Prediabetes

Prediabetes is a middle ground between normal glucose levels and diabetes. Early intervention is important to help prevent type 2 diabetes.

The following measures indicate that a child has prediabetes:
- Hemoglobin A1C between 5.7% and 6.4%
- Fasting glucose ≥100 mg/dL (and lower than 126 mg/dL), also known as impaired fasting glucose
- Two-hour value post-glucose load on oral glucose tolerance testing ≥140 mg/dL (and lower than 200 mg/dL), also known as impaired glucose tolerance

ASSESSMENT

As part of a routine overweight/obesity screening, perform history and physical exam.
Assess for:
- Family history of type 2 diabetes
- Acanthosis nigricans, an indication of insulin resistance

If concerned for prediabetes, order labs. The optimal screening for prediabetes/type 2 diabetes is a hemoglobin A1C +/- a fasting glucose test or random glucose test.

MANAGEMENT/TREATMENT

If blood test results indicate the patient has prediabetes, initial interventions can occur in the primary care setting.
- Schedule follow-up for lifestyle counseling with a focus on meeting physical activity guidelines and reducing simple sugars in the diet.
- Trend hemoglobin A1C and fasting glucose every three to six months if either measure was abnormal.

WHEN TO REFER FOR PREDIABETES

Consider a referral for prediabetes care if the patient’s glucose status worsens despite interventions or if the patient may benefit from a full assessment and more intensive lifestyle counseling.

Refer highest-risk patients to the Division of Endocrinology at 513-636-4744. Highest-risk patients have a strong family history of any diabetes; have been diagnosed with non-alcoholic fatty liver disease (NAFLD); and/or have a hemoglobin A1C > 6%.

Refer lower-risk patients who want to make lifestyle changes to the Center for Better Health and Nutrition (Healthworks!) at 513-636-4305. Patients will see a physician who can manage the prediabetes with lifestyle changes and/or medication; a dietitian; and an exercise physiologist.

Refer to either Endocrinology or Healthworks! Patients do not need both.

For urgent issues or to speak with the specialist on call 24/7, call the Physician Priority Link® at 1-888-987-7997.

If you would like additional copies of this tool, or would like more information, please contact the Physician Outreach and Engagement team at Cincinnati Children’s.

Tool developed by Cincinnati Children’s physician-hospital organization (known as Tri-State Child Health Services, Inc.) and staff in the James M. Anderson Center for Health Systems Excellence. Developed using expert consensus and informed by Best Evidence Statements, Care Practice Guidelines, and other evidence-based documents as available. For Evidence-Based Care Guidelines and references, see www.cincinnatichildrens.org/evidence.
**Prediabetes**

**Patient Presents**

- **Perform HPE (History and Physical Exam) as part of Routine Overweight/Obesity Screening**
  - Family history of type 2 diabetes
  - Acanthosis nigricans, an indication of insulin resistance

- **If concerned for prediabetes or diabetes, order labs.**
  - The optimal screening is a hemoglobin A1C +/- a fasting glucose test or random glucose test.
  - Oral glucose testing (OGTT) can also be used for assessing glucose tolerance

**Manage in the PCP setting**

- **Normal**
  - A1C <5.7%
  - Fasting glucose <100 mg/dL
  - Two-hour value post-glucose load on oral glucose tolerance test (OGTT) <140 mg/dL

- **Prediabetes**
  - A1C 5.7–6.4%
  - Fasting glucose ≥100 mg/dL but <126 mg/dL
  - Two-hour value post-glucose load on oral glucose tolerance test (OGTT) ≥140 mg/dL

- **Diabetes**
  - A1C ≥6.5%
  - Fasting glucose ≥126 mg/dL
  - Two-hour value post-glucose load on OGTT or random glucose ≥200 mg/dL

**RED FLAGS**

- Lab criteria met as outlined above
- Dehydration
- Polydipsia
- Polyuria (especially bed wetting or getting up overnight to use the restroom)

**Refer to either Endocrinology or Healthworks! Patients do not need both.**

**Glucose status worsening despite interventions? OR Patient would benefit from full assessment and more intensive lifestyle coaching?**

- **Refer highest-risk patients to the Division of Endocrinology at 513-636-4744.**
  - Highest-risk patients have a strong family history of any diabetes; have been diagnosed with non-alcoholic fatty liver disease (NAFLD) or suspected NAFLD with elevated ALT; and/or have a hemoglobin A1C >6%.

- **Refer lower-risk patients who want to make lifestyle changes to the Center for Better Health and Nutrition (Healthworks!) at 513-636-4305.**
  - Patients will see a physician who can manage the prediabetes with lifestyle changes and/or medication; a dietitian; and an exercise physiologist.

For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link® at 1-888-987-7997.