

Clinical Practice Guideline (CPG) TYPE 2 DIABETES MELLITUS



SCOPE:

Family Care PACE Partnership

AUDIENCE:

Interdisciplinary Team Staff (IDTS),
Clinicians, Providers

PURPOSE:

To provide best practice approach to Community Care Inc. Interdisciplinary team staff, physicians and other providers who care for our members.

Community care Clinical Practice Guidelines (CPG) are recommendations intended to guide an overall approach to care. Please see references for an in-depth review of the condition/disease.

Individual member factors, comorbidities, member preferences and member “goals of care” should be considered when making recommendations for an individual member.

Version: 1.0

Delivery: 08/23/2021

Owner: Medical Director

Reviewer: Medical Management, Clinical Services

Approver: Medical Director

Date Approved 08/23/2021

Review Period in Years: 3

Next Review Date: 08/23/2024

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1) Overview of Type 2 Diabetes Mellitus

- Type 2 Diabetes is a condition in which either the body does not make enough insulin or the body is resistant to the effects of insulin or both resulting in an excess of sugar (glucose) in your body.
- Insulin is a hormone needed by the body to breakdown blood sugar and convert it into energy. Too much sugar in your blood (hyperglycemia) can lead to serious health problems.
- Diabetes affects multiple systems of the body, and requires a comprehensive, member centered, Interdisciplinary team (IDT) based approach, with emphasis on lifestyle changes, ongoing member self-management education and support for preventing the development and complications of Diabetes.
- **Once hyperglycemia occurs, patients with all forms of diabetes are at risk for developing the same chronic complications, although rates of progression may differ.**

2) Best Practice Standards

➤ Prevention and Life style changes

A healthy lifestyle with regular exercise and attention to diet and weight can prevent or delay the development of prediabetes and diabetes.

➤ Screening for Prediabetes and Type 2 diabetes

For all members, testing should begin at age 45 and if normal should be repeated at a minimum of 3-year intervals, unless the member has other risk factors when more frequent testing may be needed for example

➤ Diagnosis and Evaluation of Type 2 diabetes

○ Diagnosis

○ TEST	FASTING PLASMA GLUCOSE(FPG)+	ORAL GLUCOCSE TOLERANCE TEST(OGTT)#	A1C	RANDOM PLASMA GLUCOSE
Diagnostic Criteria for Prediabetes	FPG 100-125 mg/dl	2-hr PG 140-199 mg/dl	A1c 5.7- 6.4%	
Diagnostic Criteria for Diabetes	FPG ≥126 mg/dl+	FPG ≥200 mg/dl	A1C ≥6.5%	≥200 mg/dL*

+ Fasting is defined as no caloric intake for at least 8 h

* Random plasma glucose in a patient with classic symptoms of hyperglycemia or hyperglycemic crisis

OGTT performed using a glucose load containing the equivalent of 75 g anhydrous glucose

- Comprehensive Medical Evaluation and assessment for Type 2 diabetes mellitus at initial diagnosis and follow ups should include assessment for diabetes complications, potential comorbid conditions (CVS disease, obesity, hypertension, dyslipidemia, smoking, chronic kidney disease and albuminuria) and risk factor control

- Assess for Cognitive impairment/Dementia: In the presence of cognitive impairment, diabetes treatment regimens should be simplified as much as possible and tailored to reduce the risk of low blood sugar (hypoglycemia)
- Nonalcoholic Fatty Liver Disease: Members with Type 2 diabetes, prediabetes and elevated ALT or fatty liver on ultrasound should be evaluated for the presence of nonalcoholic steato-hepatitis and liver fibrosis
- Cancer Screening: Continue age appropriate screening and reduce modifiable risk factors for cancer

➤ Management and Treatment Plan for Type 2 diabetes

The goals of Management and treatment for diabetes are to prevent or delay complications and optimize quality of life.

- Lifestyle changes and other recommendations for diabetes:
 - Exercise, attention to diet, and modest weight loss can improve blood sugar control, cholesterol/lipids, high blood pressure
 - Diabetes Self-Management Education Support at diagnosis, annually and/or when not meeting treatment targets, when complicating factors develop (medical, physical, psychosocial), and when transitions in life and care occur
 - Medical Nutrition Therapy(MNT) to address eating patterns and meal planning, weight management
 - Smoking Cessation
 - Evaluate and address Psychosocial issues
 - Evaluate and address Diabetes Distress
- Pharmacologic therapy for Glucose Lowering:
 - Metformin is the preferred initial medication for the treatment of type 2 diabetes if tolerated and not contraindicated
 - Intensify treatments for patients not meeting treatment goals
 - A patient-centered approach to guide the choice of pharmacologic agents. Considerations include effect on cardiovascular and renal comorbidities, efficacy, hypoglycemia risk, impact on weight, cost, risk for side effects, and patient preferences
 - In older adults at increased risk of hypoglycemia, medication classes with low risk of hypoglycemia are preferred. Avoid sliding scale insulin.
 - Reevaluate medication regimen and medication-taking behavior every 3–6 months and adjust as needed based on considerations above
- Glycemic Testing Frequency and Glycemic Control
 - Nonpregnant Adults: A1C goal <7% without significant hypoglycemia.
 - Limited Life Expectancy: Less stringent A1C goals (such as <8%) for patients with limited life expectancy, or where the harms of treatment are greater than the benefits

- Palliative Care: Comfort and avoidance of hypoglycemia should be prioritized
 - Older Adults: less stringent HbA1c goals in older individuals with co-existing chronic illnesses, cognitive impairment, or functional dependence. Hyperglycemia leading to symptoms or risk of acute hyperglycemia complications should be avoided in all patients
 - Frequency of testing: A1C at least two times a year in patients meeting treatment goals. At least quarterly, and as needed, in patients not meeting goals and if therapy has recently changed.
- Immunization: Provide routinely recommended age appropriate vaccinations for members with Diabetes

➤ **Management of comorbidities and complications**

Long-term complications of diabetes develop gradually but can be disabling or even life threatening eventually. Optimization of glycemic control, blood pressure and serum lipid control can reduce the risk or slow the progression of many of the complications/comorbidities of diabetes.

CONDITION	TESTING/ FREQUENCY	LONGEVITY (AGGRESSIVE) GOAL	FUNCTION (CONSERVATIVE) GOAL	COMFORT (PALLIATIVE) GOAL	COMMENTS
HTN	Every visit	≤ 140/90 if no CVS risk Pregnancy goal 110– 135/85	≤ 140/90 Individualize. Avoid orthostatic hypotension in elderly	Focus on comfort. Individualize goal, avoid hypotension	ACE, ARBs first line t/m if no contraindications
Dys-lipidemia	check lipids at diagnosis, initial evaluation and every 5 years if under 40 or more frequently if needed. Obtain a lipid profile, at initiation of lipid-lowering therapy, 4–12 weeks after initiation or a change in dose, and annually thereafter	Assess 10-year risk of a first ASCVD event to better stratify ASCVD risk and help guide therapy		Focus on comfort & individualize goal	Consider lipid therapy < 40yrs with CVS risk, moderate or high intensity: 40-75yrs without CVS risk, high intensity;>75 yrs moderate intensity
CKD Microalbumin & eGFR	Yearly, twice yearly if urinary albumin >300 mg/g creatinine and/or eGFR 30–60 mL/min/1.73 m ²	Same	Same	Focus on comfort & Individualize	Optimize BP & BS control. ACE or ARB if elevated urinary albumin/Cr.

Ratio & no
contraindications

Diabetic Retinopathy	Dilated diabetic eye exam by optometrist/ophthalmologist	Yearly Pregnancy within 1 st trimester then 2 nd , 3 rd and 1 year post-partum	Yearly	Focus on comfort & Individualize	Optimize BP and sugar control. Eye exam once every 2 years if no retinopathy on last exam
Neuropathies & Foot care	Assess for autonomic & diabetic peripheral neuropathy. Comprehensive foot exam including monofilament & palpation pulses	Yearly	Yearly	Yearly, Focus on comfort & individualize	

➤ **Self-Monitoring of Blood Glucose (SMBG)**

- Insulin: People who are on insulin should be encouraged to test when appropriate based on their insulin regimen. This may include testing when fasting, prior to meals and snacks, at bedtime, prior to exercise, when low blood glucose is suspected, after treating low blood glucose until the sugar is in the normal range, and prior to and while performing critical tasks such as driving.
- Non-insulin therapies: self-monitoring of blood glucose may be helpful when altering diet, physical activity, and/or medications (particularly medications that can cause hypoglycemia) in conjunction with a treatment adjustment program.

3) Prevention and Management of Acute Issues

➤ **Hypoglycemia**

- Symptoms: tremor, palpitations, anxiety, sweating, hunger, numbness and tingling, dizziness, weakness, drowsiness, delirium, confusion, and, at lower plasma glucose concentrations, seizure and coma. Symptoms may be absent because of impaired awareness of hypoglycemia in some
- Management: Patients with symptomatic hypoglycemia should ingest oral glucose in the form of tablets, juice, milk, other snacks, or a meal. Patients should retest glucose after 15 minutes and retreat if glucose is not improved.

- For members with impaired consciousness call 911. If available immediately administer glucagon 0.5 to 1 mg given as a subcutaneous or intramuscular injection or 3 mg given intranasally.
- Refer members with recurrent symptomatic non-emergent hypoglycemia to Primary Care Provider (PCP) and/or Endocrinologist.
- Education and training for clinicians, friends, and family on the recognition and treatment of severe hypoglycemia, including the use of glucagon, is necessary.

➤ **Hyperglycemia**

- Signs and Symptoms: Hyperosmolar hyperglycemic state develops insidiously with symptoms of increased thirst, polyuria, weight loss and blurry urine. This often persists for several days and if left untreated progresses to lethargy, focal neurologic signs (hemiparesis or hemianopsia and or seizures) obtundation and coma.
- Management: Early recognition of hyperglycemia, evaluation of precipitating factors and timely treatment to prevent worsening and hospitalization

➤ **Diabetic Ketoacidosis**

- Signs and Symptoms: Evolves rapidly over 24 hours. The earliest symptoms of marked hyperglycemia are polyuria, polydipsia, and weight loss. Common, early signs of DKA include nausea, vomiting, abdominal pain, and hyperventilation. Patients with DKA may have a fruity odor (similar to nail polish remover) and compensatory deep respirations. As hyperglycemia worsens, neurologic symptoms appear and may progress to lethargy, focal deficits, obtundation, seizure, and coma.
- Management: Early recognition of hyperglycemia, evaluation of precipitating factors and timely treatment to prevent worsening. Once DKA develops, the member should be referred to the ER.

4) Process for Interdisciplinary Team Staff (IDTS)

- Community care promotes current evidence-based best practices to inform decisions regarding member assessment, education, and care coordination activities to ensure members with diabetes have the knowledge and tools to effectively manage diabetes
- Assess member for diabetes control, co-morbidities and complications at initial, and at each MCP review assessment and as needed in between.
- Incorporate in member care plan if a member goal for the next 6 months

- Use motivational interviewing techniques to assess barriers to optimal diabetes control. Educate members and stress importance of life style changes.
- Collaborate with Primary Care Provider (PCP) and/or Endocrinologist.

5) Quality Assurance Monitoring

- Community care monitors quality of care provided to all its members via Internal file review, target audits, risk reports, HEDIS data, Acumen data, electronic health record guideline reports, Clinical Dashboards and feedback from providers.
- Community care recognizes that Clinical Practice Guidelines are intended to assist in decision-making and may not apply to all members or circumstances, and complete compliance is not expected for all guidelines.

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Literature review current through: Jun 2021. | This topic last updated Apr 28, 2021.
Last Retrieved and reviewed July 5th 2021
- UpToDate: Diabetic ketoacidosis and hyperosmolar hyperglycemic state in adults: Clinical features, evaluation, and diagnosis Authors: Irl B Hirsch, MD, Michael Emmett, MD Section Editor: David M Nathan, MD Deputy Editor: Jean E Mulder, MD Literature review current through: Jun 2021. | This topic last updated: Mar 29, 2020. Last retrieved and reviewed July 12th 2021