Ashford and St. Peter's Hospitals
NHS Foundation Trust

Paediatric Diabetes Department

Newly Diagnosed Child or Young Person with Type 2 Diabetes Mellitus

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Guideline History		
Date	**Comments**	**Approved By**
May 2024	New Guideline	Paediatric Guideline Group

Contents

Page

1. Guideline

a. Introduction 3

b. Responsibilities of the Ward doctors 3

c. Responsibilities of the Paediatric Diabetes Specialist Nurses (PDSN) 4

2. Supporting References 4

3. Supporting Trust Guidelines 4-5

4. Guideline Governance 5

a. Scope 5

b. Purpose 5

c. Duties and Responsibilities 5

d. Approval and Ratification 5

e. Dissemination and Implementation 5

f. Review and Revision Arrangements 6

g. Equality Impact Assessment 7

h. Document Checklist 8

5. Appendices

1. Newly Diagnosed Child or Young Person with Type 2 Diabetes Mellitus

Introduction

Type 2 diabetes (T2DM) is increasingly prevalent in children and young people (CYP). T2DM in young people is an aggressive disorder with increased risk of complications leading to increased morbidity and mortality during most productive years of life.

Symptomatic

If a diagnosis is suspected based on clinical symptoms (including polyuria, polydipsia and unexplained weight loss) then a point of care random blood glucose must be performed on the **same day**.

When diagnosing diabetes in a child or young person, assume type 1 diabetes unless there are strong indications of type 2 diabetes. Please refer to the following guidelines on the intranet if Type 1 diabetes suspected;

Guidelines for the Newly Diagnosed Child or Young Person with Diabetes

BSPED Guideline for the Management of Children and Young People under the age of 18 years with Diabetic Ketoacidosis

Asymptomatic

Asymptomatic screening is recommended if there is a high BMI (>85th centile) and 1 or more of the following:

- First or second degree family history of type 2 diabetes
- High risk race/ethnicity (Black African, African Carribean and South Asian)
- Insulin resistance (as evidenced by acanthosis nigricans)
- Gestational diabetes

In the absence of symptoms, testing should be confirmed with a repeat test on a **different day**

Diagnosis of diabetes

- HbA1c >48 mmol/mol (6.5%)
- Fasting plasma glucose > 7.0 mmol/L
- Symptoms of diabetes (including polyuria, polydipsia and unexplained weight loss) and a random plasma glucose >11.1
- Post OGTT 2 hour plasma glucose >11.1 mmol/L with 1.75g/kg (max 75g) anhydrous glucose dissolved in water

If you receive a phone call from a GP and the above criteria is met, the patient should be seen in A&E the same day for review and likely admission.

Discuss with Diabetes Team for plan regarding admission

Responsibilities of A&E/Ward doctors - Admission Investigations

- Weight, height, BMI, BP
- Baseline bloods – (fasting 8-12 hours) FBC, U&Es, LFT, bone profile, HbA1c, lipid profile, insulin, glucose
- Diabetes autoantibodies (ICA, GAD, IA2 and ZnT8)
  (Request on cerner; Islet Cell Ab Screen, Glutamic Acid decarboxylase Ab level, Tyrosine phosphate related IA-2 Ab, Zinc transporter 8 Ab)
- Liver USS
- Early morning albumin creatinine ratio

HbA1c at diagnosis **>69.4mmol/L (8.5%)**

HbA1c at diagnosis **<69.4mmol/L (8.5%)** and metabolically stable at diagnosis

Start long acting basal insulin at 0.25-0.5 units/kg/day
Escalate to a maximum of 1.5units/kg/day
Metformin can be commenced at the same time as long as acidosis is not present

Metformin monotherapy should be commenced:

Child 8-9 years – initially 200-250mg OD

Child 10-17 years – initially 500mg OD

Dose to be adjusted according to response at intervals of at least 1 week, maximum daily dose 2g in 2-3 divided doses

Once glycaemia control achieved (HbA1c <48mmol/L 6.5%)

Basal insulin can be tapered over 2-6 weeks by decreasing the insulin dose by 10-30% each time the metformin is titrated up

Failure to obtain target HbA1c <48mmol/mol in 4 months

Baseline blood tests – pancreatic amylase and lipase

Repeated in first clinic review after starting treatment and then annually

Consider GLP1 Agonist

If GLP1 agonist is not tolerated addition of basal insulin therapy to Metformin is the only subsequent treatment option

Discharge and Follow up arrangements

All patients should be taught self-monitoring of blood glucose and have the necessary equipment provided:

- Simple blood glucose meter
- Testing strips
- Blood sugar diary

Frequency of testing will be individualised based on medical therapy

Aiming for Fasting and pre-prandial levels 3-7mmol/L (3.9-7mmol/L if on insulin) and post prandial <10mmol/L

Referral to dietician via cerner

Lifestyle interventions

- Weight loss
- Dietary modifications
- Physical activity

Refer to Be Your Best – self referral or medical referral

The following needs to be prescribed and obtained from pharmacy:
Medication as per flow chart –

- Metformin
- Insulin
- GLP1 agonist

The following will be supplied by the Paediatric Diabetes Specialist Nurses (PDSN):

- Monitor test strips
- Lancets

On discharge:
Upon discharge, a discharge letter must be sent to the GP with diagnosis and medication prescribed. This will be completed by the Paediatric Doctors present on the ward.

Out-patient follow-up arrangements:

HbA1c should be measured every 3 months

BP should be measured at every clinic appointment – at least 4 times a year

Lipid testing should be performed when initial glycaemic control has been achieved or after 3 months of treatment, and annually thereafter

Initially screening for NAFLD with liver ultrasound and ALT at diagnosis. ALT should be undertaken annually and US should be repeated every 3 years if initial scan normal

Diabetic retinopathy screening should start from the age of 12 and annually thereafter

Monitoring for albuminuria should commence at the time of diagnosis and annually thereafter by using the early morning spot urine for albumin to creatinine ratio

Responsibilities of the Paediatric Diabetes Specialist Nurses (PDSN)

The child or young person and their parent/carer will be given the following information by the PDSN -

Type 2 Diabetes:

1. Individualised Discharge Plan covering:
    a. Doses of insulin (if applicable)
    b. Checking blood sugar levels
    c. Ketones
    d. Emotional wellbeing
    e. Contact with the Diabetes Team
    f. Key Worker name and contact details
2. What to take home with you covering:
    a. an A-Z guide of what you will take home with you.
3. Children & Young Person's Diabetes Service patient leaflet
4. How to give an Insulin injection (if applicable)
5. Sick Day Rules patient leaflet (if applicable)

2. Supporting References

1) ACDC Clinical Guideline A Practical Approach to Management of Type 2 diabetes in Children and Young People (CYP) under 18 years Feb 2023

2) Definition and diagnosis of diabetes mellitus and intermediate hyperglycemia, WHO 2006

3) Diabetes (type 1 and 2) in children and young people: diagnosis and management, NICE NG18, August 2015, Last updated: 16 December 2020

https://www.nice.org.uk/guidance/ng18

3. Supporting relevant trust guidelines

Guidelines for the management of Hypoglycaemia in Children and Young People with Type 1 Diabetes Mellitus

Guidelines for Sick Day Rules

4. Guideline Governance

a. Scope

This guideline is relevant to all staff caring for all children from 0-18 years old across the emergency department, inpatient ward and outpatient department.

b. Purpose

i. This guidelines aims to facilitate a common approach to the management of children. At times deviation from the guideline may be necessary, this should be documented and is the responsibility of the attending consultant.

ii. This guideline is subject to regular review to ensure ongoing evidence based practice.

c. Duties and Responsibilities

All healthcare professionals responsible for the care of all children 0-18years should be aware of practice according to this guideline.

d. Approval and Ratification

This guideline will be approved and ratified by the Paediatric Guidelines Group.

e. Dissemination and Implementation

i. This guideline will be uploaded to the trust intranet 'Paediatric Guidelines' page and thus available for common use.
ii. This guideline will be shared as part of ongoing education within the Paediatric Department for both medical and nursing staff.
iii. All members of staff are invited to attend and give comments on the guideline as part of the ratification process.

f. Review and Revision Arrangements

a. This policy will be reviewed on a 3 yearly basis by the appropriate persons.
b. If new information comes to light prior to the review date, an earlier review will be prompted.
c. Amendments to the document shall be clearly marked on the document control sheet and the updated version uploaded to the intranet. Minor amendments will be ratified through the Paediatric Guidelines Group. A minor amendment would consist of no major change in process, and includes but is not limited to, amendments to documents within the appendices.

g. Equality Impact Assessment

Background • Who was involved in the Equality Impact Assessment
Author and the supervising consultants.
Methodology • A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age) • The data sources and any other information used • The consultation that was carried out (who, why and how?)
All groups of staff and patients were taken into consideration and there is no bias towards or against any particular group.
Key Findings • Describe the results of the assessment • Identify if there is adverse or a potentially adverse impacts for any equalities groups
There is no evidence of discrimination.
Conclusion • Provide a summary of the overall conclusions
There is no evidence of discrimination.
Recommendations • State recommended changes to the proposed policy as a result of the impact assessment • Where it has not been possible to amend the policy, provide the detail of any actions that have been identified • Describe the plans for reviewing the assessment
This guideline is appropriate for use.

Document Checklist

To be completed (electronically) and attached to any document which guides practice when submitted to the appropriate committee for approval or ratification.

Title of the document: Newly Diagnosed Child or Young Person with Type 2 Diabetes Mellitus

Policy (document) Author: Dr Felicity Poulter

Executive Director: N/A

		Yes/No/ Unsure/NA	Comments
1.	**Title**		
	Is the title clear and unambiguous?	**Y**	
	Is it clear whether the document is a guideline, policy, protocol or standard?	**Y**	
2.	**Scope/Purpose**		
	Is the target population clear and unambiguous?	**Y**	
	Is the purpose of the document clear?	**Y**	
	Are the intended outcomes described?	**Y**	
	Are the statements clear and unambiguous?	**Y**	
3.	**Development Process**		
	Is there evidence of engagement with stakeholders and users?	**Y**	
	Who was engaged in a review of the document (list committees/ individuals)?		**Paediatric Guideline committee, diabetes department**

		Yes/No/ Unsure/NA	Comments
	Has the policy template been followed (i.e. is the format correct)?	**Y**	
4.	**Evidence Base**		
	Is the type of evidence to support the document identified explicitly?	**Y**	
	Are local/organisational supporting documents referenced?	**Y**	
5.	**Approval**		
	Does the document identify which committee/group will approve/ratify it?	**Y**	
	If appropriate, have the joint human resources/staff side committee (or equivalent) approved the document?	**N/A**	
6.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	**Y**	
	Does the plan include the necessary training/support to ensure compliance?	**Y**	
7.	**Process for Monitoring Compliance**		
	Are there measurable standards or KPIs to support monitoring compliance of the document?	**Y**	
8.	**Review Date**		
	Is the review date identified and is this acceptable?	**Y**	**June 2027**

		Yes/No/ Unsure/NA	Comments
9.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for coordinating the dissemination, implementation and review of the documentation?	**Y**	
10.	**Equality Impact Assessment (EIA)**		
	Has a suitable EIA been completed?	**Y**	

Committee Approval (Paediatric Guidelines Group)			
If the committee is happy to approve this document, please complete the section below, date it and return it to the Policy (document) Owner			
Name of Chair	**Dr Alexandra Jones**	**Date**	**17/7/2024**
Ratification by Management Executive (if appropriate)			
If the Management Executive is happy to ratify this document, please complete the date of ratification below and advise the Policy (document) Owner			
Date:			