DIAGNOSIS AND MANAGEMENT OF TYPE 2 DIABETES MELLITUS IN CHILDREN AND YOUNG PEOPLE

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

This guideline is for use by the following staff groups:

- Paediatric Diabetes Team
- General Paediatric Team

Lead Clinician(s) Dr Corinne Hield	Paediatric Consultant
Approved by Paediatric Governance on:	19th September 2025
Approved by Medicines Safety Committee on: *Where medicines are included in document.*	8th October 2025
Review Date: This is the most current document and should be used until a revised version is in place	19th September 2028

Key amendments to this guideline

Date	Amendment	Approved by:
Sept 2025	New document	Paediatric Governance/MSC

Introduction

Many children and young people (CYP) presenting with newly diagnosed diabetes will have insulin dependent (Type 1) diabetes and historically, all have been started on insulin from diagnosis. However, the incidence of Type 2 diabetes (T2D) in children and young people has increased rapidly over the past few years, with some paediatric centres reporting a tripling in the numbers of new diagnoses per year since the COVID pandemic (Denvir, personal communication).

Diagnosis

In CYP with a new diagnosis of diabetes (i.e. fasting blood glucose (BG) ≥7.0mmol/L or random BG ≥11.1 mmol/l) – consider type 2 diabetes mellitus if any of:

- BMI >95th percentile (>91st percentile if BAME background)
- Acanthosis nigricans
- Strong family history of Type 2 diabetes
- Obesity-related comorbidities e.g. raised transaminases, hypertension
- HbA1C > 48 mmol/mol but minimal symptoms (especially if no osmotic symptoms)

AND

- Negative diabetes autoantibodies (GAD, IA2 & ZnT8 antibodies)

All CYP under the age of 18 years with a diagnosis of type 2 diabetes (T2D) should be seen and managed in secondary care by the paediatric diabetes team in Worcestershire, as per NICE guidelines. Our aim is to arrange admission of the CYP to Riverbank children's ward at diagnosis or planned admission to take place as soon as possible at an appropriate time during the working week, so that they can receive information and education on their diagnosis from the paediatric MDT. The emphasis is on delivery of education in the right environment to be able to impress the seriousness of a diagnosis of T2D in CYP and the aim for remission, which is more likely to be achieved soon after diagnosis. It also enables screening for complications to occur at an early stage.

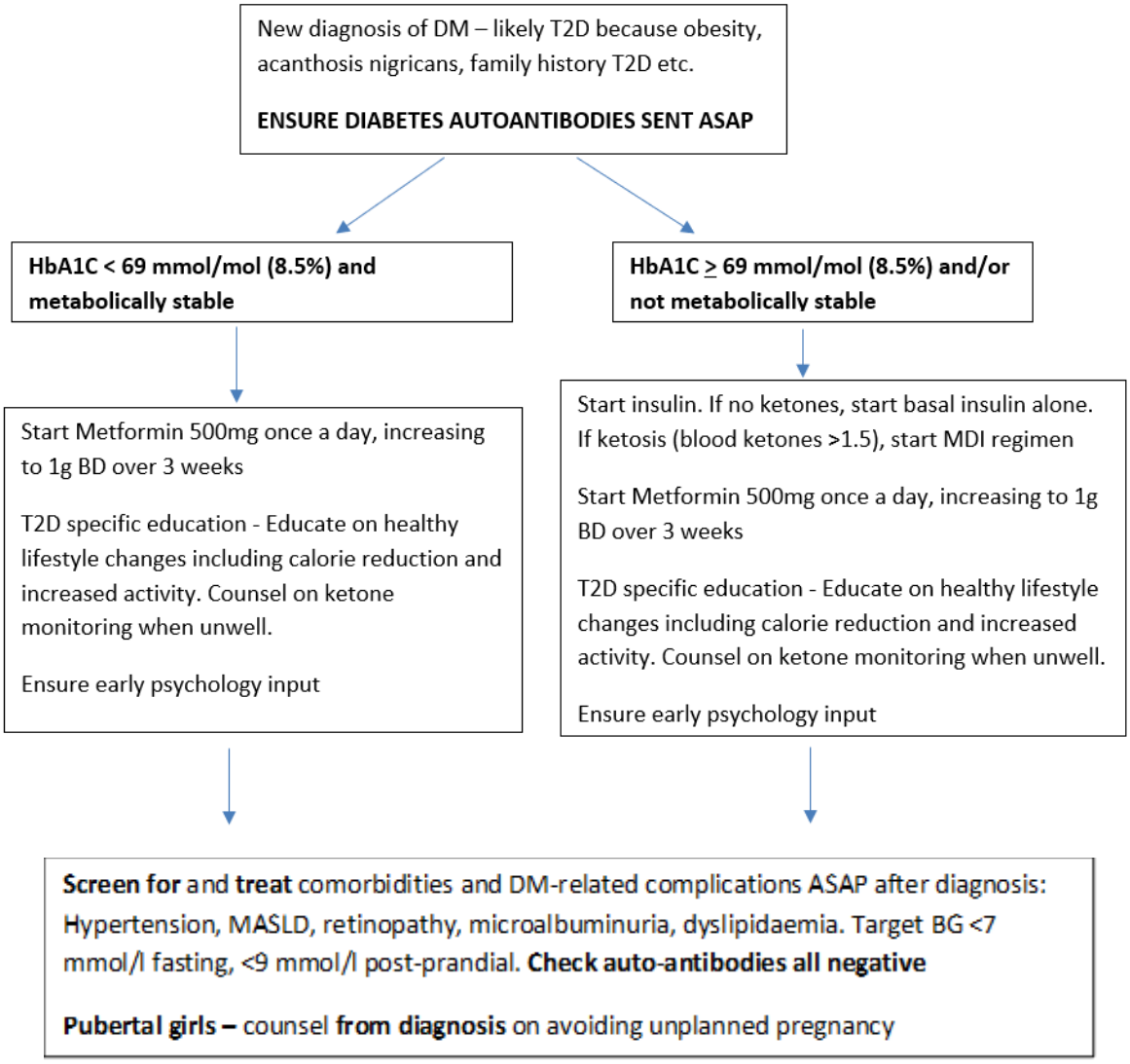
If a referral is made by a GP and it is unclear whether the patient has type 1 or type 2 diabetes, then the patient should have same day admission to Riverbank children's ward for further assessment by the paediatric team.

Management

Education on dietary changes, weight loss and tight glucose targets are critical in reducing the risk of long-term complications and potentially reversing the condition. Education on carbohydrate counting, hypoglycaemia management and insulin adjustment is only needed for CYP with T2D if they are started on insulin.

Young people with T2D also frequently have other comorbidities such as metabolic dysfunction-associated steatotic liver disease (MASLD-Previously known as non-alcoholic fatty liver disease), hypertension, polycystic ovarian syndrome and their identification and careful management are also critical in improving health outcomes. Early identification of CYP with T2D is thus vital to ensure appropriate treatment, aggressive treatment targets, to address comorbidities and optimise outcomes.

See below for flow charts for initial management of CYP with T2D and escalation of treatment for CYP with T2D.



See in clinic 4-weeks after diagnosis with HbA1C, weight and review of glucose levels with telephone contact every 1-2 weeks in between for first 3 months. Continue monthly contact for next 3 months

Target HbA1C <48 mmol/mol at 3 months post diagnosis

HbA1C <48 mmol/mol:

Reduce and stop insulin (if appropriate). Continue other treatments as before.

Check BP and arrange 24 hr tape if raised

HbA1C ≥ 48 mmol/mol

Review current treatment and concordance. Consider second-line treatment (see below)

Check BP and arrange 24 hr tape if raised

HbA1C ≥ 48 mmol/mol 3 months after diagnosis

Review current treatment and weight loss. Review diet and exercise adherence. Consider use of rtCGM. Review psycho-social factors and consider support from external agencies eg Children's Services. **Discuss at regional T2D MDT meeting.** Start second line treatment

GLP1 agonists.

Check no PMH pancreatitis.

Counsel on risks and symptoms of pancreatitis, cholelithiasis and cholecystitis plus importance of good fluid intake.

Perform baseline screening tests.

Commence: Liraglutide (daily) or Dulaglutide (weekly) if 10-12 yrs, Semaglutide (weekly) if 12-18 yrs

Monitor BG closely if on insulin. Review 3 monthly

Review treatment response after 6 months and only continue if HbA1C reduced by 11 mmol/mol &/or reduction in BMI SDS.

Discuss at regional T2D MDT if treatment targets not met. Consider switch to other second line T2D treatment.

SGLT2 inhibitors – if GLP1 agonists not available

Counsel of risk of DKA, particularly with intercurrent illnesses. Ensure have blood glucose and ketone monitoring equipment and advise of need to check both if unwell. **STOP immediately if develop DKA**

Counsel on importance of genital & perineal hygiene and seeking urgent medical attention if experience pain, swelling or erythema in genital/perineal area along with fever or malaise. **STOP immediately if develop Fournier's gangrene**

Start Dapagliflozin 10mg once a day. Monitor BG closely if on insulin. Review 3 monthly.

Review treatment response at 6 months; HbA1C aim is <48 mmol/mol.

Discuss at regional T2D MDT if treatment targets not met. Consider switch to other second line T2D treatment.

If HbA1C is <48 mmol/mol at 6 months and still on insulin, aim to wean and stop. Review diet and exercise adherence. Review psycho-social factors and consider support from external agencies eg Children's Social Care Services.

If raised BP confirmed on 24 hour monitoring, start anti-hypertensive. If using ACE inhibitor, ensure pregnancy counselling given to all pubertal girls.

Many CYP with T2D will have other significant challenges in their lives and engagement with the diabetes team can be difficult. Early referral for help and support from Children's Services should be considered and psychological support from diagnosis is critical. Engagement with local, culturally appropriate services supporting adults may also be useful.

CYP should be signposted to the T2 educational resources on DigiBete, via the app (using our clinic code) or via www.youngT2.org.

At any stage in the management and treatment of a child or young person with T2D, discuss with the hub type 2 diabetes centre (BCH) or at the regional type 2 diabetes forum network MDT meeting, if there are any queries or concerns.

Diet and Exercise Education

Promotion of a healthy diet should:

- Use culturally sensitive and family-centred approaches to healthy eating
- Teach families and the CYP with diabetes to interpret nutrition fact labels
- Promote parental modelling of healthy eating habits, while avoiding overly restricted food intake
- Reduce or eliminate all high calorie drinks and replace with water or calorie-free beverages
- Promote meals eaten on schedule, in one place, preferably as a family unit, and with no other activity (television, computer, studying), and minimizing frequent snacking
- Decrease portion sizes
- Encourage vegetable and fibre intake to improve satiety
- Choose grilled, boiled, steamed or baked over fried foods
- Limit high fat and high sugar food, processed food, and pre-packaged food
- Maintain food and activity logs as beneficial for raising awareness of food and activity issues and for monitoring progress

Exercise education should focus on increasing physical activity by:

- Encourage CYP to build up to 60 minutes of moderate to vigorous physical activity daily with muscle and bone strength training at least 3 days per week
- Reduce sedentary time, including screen-time, computer-related activities, texting, and video games to less than 2 hours per day

- Promote physical activity as part of daily living such as using stairs instead of lifts, walking or bicycling to school/college and to shops
- Encourage positive reinforcement of all achievements and avoidance of shaming
- Encourage exercise as part of family-based activities

Screening for complications

All children and young people with type 2 diabetes will receive follow-up in the paediatric diabetes clinic, closest to where they live within the County.

At each diabetes clinic appointment, they will have their weight, height and BMI recorded, a HbA1c measured and a review of their medication. Every year they will receive an annual review. Here is a checklist to support the annual reviews:

- Measure and record weight, height, BMI SDS - set weight target and trajectory.
- Blood pressure (including age-adjusted SDS).
- Check HbA1c – target is <48 mmol/mol.
- Review all medications including anti-hypertensives and need for statins if applicable.
- Counsel all pubertal and post-pubertal girls/young women about pregnancy.
- Dietetic review and education update (including DKA risk and management).
- Blood tests:
  - FBC and iron studies
  - LFTs
  - Renal function
  - TSH and free T4
  - Lipids (non-fasting OK for screening)
  - Vitamin D and B12
- Urine for microalbuminuria screening.
- Ensure they are receiving their retinopathy screening review.
- Assess psychological wellbeing.
- Foot examination including Ipswich touch test and ensure well-fitting footwear.
- Ensure registered with dentist and having regular dental check-ups.
- Smoking and alcohol review.
- Vaccination status.
- Liver ultrasound at diagnosis and then every 3 years if normal.
- Consider overnight oximetry if symptoms of obstructive sleep apnoea.

This pathway is designed to provide a quick reference guide on managing T2D in the first year after diagnosis. For more detailed explanations and rationale, please refer to the NICE guidance NG18 (Overview | Diabetes (type 1 and type 2) in children and young people: diagnosis and management | Guidance | NICE, published 2023) &/or ACDC guidelines on managing T2D in young people (Endorsed Guidelines | Association of Children's Diabetes Clinicians (a-c-d-c.org)).

Monitoring

Page/ Section of Key Document	Key control:	Checks to be carried out to confirm compliance with the Policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: (Responsible for also ensuring actions are developed to address any areas of non-compliance)	Frequency of reporting:
	WHAT?	HOW?	WHEN?	WHO?	WHERE?	WHEN?
Page 6	Ensuring the patients have 3 monthly diabetes clinic appointments with HbA1c, height, weight and BMI measured at each appointment and annual screening.	National Paediatric Diabetes Audit	Yearly	Lead paediatric diabetes consultants for the diabetes service	Paediatric diabetes team	Yearly

References

ACDC guidelines on managing T2D in young people (Endorsed Guidelines | Association of Children's Diabetes Clinicians (a-c-d-c.org)).

NICE guidance NG18 (Overview | Diabetes (type 1 and type 2) in children and young people: diagnosis and management | Guidance | NICE, published 2023).

Type 2 National Working Group – National Network (https://www.cypdiabetesnetwork.nhs.uk/national-network/type-2-national-working-group/). First Year of Care Pathway for CYP with Type 2 Diabetes. Published June 2025.

Contribution List

This key document has been circulated to the following individuals for consultation:

Designation
Paediatric Diabetes Team
Louise Williams – Lead Paediatric Pharmacist
Paediatric consultants

This key document has been circulated to the chair(s) of the following committee's / groups for comments:

Committee
Paediatric Governance
Medicine Safety Committee

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and included as an appendix to key document when submitted to the appropriate committee for consideration and approval.

Herefordshire & Worcestershire STP - Equality Impact Assessment (EIA) Form
Please read EIA guidelines when completing this form

Section 1 - Name of Organisation (please tick)

Herefordshire & Worcestershire STP		Herefordshire Council		Herefordshire CCG	
Worcestershire Acute Hospitals NHS Trust	✓	Worcestershire County Council		Worcestershire CCGs	
Worcestershire Health and Care NHS Trust		Wye Valley NHS Trust		Other (please state)	

Name of Lead for Activity	Dr Corinne Hield

Details of individuals completing this assessment	**Name**	**Job title**	**e-mail contact**
	Dr Corinne Hield	Paediatric consultant with a specialist interest in diabetes	corinne.hield@nhs.net
Date assessment completed	15/10/2025		

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	Title: Guideline DIAGNOSIS AND MANAGEMENT OF TYPE 2 DIABETES MELLITUS IN CHILDREN AND YOUNG PEOPLE			
What is the aim, purpose and/or intended outcomes of this Activity?	To improve the diagnosis and long-term management of CYP with type 2 diabetes.			
Who will be affected by the development & implementation of this activity?	❑ ❑ ❑ ❑	Service User Patient Carers Visitors	❑ ❑ ❑ ❑	Staff Communities Other _____
Is this:	❑ Review of an existing activity			

	❑ New activity ❑ Planning to withdraw or reduce a service, activity or presence?
What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc.	Changes to the guideline is support by the national paediatric diabetes network and national guidance.
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	This was a national clinical group who supported the guidance.
Summary of relevant findings	CYP not being referred to secondary care when diagnosed with type 2 diabetes, patients not receiving regular follow-up and the need for more aggressive management after diagnosis to reduce HbA1c and reduce long-term risk of complications.

Section 3
Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale**. Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Age	X			CYP will be provided with secondary care management of their type 2 diabetes and escalation of management to try and prevent long-term complications.
Disability		X		NA
Gender Reassignment		X		NA
Marriage & Civil Partnerships		X		NA
Pregnancy & Maternity		X		NA
Race including Traveling Communities		X		NA
Religion & Belief		X		NA

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Sex		X		This guideline applies equally to each gender.
Sexual Orientation		X		NA
Other Vulnerable and Disadvantaged Groups (e.g. carers; care leavers; homeless; Social/Economic deprivation, travelling communities etc.)		X		
Health Inequalities (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies)	X			This guidance is to support all CYP from the whole population to received secondary care management of their type 2 diabetes and ensure equitable access to medications and MDT input.

Section 4

What actions will you take to mitigate any potential negative impacts?	Risk identified	Actions required to reduce / eliminate negative impact	Who will lead on the action?	Timeframe
		.		
How will you monitor these actions?	NA			

When will you review this EIA? (e.g in a service redesign, this EIA should be revisited regularly throughout the design & implementation)	In 2 years

Section 5 - Please read and agree to the following Equality Statement

1. Equality Statement

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation

1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.

1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

Signature of person completing EIA	E.E.Field
Date signed	15/10/2025
Comments:	
Signature of person the Leader Person for this activity	E.E.Field
Date signed	15/10/2025
Comments:	

Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	No
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval.