

# Type 2 Diabetes and Serious Mental Illness

Diabetes is a disease that affects how the body uses sugar (glucose), one of the main energy sources for the body's cells. Glucose is obtained from food and enters the bloodstream when food is digested. In the adult population, the most prevalent form of diabetes is type 2 diabetes, which is the focus of this navigator tip sheet. In type 2 diabetes, insulin (a hormone that helps the body use glucose) does not work well or too little exists. Insulin is similar to a key that unlocks the doors to the cells of the body to let in the glucose from the bloodstream. In diabetes, cells that produce insulin become “exhausted” over time with the need to produce more and more insulin. This eventually leads to little or no insulin and no way for glucose to leave the bloodstream. When glucose can no longer enter into the cells from the bloodstream normally, blood sugar (glucose) levels can get too high and stay this way. Persistently high blood glucose levels can cause serious damage to other parts of the body (i.e., complications of diabetes), including the heart, kidneys, eyes, and nerves.

## RISK FACTORS

Type 2 diabetes occurs more commonly in older adults and obese or physically inactive persons. Type 2 diabetes is strongly heritable, meaning that it is common within families and within certain ethnicities (African American, American Indian, Asian American, Pacific Islander, or Hispanic American/Latino heritage). It is also common among individuals with serious mental illness (SMI). Medications used to treat mental illness symptoms (e.g., quetiapine, risperidone, aripiprazole, olanzapine, and ziprasidone) can lead to obesity and increase the risk of developing type 2 diabetes. In sum, risk factors for type 2 diabetes include poor diet, physical inactivity, certain psychotropic medications, older age, and a family history of the condition.

## SYMPTOMS

- ✓ Increased thirst and hunger
- ✓ Frequent urination
- ✓ Weight loss
- ✓ Fatigue
- ✓ Blurred vision
- ✓ Slow healing wounds

## DIAGNOSIS

Any of the following:

- *Fasting Blood Glucose Test* – Blood glucose level of 126 mg/dl or higher after an 8-hour fast
- *Oral Glucose Tolerance Test* – Blood glucose level of 200 mg/dl or higher 2 hours after drinking a beverage containing 75 grams of glucose dissolved in water
- Random blood glucose level of 200 mg/dl or higher along with the presence of diabetes symptoms
- Hemoglobin A1c (a marker of long-term glucose levels) greater than or equal to 6.5%



## CLINICAL RECOMMENDATIONS FOR CLIENTS WITH TYPE 2 DIABETES

FREQUENCY	SCREENING	GOAL	CHECKLIST	NOTES
Daily	<b>Postprandial Glucose Test (PPG):</b> Measures blood glucose exactly 2 hours after eating a meal	<180 mg/dL	Client is checking values daily? Yes <input type="checkbox"/> No <input type="checkbox"/>	Support client in using glucometer to check blood sugar on a routine schedule and when feeling ill.
Daily	<b>Fasting Plasma Glucose (FPG):</b> Measures blood glucose at least 8 hours after eating a meal	70 to 130 mg/dL	Client is checking values daily? Yes <input type="checkbox"/> No <input type="checkbox"/>	Support client in using glucometer to check blood sugar on a routine schedule and when feeling ill.
Ongoing	<b>Healthy Meal Plan</b>	Aim for 45-60 grams of carbohydrates per meal.  Eat whole-grain foods, fruits and non-starchy vegetables.  Limit salt and fat intake.	Client is following healthy meal plan? Yes <input type="checkbox"/> No <input type="checkbox"/>	If client is not adhering to a healthy meal plan, direct them to resources to support nutrition.
Ongoing	<b>Physical Activity:</b> As recommended by provider	As recommended by provider, but in general aim for at least 30 minutes/day of moderate activity, 5 days of the week.	Client is following exercise plan? Yes <input type="checkbox"/> No <input type="checkbox"/>	If client is not meeting physical activity goal, direct them to resources to support physical activity.
Ongoing	<b>Smoking and Alcohol Consumption</b>	Smoking cessation is strongly recommended for all clients with diabetes.  Advise client to follow provider's advice regarding alcohol consumption as alcohol can cause diabetes complications.	Smoker? Yes <input type="checkbox"/> No <input type="checkbox"/>  Client is within alcohol consumption limits? Yes <input type="checkbox"/> No <input type="checkbox"/>	Discuss smoking cessation strategies if client is a smoker, and ways to reduce alcohol consumption if not at goal.  <i>Refer to the Smoking and Serious Mental Illness tip sheet in additional resources.</i>
Ongoing	<b>Blood Pressure (if recommended by provider)</b>	Systolic: <120mmHg Diastolic: <80mmHg  If over age 65, goal is <140/90mmHg	Date checked: _____  BP reading: _____	If client is not checking values as recommended by provider, support them in checking blood pressure.
Ongoing	<b>Body Mass Index (BMI)</b>	Underweight = <18.5 kg/m <sup>2</sup> Normal weight = 18.5–24.9 kg/m <sup>2</sup> Overweight = 25–29.9 kg/m <sup>2</sup> Obesity = 30 kg/m <sup>2</sup> or greater	Date checked: _____  BMI reading: _____	If not at goal, discuss ways to improve BMI through improved diet and physical activity.

FREQUENCY	SCREENING	GOAL	CHECKLIST	NOTES
Ongoing	<b>Hemoglobin A1C Test:</b> Provides an average of blood sugar control over a six to 12 week period	<7.0%	Date checked: _____  A1C: _____	If not at goal, discuss ways to improve blood sugar control through improved diet and physical activity. Provide client reminders for appointments (in clinically recommended timeframe) to complete these labs/tests.
Annually or more frequently if not at goal	<b>Lipid Panel</b>	Cholesterol: <200mg/dL HDL: Men (>40mg/dL); Women (>50 mg/dL) LDL: <100mg/dL Triglycerides: <150mg/dL	Date checked: _____  Cholesterol: _____ LDL: _____ HDL: _____ Triglycerides: _____	If not at goal, discuss ways to improve health indicators through diet and physical activity.
Annually	<b>Urine Sample for Protein / Microalbumin:</b> Used to check for very small amounts of protein in the urine, indicating early stage chronic kidney disease	<30mg	Date checked: _____  Protein / Microalbumin: _____	Provide client reminders for annual appointment to complete this lab.
Annually	<b>Comprehensive Foot Exam</b>	Inspection, assessment of foot pulses, and test for loss of protective sensation	Date checked: _____	Remind clients to check their feet regularly at home. Provide client reminders for annual appointment to complete this exam.
Annually	<b>Eye Exam</b>	Comprehensive dilated eye exam	Date checked: _____	Provide client reminders for annual appointment to complete this exam.
Annually	<b>Flu Vaccine</b>	Receipt of annual flu vaccination	Date of vaccine: _____	Provide reminders for appointments (in an appropriate timeframe) to complete vaccination.
One-Time	<b>Pneumonia Vaccine</b>	Receipt of pneumonia vaccine for adults aged 65+ or persons with diabetes aged 50+	Date of vaccine: _____	Provide reminders for appointments (in an appropriate timeframe) to complete vaccination.

Clinical recommendations are based on guidelines for type 2 diabetes care and input from clinical experts. Please see additional resources for links to clinical recommendations. **You can help your client use this list as a starting point to prioritize and individualize these goals and activities.**

### ADDITIONAL RESOURCES

- American Diabetes Association (ADA): <http://www.diabetes.org>
- ADA Diabetes Pro: <http://professional.diabetes.org>
- American Academy of Family Physicians: <http://www.aafp.org/afp/topicModules/viewAll.htm>
- CDC Diabetes Public Resource: <http://www.cdc.gov/diabetes/home/>
- National Diabetes Education Program: <http://ndep.nih.gov>
- National Diabetes Information Clearinghouse (NDIC): <http://diabetes.niddk.nih.gov/>
- Resources for Integrated Care, *Smoking Cessation and Serious Mental Illness Tip Sheet for Navigators*: [https://www.resourcesforintegratedcare.com/Smoking\\_Cessation\\_and\\_Serious\\_Mental\\_Illness](https://www.resourcesforintegratedcare.com/Smoking_Cessation_and_Serious_Mental_Illness)

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