 <p>National Policy <input type="checkbox"/> National Procedure <input type="checkbox"/> National Protocol <input type="checkbox"/> National Guideline <input type="checkbox"/> National Clinical Guideline <input checked="" type="checkbox"/></p> <p>Management of Paediatric Type 1 Diabetes Patient with a HbA1c greater than 75mmol per mol</p>			
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¹ Records the senior management roles involved in the governance and development of the document.

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VERSION CONTROL UPDATE ³

Version No. (most recent version first)	Date reviewed (most recent date first)	Comments (1 sentence max, if required)
1	January 2025	Change of title- original title Management of Paediatric Type 1 Diabetes Patient with a HbA1c > 9% (75mmol/mol)
1	January 2025	Background and Introduction- edited to read ' ISPAD recommends a target HbA1c of 53mmol/mol (7.0%) or less in those with access to comprehensive care'
1	January 2025	Addition of CGM Metrics in Table 1 page 6
1	January 2025	Visit 2 (pg. 8) Removal of statement ' Consider a simplified BD premixed insulin regimen if not managing more complex MDI regime'
0	March 2019	Original guideline published-CSP004/2019

Additional notes:

PUBLICATION INFORMATION ⁴

Topic:

Management of Paediatric Type 1 Diabetes Patient with a HbA1c greater than 75mmol per mol

National Group:

National Clinical Programme for Paediatrics and Neonatology

Short summary:

The aim of this guideline is to provide clear and standardised guidelines for all staff caring for (and advising care givers of) children and young people with very sub optimal type 1 diabetes control: HbA1c > 75mmol/mol (9%).

Description:

Optimal glycaemic control has been unequivocally shown to reduce the risk of microvascular complications in individuals with Type 1 Diabetes. Currently ISPAD recommends a target HbA1c of 53mmol/mol (7.0%) or less in those with access to comprehensive care. With the advent of newer technologies, both in the areas of continuous glucose monitoring and insulin delivery, achieving these targets is possible. However there are still some children in whom it is difficult to achieve optimal glycaemic control.

³Records details when a document is reviewed, even if no changes are made.

⁴Records the document information required for publication on the HSE National Central Repository.



NATIONAL CLINICAL GUIDELINE

TITLE:

Clinical Design and Innovation Health Service Executive

Management of Paediatric Type 1 Diabetes Patient with a HbA1c > 75mmol/mol (9%)

Developed by:	NCPN Paediatric Diabetes Working Group	Publication date V0 :	March 2019
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Aim of Guideline

The aim of this guideline is to provide clear and standardised guidelines for all staff caring for (and advising care givers of) children and young people with very sub optimal type 1 diabetes control: HbA1c > 75mmol/mol (9%).

Purpose and Scope

- a. The purpose of this guideline is to improve the management of Paediatric Type 1 patients with a HbA1c > 75mmol/mol (9%)
- b. These guidelines are intended for healthcare professionals, particularly those in training, who are working in HSE-funded paediatric and neonatal services
- c. They are designed to guide clinical judgement but not replace it. In individual cases a healthcare professional may, after careful consideration, decide not to follow a guideline if it is deemed to be in the best interests of the child or neonate.

Background and Introduction

Optimal glycaemic control has been unequivocally shown to reduce the risk of microvascular complications in individuals with Type 1 Diabetes^{1, 2}. Currently ISPAD recommends a target HbA1c of 53mmol/mol (7.0%) or less in those with access to comprehensive care³. With the advent of newer technologies, both in the areas of continuous glucose monitoring and insulin delivery, achieving these targets is possible. However there are still some children in whom it is difficult to achieve optimal glycaemic control. Suggested targets for Irish children are outlined in **Table 1**.

Table 1 Targets for children with Type 1 Diabetes

Target	
HbA1c	<7% (53mmol/mol)
CGM metrics	> 13.9 mmol/L < 5%
	> 10 mmol/L < 25%
	3.9 – 10 mmol/L > 70%
	< 3.9 mmol/L < 4%
	< 3.0 mmol/L < 1%
Fasting glucose	4-8 mmol/L
Post-prandial glucose	4-10 mmol/L
Glucose checks per day (SMBG)	minimum 6

Legislation/Other Related Policies

Model of Care for All Children and Young People with Type 1 Diabetes

<https://www.hse.ie/eng/about/who/cspd/ncps/paediatrics-neonatology/paediatric-diabetes/>

Glossary of Terms and Definitions

T1D	Type 1 Diabetes
CGM	Continuous Glucose Monitoring
HbA1c	Haemoglobin A1c
SMBG	Self-monitoring of blood glucose
SW	Social Work
CNS	Clinical Nurse Specialist
CAMHS	Child and Adolescent Mental Health Services

Roles and Responsibilities

This guideline should be reviewed by each acute hospital senior management team to appropriately plan implementation. This facilitates best practice and standardises the care provided to children in Ireland. This will ensure that the care of children/neonates who attend their facility is optimised irrespective of location.

Clinical Guideline

Self-Care

The aim of paediatric diabetes services is to incrementally empower patients and families to optimise self-care. Self-Care is promoted through the provision of standardised care for all children, adolescents and their families. This is facilitated through contact with the members of the diabetes multi-disciplinary team and is individualised to the child or adolescent needs.

Table 2. Standard Paediatric Diabetes Care for all children, adolescents and their families

CONTACT	PURPOSE
Clinic Visit Frequency: Three monthly visits.	<ul style="list-style-type: none"> • Offer advice, support, encouragement and counselling as required to incrementally increase self-care skills • Review and adjust current diabetes management aiming to adjust insulin regimen and monitoring to optimize glycaemic control • Measurements of HbA1c, auxology, and assessment of injection/infusion sites. • Review hypoglycaemia awareness and review glycaemic data (SMBG, CGM or pump data) and offer dose titration advice. • Annual review for complications and co-morbidity screening. • Ensure linked to Diabetic Retinascreen (age\geq12 years).
Telephone contact or visit with CNS	<ul style="list-style-type: none"> • Offer support and encouragement, answer queries that arise between visits and incrementally build on existing knowledge. • Enable formal education and updates on new methods of monitoring or treating diabetes. • Follow up any changes made from clinic.
Dietician	<ul style="list-style-type: none"> • Advise on healthy eating and carbohydrate counting (incrementally) • Advise on dose adjustment for multiple daily regimens or insulin pump therapy • Advise on exercise adjustments • Tailored advice as required (coeliac disease, high cholesterol etc.)

Social Worker	<ul style="list-style-type: none"> • Offer support in coping with the burden of diabetes • Offer information on accessing support groups for parents, adolescent, child or siblings and on entitlements • Offer additional support where child/family are struggling with diabetes burden
Psychology	<ul style="list-style-type: none"> • Offer emotional and behavioural support for parent, child and adolescent • Where Psychology is unavailable to the team, each service needs to identify pathway to psychological support/mental health services locally depending on issue identified (Jigsaw (age 12-25 years), primary care, CAMHS, Tusla)

Sub Optimal Control

The level of support offered to families' is individualised to their needs. When glycaemic control is suboptimal, additional support is required to optimise control. (**See Appendix 1**)

First occasion: HbA1c is very sub optimal > 75 mmol/mol (9%). Assess if any obvious cause:

- ✓ Review injection sites & technique
- ✓ Review insulin doses & regimen (especially if missed doses suspected) and plan for support/supervision from family member/identified adult or simplified regimen
- ✓ Consider the effect of growth and puberty or any associated conditions e.g. coeliac disease
- ✓ If carbohydrate counting - review accuracy with dietician
- ✓ If not carbohydrate counting, review diet plan (fixed carbs) with dietitian
- ✓ Review psychosocial aspects of diabetes – consider referral for psychology or social work review if indicated
- ✓ If resources permit and depending on family circumstances, plan for weekly contact with CNS and repeat HbA1c in 6-8 weeks

Visit 2 (week 6-8)

- ✓ HbA1c improved: congratulate the child/adolescent and family, continue to support, review in routine OPD
- ✓ **If HbA1c still > 75 mmol/mol (9%)**
 - ✓ Reassess all obvious causes as highlighted above.
 - ✓ Review by entire multi-disciplinary team at visit (doctor, nurse, dietician and SW/psychology)
 - ✓ Follow-up in CNS led clinic aiming for weekly nursing contact if resources allow and HbA1c at 6 weeks

Visit 3 (week 12)

- ✓ HbA1c improved: congratulate and continue with regular contact (1-4 weekly) to maintain and build on improvement. Review in routine OPD
- ✓ **If HbA1c still > 75 mmol/mol (9%)**
 - ✓ MDT review again and reassess all obvious causes
 - ✓ Psychology & social work review essential. Where Psychology is not part of the team, each service needs to identify pathway to psychological support/mental health services locally depending on issue identified (Jigsaw (age 12-25 years), primary care, CAMHS, Tusla)
 - ✓ Review basics of diabetes management (as an inpatient or outpatient)
 - ✓ Inform the family of the short term increased risk of DKA from poor glycaemic control and also the long term risk of microvascular complications
 - ✓ Repeat HbA1c in 6 weeks.

Visit 4 (week 18)

- ✓ HbA1c improved - congratulate and continue with regular contact (1-4 weekly) to maintain and build on improvement. Review in routine OPD
- ✓ **If HbA1c still > 75mmol/mol (9%)**
 - ✓ Consider inpatient admission for re-education, MDT review and calculation of daily insulin requirements
 - ✓ Where issues arise that suggest need for child protection, referral needs to be made to Tusla.

Implementation, Revision and Audit

- ✓ Distribution to the General Manager/ Chief Executive Officer of each hospital for dissemination through line management in all acute hospitals within their group
- ✓ Implementation through Senior Management Teams of each acute hospital
- ✓ Distribution to other interested parties and professional bodies
- ✓ The NCPPN Diabetes Working group has agreed that this guideline will be reviewed on a 3 yearly basis
- ✓ Regular audit of implementation and impact of this guideline through outcome and process measures is recommended to support continuous quality improvement
- ✓ It is the responsibility of each unit providing care for children with diabetes and intercurrent illness to audit the unit practices regularly in order to ensure that care is being provided in line with guidelines and that any deviations are clinically justified
- ✓ The audit process should be coordinated in each paediatric unit under local paediatric clinical governance and should be from a multidisciplinary perspective where appropriate
- ✓ Where the audit identifies areas for practice improvement, it is the responsibility of each individual unit to implement changes and re-audit to support continuous quality improvement

References

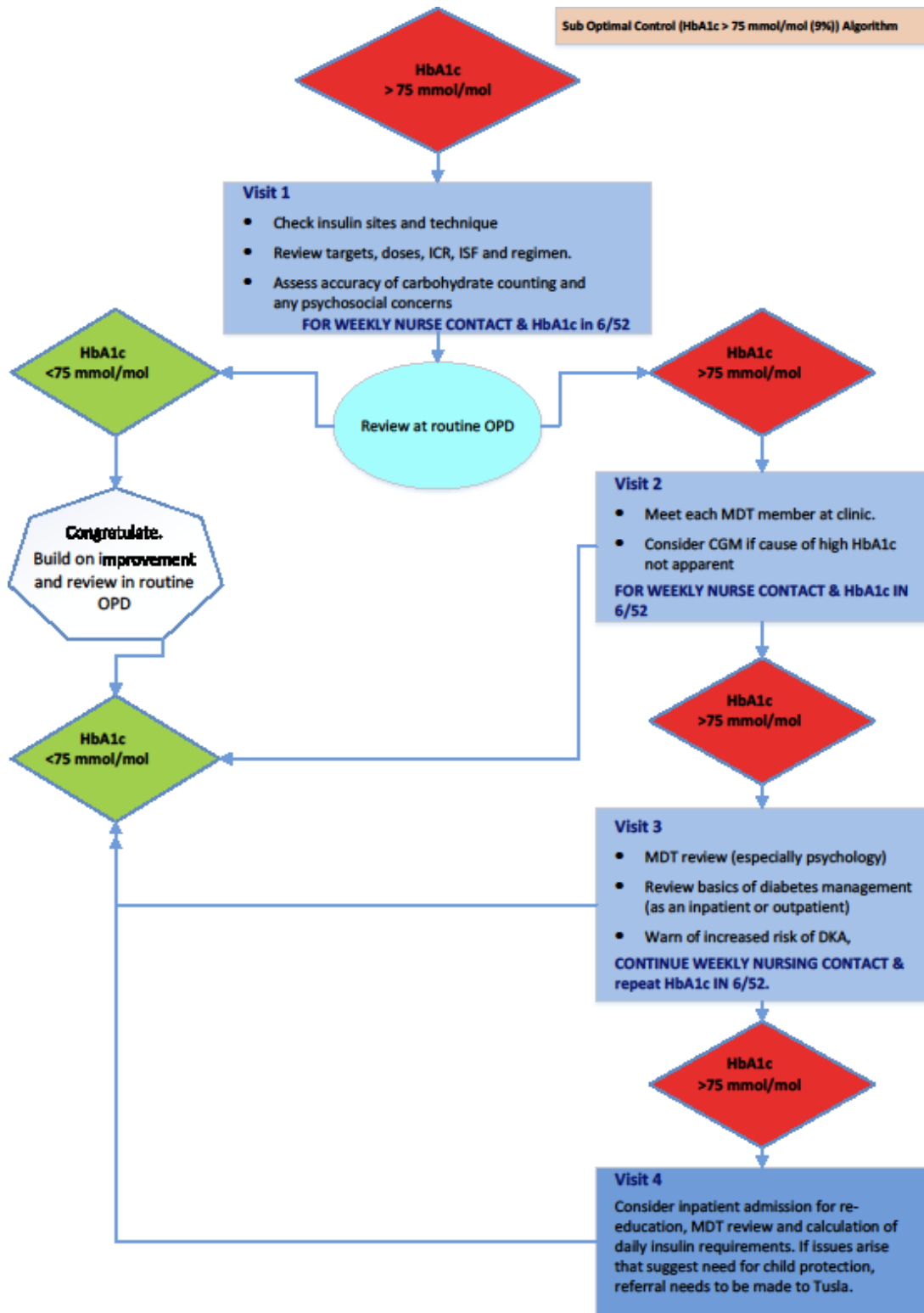
- ✓ International Society for Paediatric and Adolescent Diabetes (2022) ISPAD Clinical Practice Consensus Guidelines 2022.
<https://www.ispad.org/page/ISPADGuidelines2022>
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- ✓ Writing Team for the Diabetes C, Complications Trial/Epidemiology of Diabetes I, Complications Research G. (2003) Sustained effect of intensive treatment of type 1 diabetes mlitus on development and progression of diabetic nephropathy: the Epidemiology of Diabetes Interventions and Complications (EDIC) study, JAMA, 2159-2167.

Qualifying Statement

- ✓ These guidelines have been prepared to promote and facilitate standardisation and consistency of practice
- ✓ Clinical material offered in this guideline does not replace or remove clinical judgement or the professional care and duty necessary for each child
- ✓ Clinical care carried out in accordance with this guideline should be provided within the context of locally available resources and expertise
- ✓ This Guideline does not address all elements of standard practice and assumes that individual clinicians are responsible for discussing care with the child, parents/guardians and in an environment that is appropriate and which enables respectful and confidential discussions advising children, parents/guardians of their choices and ensuring informed consent is obtained
- ✓ Meeting all legislative requirements and maintaining standards of professional conduct.

Appendices

Appendix 1 Sub Optimal Control (HbA1c > 75 mmol/mol (9%)) Algorithm



Appendix 2 Acknowledgements

This guideline has been developed by the National Clinical Programme for Paediatrics and Neonatology Paediatric Diabetes Working Group. The members of this group include medical, nursing and dietetic representatives from paediatric diabetes services. The Paediatric Diabetes Working Group also wish to thank those who provided input and feedback on draft versions of this guideline throughout development, and those who provided valuable input during the consultation process and revision of the guideline

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Appendix 3 Approval Process

Approved by the Paediatric Diabetes Working Group	V1: July 2019 V2: November 2024
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Approved by National Clinical Advisory Group Lead (NCAGL), HSE	V1: October 2019 V2: March 2025



DOC TITLE: Care of the Child Newly Diagnosed with Type 1 Diabetes without DKA

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