that can be set to alert users when their blood glucose readings are particularly high or low.						
5	Discuss that by using sensor therapy, dietary analysis can help decipher if certain meal types, or meal composition can impact blood glucose readings immediately after eating, or several hours later						
6	Be able to support a patient to download their device in clinic (if applicable) or at home						
7	Be able to locate appropriate reports on the software. Work towards understanding how to review a download and:- - Be able to interpret an Ambulatory Glucose Profile (AGP) • Understand the terminology ‘Coefficient of Variance’, Standard Deviation’ ‘Time in Range’ Average Sensor Glucose’ and use these to evidence suggested						

	changes (with or without MDT)						
8	Use the necessary reports to discuss dietetic considerations including (but not exclusive to): - Are the Insulin to Carbohydrate ratios accurate? - Is the Insulin Sensitivity Factor accurate? - Does the patient experience high post prandial blood glucose readings? If so, how can they adapt insulin / food type to reduce the rise - How has exercise impacted their blood glucose readings? - Do specific meal types cause low blood glucose readings?						
9	Familiarise with the software required to review the data from these devices and support a patient with technology failure issues where appropriate						

Learning Log:

	Date Completed
Liaise with company representative or MDT member to receive training in the devices	
Access the ABCD (DTN-UK) webcasts for Flash Glucose Monitoring and Continuous Glucose Monitoring (these are adult focussed webcasts)	

Core Skill 7: Understanding the management of hypoglycaemia

	Core Skill Performance Criteria		Self-Assessment (initial & date)			Endorsement of Skill	
		Underpinning knowledge and evidence	Observed/ discussed	Performed under supervision	Performed with minimum supervision	Assessor	Date
1	Understand that hypoglycaemia (hypo) is a fall in glucose to a level that could cause a harmful event to a patient. Check local Trust/Health Boards guidance for specific levels requiring treatment. Typically a blood glucose level of ≤3.9mmol/l is the level at which treatment should be initiated to prevent serious hypoglycaemia A blood glucose level <3mmol/l is classed as a clinically important or serious hypoglycaemic event requiring urgent treatment and action should be taken immediately to correct it (fast acting glucose. A review of insulin doses or cause of event should be instigated)						
2	Know that there can be mild, moderate or severe hypoglycaemic episodes.						

	Know that the symptom not the blood glucose reading will dictate the severity of the hypo						
3	Be familiar with typical signs and symptoms of hypoglycaemia - Know that any hypoglycaemic episode should be treated as a medical emergency and action taken immediately - Know the possible causes of a hypo (exercise, too little food, too much insulin, illness)						
4	Familiarise with local Trust/Health Board guidance on how to treat a mild, moderate or severe hypo for both MDI and pump therapy Work with the diabetes MDT to determine suitable oral treatment options for hypoglycaemia						
5	Know where to locate treatment in the clinical area you work in. Know who to contact urgently in the event of a patient requiring treatment with glucagon						
6	Understand that in some instances patients with a low HbA1c may be experiencing high numbers of hypoglycaemic episodes						
7	Understand that some patients may experience hypo unawareness						

	- Be mindful that these patients may be eligible for CGM funding (service dependent)						
8	Consider recommending insulin to carbohydrate ratio adjustments if hypoglycaemia is occurring post meal repeatedly Consider long acting insulin adjustment if hypoglycaemia is occurring overnight or each morning repeatedly						
9	Understand that alcohol consumption can impact the liver's ability to produce sugar and can in some circumstances cause nocturnal hypoglycaemia (see Core Skill 9)						

Learning Log:

	Date Completed
Read Trust/Health Board guideline for the management of hypoglycaemia	
Read ISPAD Clinical Practice Consensus Guidelines 2018: Assessment and management of hypoglycaemia in children and adolescents with diabetes, Chapter 12	

Core Skill 8: **Understand the management of type 1 diabetes in children and young people who are engaging in sport or exercise**

			Self-Assessment (initial & date)			Endorsement of Skill	
	Core Skill Performance Criteria	**Underpinning knowledge and evidence**	**Observed/ discussed**	**Performed under supervision**	**Performed with minimum supervision**	**Assessor**	**Date**
1	Understand that exercise and activity is critical for the health and well-being of children with type 1 diabetes						
2	Ensure recommended advice is reflective of current government guidelines for the amount of activity a child should be doing per day						
3	Understand that exercise can have varying impacts on blood glucose readings. Understand the differences between aerobic and anaerobic exercise and the effects they may have on blood glucose readings						
4	Advise that both insulin adjustment and carbohydrate consumption may be required to stabilise blood glucose readings during exercise						
5	Advise that the impact on blood glucose readings of competitive sport may vary from training and therefore different management						

	strategies could be needed Advise that adrenaline can cause high blood glucose readings but this often fades once the exercise has finished						
6	Know that exercise can cause hypoglycaemia during the session, immediately after or several hours afterwards therefore frequent blood glucose testing is advised, especially overnight.						

Learning Log:

	Date Completed
Read Trust/Health Board guideline for the management of type 1 diabetes and exercise (if available)	
Read ISPAD Clinical Practice Consensus Guidelines 2018: Exercise in children and adolescents with diabetes, Chapter 14	
Access the Moving Medicines Consultation Guides. Select 'Young Person' or 'Child' with diabetes https://movingmedicine.ac.uk/ Accessed 12.01.2021	
Read ISPAD Guidelines: Glucose management for exercise using continuous glucose monitoring (CGM) and intermittently scanned CGM (isCGM) systems in type 1 diabetes: position statement of the European Association for the Study of Diabetes (EASD) and of the International Society for Pediatric and Adolescent Diabetes (ISPAD) endorsed by JDRF and supported by the American Diabetes Association (ADA). Available online at https://onlinelibrary.wiley.com/doi/full/10.1111/pedi.13105 Accessed 12.01.2021	

Core Skill 9: Transition care of adolescents with diabetes

			Self-Assessment (initial & date)			Endorsement of Skill	
	Core Skill Performance Criteria	**Underpinning knowledge and evidence**	**Observed/ discussed**	**Performed under supervision**	**Performed with minimum supervision**	**Assessor**	**Date**
1	Understand the needs of a young person transitioning to the adult service and consider suitable communication methods with these patients						
2	Understand the differences between standard diabetes clinic and transition clinic (if the service has separate clinics) and explain this to a patient						
3	Have awareness of medical ID options available to young people with diabetes						
3	Advise of the risks of consuming alcohol. Clearly explain that alcohol reduces the production of sugar from the liver and contributes to the risk of nocturnal hypoglycaemia. Advise that small amounts of alcohol can be enjoyed when age appropriate, but large volumes of alcohol are not recommended in one sitting.						

	In addition: • Ensure the young person knows to have carbohydrate containing food prior to going to bed (this could be without insulin – familiarise with local Trust/Health Board guidance) • Ensure the young person knows to alternate alcoholic drinks with soft drinks • Ensure the young person knows that the signs of being intoxicated with alcohol can be similar to symptoms of hypoglycaemia and these can be masked by alcohol consumption • Ensure the young person knows that some alcoholic drinks have a high sugar content and should be limited • Ensure the young person knows to tell a reliable adult where and when they intent to be consuming alcohol and that each person has appropriate contact details						

4	Consider how different experiences in adolescence could impact on diabetes management. For example driving, sex, pregnancy, drugs, moving out of the home, university, relationships and work.						

Core Skill 10: **Understand, appreciate and enhance knowledge of coeliac disease and the impact on a patient with type 1 diabetes**

			Self-Assessment (initial & date)			Endorsement of Skill	
	Core Skill Performance Criteria	**Underpinning knowledge and evidence**	**Observed/ discussed**	**Performed under supervision**	**Performed with minimum supervision**	**Assessor**	**Date**
1	Define the diagnosis of coeliac disease						
2	Identify the treatment of coeliac disease						
3	Deliver gluten free advice to a patient newly diagnosed with coeliac disease						
4	Discuss and consider the implications of coeliac disease on the management of type 1 diabetes						
5	Familiarise with catering toolkits and advice for schools provided by coeliac UK						
6	Familiarise with the pathway of care for a patient diagnosed with coeliac disease. Establish which service providers are responsible for the on-going management of their coeliac care (Is their coeliac care delivered by the gastroenterology service or the diabetes service)						

Core Skill 11: **Appreciating the psychological and therapeutic play aspect of diabetes care (*if available).* Consider the role of the Safeguarding Team**

			Self-Assessment (initial & date)			Endorsement of Skill	
	Core Skill performance Criteria	**Underpinning knowledge and evidence**	**Observed/ discussed**	**Performed under supervision**	**Performed with minimum supervision**	**Assessor**	**Date**
1	Spend a brief amount of time with the psychology team to appreciate their role within the diabetes team.						
2	Understand what aspects of a young persons' life may be impacted by diabetes, and understand how they can benefit from psychology support. Familiarise with referral procedure						
3	Spend a brief amount of time with the play therapist to appreciate their role within the diabetes team. Familiarise with referral procedure						
4	Spend a brief amount of time with the youth worker to appreciate their role within the diabetes team. Familiarise with referral procedure						
5	Know how to access the Trust/Health Board Safeguarding team and know what constitutes a referral to Safeguarding. Familiarise with referral procedure						

Core Skill 12: Develop, deliver and lead on a group or one to one cooking education session. (*This service may not be available in all Trusts/Health Boards)*

	Core Skill Performance Criteria		Self-Assessment (initial & date)			Endorsement of Skill	
		Underpinning knowledge and evidence	Observed/ discussed	Performed under supervision	Performed with minimum supervision	Assessor	Date
1	Assist in the organisation of a cooking session. Identify requirements for a cooking session, familiarise with facilities and equipment available						
2	Assist in the delivery of a cooking session						
3	Assist in the evaluation of a cooking session						
4	Ensure the cooking session has a theme, robust resources, uses seasonal produce and that specific outcomes are identified						
5	Familiarise with cost-effective food producers and supermarkets						
6	Demonstrate sufficient completion and submission of a risk assessment for cooking session. Identify the Trust Risk Lead and ensure risk assessment is submitted in advance						
7	Check that necessary staff have Food Hygiene Certificates to be able to deliver a cooking session						

Core Skill 13: Additional skills (*may or may not be applicable*)

	Core Skill Performance Criteria		Self-Assessment (initial & date)			Endorsement of Skill	
		Underpinning knowledge and evidence	Observed/ discussed	Performed under supervision	Performed with minimum supervision	Assessor	Date
1	Attend/contact a school and liaise with the catering team to carbohydrate count a menu						
2	Consider the implications of carbohydrate counting for a school and how the school can be supported to implement carbohydrate counting						
3	Use photographs of foods to help improve understanding of portion size and carbohydrate content						
5	Spend some time with the ward hostesses/catering teams to understand their role and provision of meals/snacks on the ward						
6	Be able to offer appropriate advice for patients wanting to fast for religious reasons. Consider adjustments to insulin to carbohydrate ratios for those who will be having most of their carbohydrate intake overnight						
7	Be able to offer appropriate advice for meal scenarios including feasting, buffets, parties, cinema/theatre trips, eating out						

Identification of additional training needs and actions taken (to be used as necessary)

Training need identified	Date identified	Action taken	Date completed