

## Children & Adolescents with Type 2 Diabetes – Engage PeopleCare (EPC) Clinical Guidelines

Topic	Optimal Goal	Clinical Intervention Provided--Coaching provided to Parent/Guardian with participation by child/adolescent based on age-appropriate self-management as appropriate <sup>2</sup>
1. Glycemic Control	A1C <7%	<ul style="list-style-type: none"> <li>● Obtain baseline A1C upon assessment and as ordered by physician.</li> <li>● Obtain self-monitoring of blood glucose (SMBG) frequency and readings.</li> <li>● Share glycemic goals of ADA.</li> <li>● Discuss pathophysiology of diabetes.</li> <li>● If prescribed: review current diabetes medications and assess for compliance.</li> <li>● Provide education on appropriate timing and consistency of medication administration.</li> <li>● Review usual carbohydrate intake pattern.</li> <li>● Instruct on proper balance of medication or insulin, carbohydrate intake and physical activity to control blood glucose levels.</li> <li>● Advocate for initiation of regular blood glucose monitoring by parent/guardian and/or child/adolescent as appropriate (guidelines recommend tailoring frequency to individual but should include fasting and post prandial).</li> </ul>
2. Signs & Symptoms	Reduce or eliminate	<ul style="list-style-type: none"> <li>● Review history of hyper and hypoglycemic episodes.</li> <li>● Educate on signs and symptoms of hyper and hypoglycemia and appropriate treatment:               <ul style="list-style-type: none"> <li>○ Readily available source of glucose (tablets, gels, liquids)</li> <li>○ Importance of medical identification emblem</li> <li>○ Treatment of ketones and when to seek medical treatment</li> </ul> </li> <li>● Instruct on sick day rules, how to prevent ketoacidosis (DKA) during illness.</li> </ul>
3. Nutrition	Glycemic Control & Weight Management	<ul style="list-style-type: none"> <li>● Obtain nutritional intake patterns during coaching sessions.</li> <li>● Review weight and clinical measures.               <ul style="list-style-type: none"> <li>○ Pre-puberty- should emphasize weight maintenance rather than weight loss (no more than 1-2#/month weight loss)</li> <li>○ Post-puberty weight loss of 1-2#/week or weight maintenance</li> </ul> </li> <li>● Provide individualized dietary instruction based on identified needs (weight loss, glycemic control, nutrition adequacy of current dietary intake).</li> <li>● Discuss importance of carbohydrate monitoring and blood glucose control (via carbohydrate counting, carbohydrate choices, or plate method).</li> </ul>
4. Physical Activity	≥60 min of moderate physical activity daily	<ul style="list-style-type: none"> <li>● Obtain current physical activity status upon assessment. If less than goal (modified based on physical/medical limitations):               <ul style="list-style-type: none"> <li>○ Provide specific recommendations to initiate or increase current physical activity program.</li> </ul> </li> <li>● If at goal:               <ul style="list-style-type: none"> <li>○ Provide specific recommendations for maintaining current physical activity program.</li> </ul> </li> </ul>

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		<ul style="list-style-type: none"> <li>● Encourage limiting time in sedentary activities such as television viewing if appropriate.</li> <li>● Educate on effects of exercise on blood glucose levels and benefits to glycemic control.</li> </ul>
5. Appropriate physical growth	Normal Growth & Development BMI 5 <sup>th</sup> —85 <sup>th</sup> percentile for age	<ul style="list-style-type: none"> <li>● Ask parent or guardian if healthcare provider is measuring child's height &amp; weight and if there have been any problems identified.</li> <li>● Obtain current height &amp; weight as available from parent or guardian.</li> </ul>
6. Blood Pressure	<90 <sup>th</sup> percentile for age, sex and height	<ul style="list-style-type: none"> <li>● All children and adolescents with Type 2 Diabetes, should be screened for hypertension.</li> <li>● Obtain baseline BP upon assessment and upon each physician visit (unless otherwise specified by physician).</li> <li>● Share goal BP levels of ADA &amp; NHLBI.</li> <li>● Discuss pathophysiology of high blood pressure and increased macro- &amp; microvascular risk.</li> <li>● Initial treatment includes lifestyle changes (no added salt diet and physical activity).</li> <li>● If prescribed: provide education on appropriate timing and consistency of medication administration.</li> <li>● Provide education on risk factor(s) if present.</li> <li>● Instruct on appropriate questions for next physician visit.</li> </ul>
7. Lipids	TC <170 mg/dL LDL <100 mg/dL HDL ≥35 mg/dL TG ≤150 mg/dL	<ul style="list-style-type: none"> <li>● All children and adolescents with Type 2 Diabetes should be screened for hyperlipidemia at diagnosis regardless of age (after blood glucose levels are stabilized).</li> <li>● Obtain baseline labs upon assessment and annually (unless more frequent testing is ordered by physician)</li> <li>● Share lipid goals of ADA.</li> <li>● Discuss pathophysiology of abnormal lipids and increased cardiovascular risk.</li> <li>● Initial treatment includes lifestyle changes (low fat diet, physical activity and glucose control).</li> <li>● If prescribed, provide education on appropriate timing and consistency of medication administration.</li> <li>● Provide education on risk factor(s) if present.</li> <li>● Instruct on appropriate questions for next physician visit.</li> </ul>
8. Diabetes Related Complications	Reduce the risk of developing complications	<ul style="list-style-type: none"> <li>● Provide education on the etiology and prevention of micro &amp; macrovascular complications.</li> <li>● Review for risk factor(s) if present.</li> <li>● Review recommendations for routine screenings: comprehensive foot examination, dilated eye examination and assessment of urinary albumin: creatinine ratio (UACR).</li> <li>● Provide education on the etiology and prevention of: <ul style="list-style-type: none"> <li>○ retinopathy</li> <li>○ diabetic kidney disease</li> <li>○ peripheral neuropathy</li> <li>○ cardiovascular disease</li> </ul> </li> </ul>

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		<ul style="list-style-type: none"> <li>● Assess for signs and symptoms of complications, if present instruct on appropriate questions for next physician visit.</li> </ul>
9. Preventive Care	Compliance	<ul style="list-style-type: none"> <li>● Discuss importance of routine physician office visits and lab work.</li> <li>● Discuss purpose and benefits of A1C test.</li> <li>● Discuss importance of routine dental and eye examinations.</li> <li>● Recommend annual influenza vaccine (after the age of 6 months).</li> <li>● Recommend pneumonia vaccine before the age of 2 years.</li> <li>● Educate on importance of discussing appropriate vaccinations with Physician.</li> </ul>
10. School and Day Care	Maintain optimal glucose control in school setting	<ul style="list-style-type: none"> <li>● Educate on importance of maintaining supplies at child's school or day care. Items to include:               <ul style="list-style-type: none"> <li>○ diabetes management/treatment plan</li> <li>○ diabetes medication/insulin, if directed</li> <li>○ testing supplies</li> <li>○ hypoglycemia treatment supplies</li> <li>○ hyperglycemia treatment supplies</li> <li>○ contact numbers for parent/guardian and emergency contacts</li> <li>○ box or bag to put all supplies in</li> <li>○ snacks</li> <li>○ others as needed by the child</li> </ul> </li> <li>● Discuss ADA act of 1990 (diabetes is a disability within school and provisions must be made as needed).</li> <li>● For children in school (1<sup>st</sup> and beyond) – discuss the Rehabilitation Act of 1973, section 504 (“504 plan” to be set up with teachers for how to handle various situations and means of communication between primary teacher, substitutes, and all who have contact with the student).</li> </ul>
11. Referrals	Parental Involvement School Involvement Psychiatric issues  Risk Behaviors	<ul style="list-style-type: none"> <li>● Referrals will be made to case management, treating physician and/or others services as available (if issues are discovered during counseling sessions) under but not limited to the following conditions:           <ul style="list-style-type: none"> <li>● Questions, concerns or issues regarding Parental/Guardian involvement in diabetes care</li> <li>● Questions, concerns or issues regarding school staff involvement in diabetes care</li> <li>● Questions, concerns or issues regarding adjustment to diagnosis and or suspected psychiatric disorders (including eating disorders)</li> </ul> </li> <li>● Questions, concerns or issues regarding any of the following:           <ul style="list-style-type: none"> <li>○ Alcohol, tobacco &amp; illicit drugs use</li> <li>○ unprotected sexual activities</li> <li>○ driving w/o SBGM</li> <li>○ noncompliance with insulin administration</li> </ul> </li> </ul>

# Children & Adolescents with Type 2 Diabetes – Envolve PeopleCare (EPC) Clinical Guidelines

I have reviewed and approved the Envolve PeopleCare (EPC) Clinical Guidelines for Children & Adolescents with Type 2 Diabetes and agree with the use in supporting the clinical staff in providing Disease Management services as outlined in the Standards of Care.

**Egils Bogdanovics, MD**

**2/4/18**

**Frank Crociata, DO**

**1/12/18**

**Woody Kageler, MD**

**1/15/18**

Medical Director Signature and Credentials

Date

Approved by the Quality Management Committee

**Jeremy Corbett, MD**

**1/15/18**

QMC Chairperson

Date

<sup>1</sup> Assessment: All participants will be assessed as Moderate Clinical Risk unless they are not in glycemic control (A1C < 7.0).

<sup>2</sup> see attached table: Major Developmental issues and their effect on diabetes in children and adolescents. Regular blood glucose monitoring by parent/guardian and/or child/adolescent as appropriate.

## REVISION LOG

Date	Description	Author(s) Initials	Reviewers	Review Schedule	Comments/overview of changes
11/28/07	2007 annual review	CP/PV	Carol Peckham Patty Vickers Eglis Bogdanovics, MD Frank Crociata, MD	Annual	MD's approvals received via email and fax; all signatures on file
7/08/08	2008 annual review	CP/PV	Carol Peckham Patty Vickers Eglis Bogdanovics, MD Frank Crociata, MD	Annual	MD's approvals received via email and fax; all signatures on file
6/10/09	2009 annual review	CP/PV	Carol Peckham Patty Vickers Eglis Bogdanovics, MD Frank Crociata, MD	Annual	MD's approvals received via email and fax; all signatures on file
1/28/10	2010 annual review	CP/PV	Carol Peckham Patty Vickers Eglis Bogdanovics, MD Frank Crociata, MD	Annual	MD's approvals received via email and fax; all signatures on file

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3/2/11	2011 annual review	PV	Patty Vickers Eglis Bogdanovics, MD Frank Crociata, DO Woody Kageler, MD	Annual	No changes  MD's approvals received via email and fax; all signatures on file
2/9/12	2012 annual review	PV	Patty Vickers Eglis Bogdanovics, MD Frank Crociata, DO Woody Kageler, MD	Annual	No changes  MD's approvals received via email and fax; all signatures on file
2/13/13	2013 Annual Review	PV/PN	Patty Vickers Pam Neff Eglis Bogdanovics, MD Frank Crociata, DO Woody Kageler, MD	Annual	MD's approvals received via email; all signatures on file.  Changed optimal goal for physical activity to $\geq 60$ minutes/day.
1/21/14	2014 Annual Review	PV/PN/CP	Patty Vickers Pam Neff Carol Peckham Egils Bogdanovics, MD Jeremy Corbett, MD Frank Crociata, DO Woody Kageler, MD	Annual	MD/DO's approvals received via email; all signatures on file.  Revise Topic 5 (Appropriate Physical Growth) so that a growth chart is not required.  Minor change in terminology concerning "albuminuria".
1/20/15	2015 Annual Review	PV	Patty Vickers Pam Neff Carol Peckham Egils Bogdanovics, MD Jeremy Corbett, MD Frank Crociata, DO Woody Kageler, MD	Annual	MD/DO's approvals received vial email and fax; all signatures on file.  Changed language about kidney function screenings.  Added: eye exams and pneumonia vaccine.  Deleted reference to "<130/80" as target BP.
1/13/16	2016 Annual Review	PV	Patty Vickers Pam Neff Theresa Neumer Carol Peckham Egils Bogdanovics, MD Jeremy Corbett, MD Frank Crociata, DO Woody Kageler, MD	Annual	MD/DO's approvals received vial email and fax; all signatures on file.  Change in terminology from "nephropathy" to "diabetic kidney disease".
1/9/17	2017 Annual Review	PV	Patty Vickers Pam Neff Theresa Neumer Carol Peckham Pat Kristen	Annual	MD/DO's approvals received via email and fax; all signatures on file.  All references of Nurtur changed to Engolve PeopleCare (EPC). Added optimal goal for BMI.

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			Egils Bogdanovics, MD Jeremy Corbett, MD Frank Crociata, DO Woody Kageler, MD		
1/8/18	2018 Annual Review	PV	Patty Vickers Pam Neff Theresa Neumer Carol Peckham Pat Kristen Egils Bogdanovics, MD Jeremy Corbett, MD Frank Crociata, DO Woody Kageler, MD	Annual	MD/DO's approvals received via email and fax; all signatures on file.  Updated recommendation for pneumonia vaccine.