

AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS MEDICAL GUIDELINES FOR CLINICAL PRACTICE FOR THE MANAGEMENT OF DIABETES MELLITUS

AACE Diabetes Mellitus Clinical Practice Guidelines Task Force

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Acknowledgments

We would like to recognize Elliot Sternthal, MD, FACE, and Joseph Vassalotti, MD, for their review of these guidelines and thoughtful comments



Table 2.1. Risk Factors for Prediabetes and Diabetes Mellitus (1)

Risk Factors
Family history of diabetes
Cardiovascular disease
Overweight or obese state
Sedentary lifestyle
Latino/Hispanic, Non-Hispanic black, Asian American, Native American, or Pacific Islander ethnicity
Previously identified impaired glucose tolerance or impaired fasting glucose
Hypertension
Increased levels of triglycerides, low concentrations of high-density lipoprotein cholesterol, or both
History of gestational diabetes
History of delivery of an infant with a birth weight >9 pounds
Polycystic ovary syndrome
Psychiatric illness

Table 2.2. Clinical Interpretations of Plasma Glucose Concentrations (2)

Glucose Concentration, mg/dL	Clinical Interpretation
Fasting	
<100	Within the reference range
100-125	Impaired fasting glucose/prediabetes mellitus
≥126	Overt diabetes mellitus
2-hour postchallenge load (75-g oral glucose tolerance test)	
<140	Within the reference range
140-199	Impaired glucose tolerance/prediabetes mellitus
≥200	Overt diabetes mellitus

Table 2.3. Diagnostic Criteria for Diabetes Mellitus^a (3)

Diagnostic Criteria
Symptoms of diabetes (polyuria, polydipsia, unexplained weight loss) plus casual plasma glucose concentration ≥ 200 mg/dL
<i>or</i>
Fasting plasma glucose concentration ≥ 126 mg/dL
<i>or</i>
2-hour postchallenge glucose concentration ≥ 200 mg/dL during a 75-g oral glucose tolerance test

^aOne of the 3 criteria listed is sufficient to establish the diagnosis of diabetes mellitus. These assessments should be confirmed by repeated testing on a subsequent day in the absence of unequivocal hyperglycemia.

Table 2.4. Risk Factors for Gestational Diabetes Mellitus

Risk Factors
>25 years of age
Overweight or obese state
Family history of diabetes mellitus (ie, in a first-degree relative)
History of abnormal glucose metabolism
History of poor obstetric outcome
History of delivery of an infant with a birth weight >9 pounds
History of polycystic ovary syndrome
Latino/Hispanic, non-Hispanic black, Asian American, Native American, or Pacific Islander ethnicity
Fasting (no energy intake for at least 8 hours) plasma glucose concentration >85 mg/dL or 2-hour postprandial glucose concentration >140 mg/dL (indicates need to perform a 75-g oral glucose tolerance test) (4,5)

Table 2.5. Diagnostic Criteria for Gestational Diabetes Mellitus Using a 75-g Oral Glucose Tolerance Test^a (2)

State at Plasma Glucose Measurement	Plasma Glucose Concentration, mg/dL
Fasting	>95
1-hour postglucose administration	>180
2-hour postglucose administration	>155

^aTwo or more of the listed venous plasma glucose concentrations must be met or exceeded for a positive diagnosis. The test should be performed after an overnight fast of 8 to 14 hours and after at least 3 days of unrestricted diet (ie, ≥ 150 g carbohydrate per day) and unlimited physical activity.

Table 2.6. Summary of Diabetes Mellitus Classifications (2)

Type 1 Diabetes Mellitus

- Accounts for only 5% to 10% of all diabetes mellitus cases
- Caused by an absolute deficiency of insulin secretion due to a cellular-mediated autoimmune destruction of the pancreatic β -cells
- Viruses associated with initiation of β -cell destruction include congenital rubella, coxsackievirus B, cytomegalovirus, adenovirus, and mumps
- Markers of β -cell destruction include islet cell autoantibodies, autoantibodies to insulin, autoantibodies to glutamic acid decarboxylase (GAD65), and autoantibodies to the tyrosine phosphatases IA-2 and IA-2 β
- Rate of β -cell destruction varies—infants and children often experience rapid β -cell destruction; rate of destruction is usually slower in adults
- Individuals at increased risk can often be identified by serological evidence of an autoimmune pathologic process occurring in the pancreatic islet cells and by genetic markers

Type 2 Diabetes Mellitus

- Accounts for 90% to 95% of all diabetes mellitus cases
- Caused by a combination of complex metabolic disorders that result from coexisting defects of multiple organ sites such as insulin resistance in muscle and adipose tissue, a progressive decline in pancreatic insulin secretion, unrestrained hepatic glucose production, and other hormonal deficiencies
- Before the appearance of clinical symptoms, a degree of hyperglycemia may be present, causing pathologic and functional changes in various target tissues
- Most affected individuals are obese and, therefore, have variable degrees of insulin resistance; affected individuals who are not obese may have an increased percentage of visceral fat, which can cause insulin resistance
- Other risk factors include increasing age and sedentary lifestyle
- Occurs more frequently in women with previous gestational diabetes and in individuals with hypertension or dyslipidemia
- Associated with a strong genetic predisposition

Gestational Diabetes Mellitus

- Defined as any degree of glucose intolerance identified during pregnancy; definition applies regardless of the therapy used to treat the condition
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