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Review

Paradigm Shifts in Diabetes Management: Key Highlights from the 2026 American Diabetes Association *Standards of Care in Diabetes*

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Abstract

The ADA 2026 *Standards of Care in Diabetes* introduces pivotal updates that refine diagnostic and therapeutic workflows. Expanding upon the 2025 guidelines, the 2026 edition broadens continuous-glucose-monitoring (CGM) eligibility to include all individuals on insulin or non-insulin therapies where CGM aids management. Significant new guidance addresses hyperglycemia management in oncology, identifying metformin as the preferred first-line intervention for drug-induced glycemic excursions. Additionally, type 1-diabetes (T1D) risk stratification is refined; a confirmed single IA-2 autoantibody now warrants monitoring levels similar to the Stage 2 disease. Furthermore, prerequisites for automated-insulin-delivery (AID) initiation have been removed to streamline technology access. For laboratory professionals, these revisions emphasize the critical role of advanced glycemic metrics and precise autoantibody profiling in complex clinical contexts.

Keywords: ADA 2026 Standards of Care; continuous glucose monitoring; diabetes mellitus; glycemic goals; hyperglycemia in cancer; automated insulin delivery; islet autoantibody testing

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1. Introduction

The 2025 International Diabetes Federation's Atlas of Diabetes (11th edition) estimated that there were 589 million people with diabetes mellitus (DM) globally in 2024 and projects a 45% increase to 843 million by 2050; the greatest increase would befall Southeast Asia (73%), the Middle East and North Africa (92%) and Africa (142%) [1]. The rising prevalence of DM is indeed alarming. Effective evidence-based strategies are needed for the management of DM to mitigate the oncoming diabetes tsunami. In addition, the literature on diabetes is also exploding such that it is becoming very challenging to keep up with new developments in the field to provide optimal care for patients.

The American Diabetes Association (ADA) has provided annual recommendations on *Standards of Care in Diabetes* based on the most contemporary state of science and practice in DM since 1989 [2]. From a humble four-page debut in Diabetes Care, the latest ADA *Standards of Care in Diabetes* is now a weighty 362-page tome covering 17 chapters [3].

This voluminous document serves as the authoritative blueprint for clinical practice. The cumulative experience from a 20-member Professional Practice Committee and another 20 subject matter experts were brought to bear on its production, aided by seven ADA doctoral staff [4]. The diabetes literature from PubMed, Medline and Embase from 1 June 2024 to 18 July 2025 were scoured. Specific sections of the 2026 *Standards of Care in Diabetes* have also been endorsed by other professional medical organizations. They include the American Society for Bone and Mineral Research (ASBMR)—'Bone Health' subsection of Section 4 (Comprehensive Medical Evaluation & Assessment of Comorbidities), The Obesity Society (TOS)—Section 8 (Obesity & Weight Management for the Prevention and Treatment of Diabetes), the American College of Cardiology (ACC)—Section 10 (Cardiovascular Disease & Risk Management), the National Kidney Foundation (NKF)—Section 11 (Chronic Kidney Disease & Risk Management), the American Geriatrics Society (AGS)—Section 13 (Older Adults), and the International Society for Pediatric & Adolescent Diabetes (ISPAD)—Section 14 (Children & Adolescents) [5]. This 2026 update signals an acceleration of several key trends: a technology-first approach, the integration of diabetes care into increasingly specialized fields like oncology, and a deepening commitment to personalized cardiometabolic risk reduction. These revisions mandate a fresh look at established diagnostic and management workflows for the entire healthcare team, including those in laboratory medicine.

2. Technology Democratization: Expanding CGM Access and Removing AID Barriers

Perhaps the most significant and wide-reaching revision is the dramatic expansion of recommendations for the use of diabetes technology. Moreover, healthcare professionals are reminded to be aware of these available technologies.

2.1. Expanded Continuous-Glucose-Monitoring (CGM) Eligibility

CGM is no longer viewed strictly only as a tool for patients on intensive insulin regimens [6]. The 2026 guidelines now explicitly recommend CGM use at the onset of diabetes and any time afterwards for individuals who are on insulin therapy, on non-insulin therapies that can cause hypoglycemia, or on any diabetes treatment where CGM aids in management [6]. CGM should also be used in pregnancy, not just those with type 1 diabetes (T1D). This critical shift formally validates the use of CGM in a much broader population of individuals with type 2 diabetes (T2D) who are managed solely with oral agents or non-insulin injectables. The evidence supporting CGM benefits—including improved time in range (TIR) and reduction in time spent in hypoglycemia—in non-insulin T2D users has now cemented this recommendation, promoting patient agency and empowering therapy adjustments based on real-time data [7–9]. Patients and carers alike look forward to the greater availability and affordability of such devices.

2.2. Defining Success with CGM

The increased adoption of CGM is directly tied to the mal emphasis on time in range (TIR)—the percentage of time an individual's glucose level remains between 70 and 180 mg/dL (3.9–10.0 mmol/L). TIR is now firmly established alongside HbA1c as a primary clinical target. Together, HbA1c and TIR significantly impact cardiovascular risk assessment in T1D [10]. The ADA 2026 guidelines underscore the need for individualized glycemic targets, recognizing that while the general target HbA1c remains <7%, the corresponding TIR goal is over 70%. Critically, the guidelines mandate specific goals for time below range (TBR), particularly recommending that time spent in hypoglycemia (glucose <70 mg/dL) should be less than 4% and time spent in serious hypoglycemia

(glucose <54 mg/dL) should be under 1%. These TIR and TBR metrics, derived from the standardized ambulatory-glucose-profile (AGP) report, provide far greater clinical granularity than HbA1c alone, enabling practitioners to identify and address nocturnal or postprandial excursions previously missed [11,12].

2.3. Automated-Insulin-Delivery (AID) Access

The guidelines reinforce the supremacy of AID systems (over multiple daily injections or non-automated pumps) as the preferred insulin delivery method for people with T1D. AID should also be considered in T2D patients on insulin who are not achieving glycemic goals. Furthermore, a new recommendation calls for the removal of previous prerequisites (e.g., C-peptide levels, autoantibody status, or duration of insulin use) before initiating AID or continuous subcutaneous insulin infusion (CSII). This is a vital change aimed at streamlining access and ensuring that patients who can benefit from automated systems, including those newly diagnosed, are not impeded by arbitrary treatment hurdles [6]. When AID is used, both patients and their caregivers need education on how to use and troubleshoot these systems as well as regular re-education. While the benefits are clear, affordability, access and availability will remain challenges.

The shift toward technology-driven metrics and individualized goals is encapsulated in the updated targets shown in Table 1.

Table 1. CGM goals for adults with diabetes.

Population/ Clinical Context	HbA1c Goal % (mmol/mol)	Time-in-Range (TIR) Goal (70–180 mg/dL)	Time-Below-Range (TBR) Goal (<70 mg/dL)	Rationale/ Key Difference
Most Nonpregnant Adults (General target)	<7% (<53)	>70%	<4%	The standard target for maximizing benefit and minimizing risk.
Healthy Adults (Low risk, no significant comorbidities)	<6.5% (<48)	Individualized (often >80%)	<1%	Lower goal is appropriate when achieved safely (low hypoglycemia risk).
Older/Frail Adults * (High risk of hypo/severe comorbidities)	<7.5–<8% (<58–64)	>50% (or individualized)	<1%	Key Update: Prioritizes safety and avoidance of hypoglycemia over strict control.
High-Risk (TBR) Goals (All adults with CGM)	-	-	<1%	TBR is a critical lab/CGM safety metric emphasized in 2026.

* Glycemic targets should be individualized based on comorbidities, functional status, cognitive function, hypoglycemia risk, and life expectancy rather than chronological age alone. In frail individuals or those with significant comorbidity, less stringent targets and simplified treatment regimens are recommended to minimize hypoglycemia and treatment burden.

3. New Specialized Contexts: Glycemic Management in Cancer

Cancer is a heterogeneous group of disorders with different etiologies and treatments. Since 1949 when nitrogen mustard was approved for clinical use by the US Food and Drug Administration (FDA) [13], there are now over 100 anticancer drugs [14]. A significant fraction of adverse events with cancer therapy is due to endocrine disorders [15], of which hyperglycemia accounts for 15–50% [16]. This is particularly concerning given the improved outcomes and longer survival of such patients. Consequently, the 2026 *Standards of Care in Diabetes* introduces comprehensive and dedicated guidance for managing hyperglycemia in the context of patients on cancer treatment—a necessity given the increasing use of agents known to induce or worsen glucose dysregulation [17].

3.1. Cancer Drug-Induced Hyperglycemia

Specific monitoring and management recommendations are provided for patients receiving high-risk agents [18]. The ADA highlights three drug classes for special mention: PI3Kα inhibitors (e.g., alpelisib, inavolisib), mTOR inhibitors (e.g., everolimus), and immune checkpoint inhibitors (ICIs) (e.g., nivolumab, pembrolizumab, avelumab). The guidelines emphasize close glycemic monitoring (plasma glucose) before starting therapy and at each visit for individuals starting these treatments and with quarterly HbA1c testing [18]. While PI3Kα inhibitors have improved survival of advanced breast cancer, they cause grade 3 or 4 hyperglycemia in 36% of patients [19]; the median time to onset of hyperglycemia was 13 days [20]. PI3Kα inhibitors, in particular, need glucose testing weekly for the first 2 weeks and monthly thereafter. While hyperglycemia for the mTOR inhibitor everolimus can be as high as 27%, serious glucose elevations occurred in only 2.5% of patients [21]. While ICI-induced diabetes occurs in 0.6–1.4% of subjects, they often present as diabetic ketoacidosis, requiring life-long insulin thereafter [22].

3.2. Treatment Recommendations

In mTOR- or PI3Kα inhibitor–associated hyperglycemia, metformin is recommended as the first-line therapy in clinically stable patients. Insulin should be reserved for severe hyperglycemia, in light of concerns that insulin exposure could adversely influence responses to PI3Kα inhibitors. This guidance is especially relevant because these agents frequently induce abrupt and pronounced hyperglycemia that differs from the gradual trajectory of typical type 2 diabetes, thereby favoring the initial use of non-insulin glucose-lowering strategies when clinically feasible. The emphasis on pre-treatment counselling of patients regarding hyperglycemia risk is also a key preventive measure [23,24].

The new dedicated guidance for managing hyperglycemia induced by high-risk cancer therapies, a major update in the ADA 2026 guidelines, is illustrated in Figure 1.

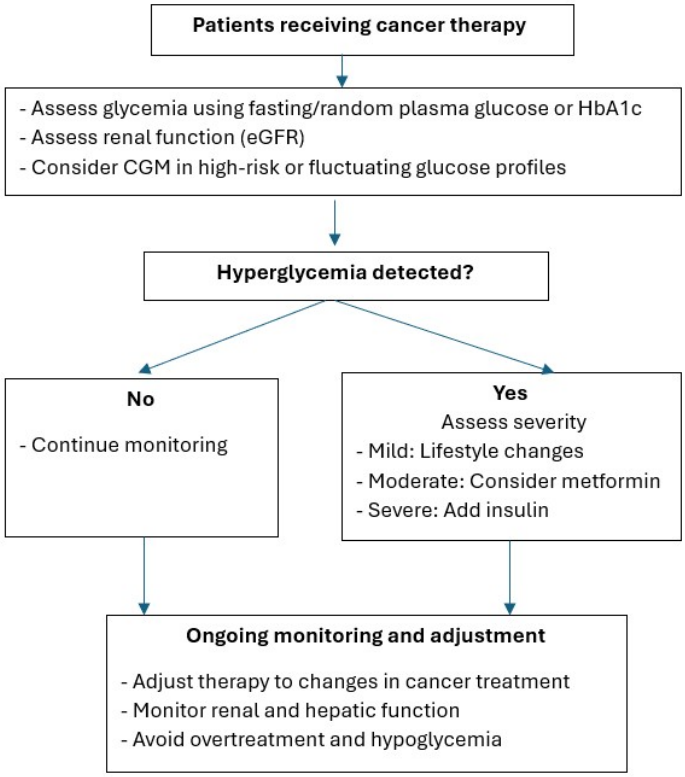


Figure 1. Algorithm for the management of hyperglycemia in patients with cancer according to the ADA 2026 *Standards of Care in Diabetes*.

4. Refinements in Diagnosis and Prevention: Antibody Testing and T1D Staging

Autoimmune β-cell destruction in T1D results in the production of antibodies against pancreatic antigens: glutamic acid decarboxylase (GAD65), insulinoma-associated antigen 2 (IA-2), zinc transporter 8 (ZnT8) and insulin (insulin-associated antibody, IAA) [18]. Besides staging of T1D at diagnosis (Stage 1 presymptomatic/normoglycemia, Stage 2 presymptomatic/dysglycemia, Stage 3 symptomatic/overt hyperglycemia) [18], these autoantibodies have been used to predict the likelihood of developing T1D in high-risk subjects [25]. Due to its increasing role as precision diagnostic markers [26], the 2026 ADA Guidelines include important, subtle adjustments that enhance the identification of individuals at high risk for T1D progression using autoantibody testing or consideration for prevention trials using teplizumab [18].

4.1. Autoantibody Monitoring

The guidelines reinforce the importance of islet autoantibody testing for the assessment of T1D risk. A significant nuance is the recommendation that individuals with a confirmed single IA-2 autoantibody should be monitored similarly to those with Stage 2 T1D, recognizing their comparable propensity for high-risk progression to overt disease. This allows for earlier intervention strategies where appropriate. Furthermore, prompt evaluation for Stage 3 (overt T1D) is now strongly emphasized in anyone presenting with even a single or multiple islet autoantibodies, underscoring the need for them to receive urgent clinical action [18,26].

4.2. Impact on Laboratory Medicine

These revisions highlight the ongoing, critical role of high-quality autoantibody assays (GADA, IA-2A, ZnT8A, IAA) to be used for risk stratification and not just diagnosis [27,28]. The IA-2-specific recommendation will direct laboratories to focus on reliable single-antibody testing protocols. In this regard, the use of more robust islet autoantibody methods evidenced from their performance in Islet Autoantibody Standardization Program (IASP) interlaboratory comparisons would be useful [29].

5. Pharmacologic Management and Cardiometabolic Protection

From a pathophysiologic perspective, cardiovascular, kidney and metabolic (CKM) disorders are intertwined and are now termed the CKM syndrome [30,31]. This syndrome afflicts over 25% of adults and is among the leading causes of death in the USA [32]. Effective screening for and monitoring of CKM syndrome requires assessment of kidney function (eGFR and albuminuria) [33] as well as detecting for heart failure with NTproBNP [34]. The 2026 ADA update continues to prioritize glucose-independent benefits of specific pharmacologic classes, alongside practical guidance for weight management for CKM disorders [33,34]. See Figure 2.

5.1. Cardiometabolic First

Current cardiorenal therapies, such as renin–angiotensin–aldosterone inhibitors, SGLT-2 inhibitors, GLP-1 receptor agonists (GLP-1 RAs), and nonsteroidal mineralocorticoid receptor antagonists, can reduce cardiovascular risk beyond control of BP, dyslipidemia and glycemia alone [35]. The emphasis on selecting glucose-lowering therapies with proven cardiovascular, heart-failure, and chronic-kidney-disease (CKD) benefits—namely SGLT2 inhibitors and GLP-1 Ras—is further strengthened, as the ADA affirms them in all patients regardless of baseline HbA1c and in those with CKD as well [36,37]. While the BP goal of <130/80 mmHg is generally accepted for CKD, the ADA also encourages a systolic BP

goal of <120 mmHg where feasible. SGLT2 inhibitors can be continued in those not on dialysis with an eGFR< 20 mL/min/1.73 m^2. New guidance also addresses the initiation or continuation of GLP-1 RAs in individuals on dialysis to reduce cardiovascular risk, expanding their therapeutic utility even in end-stage CKD [36,37].

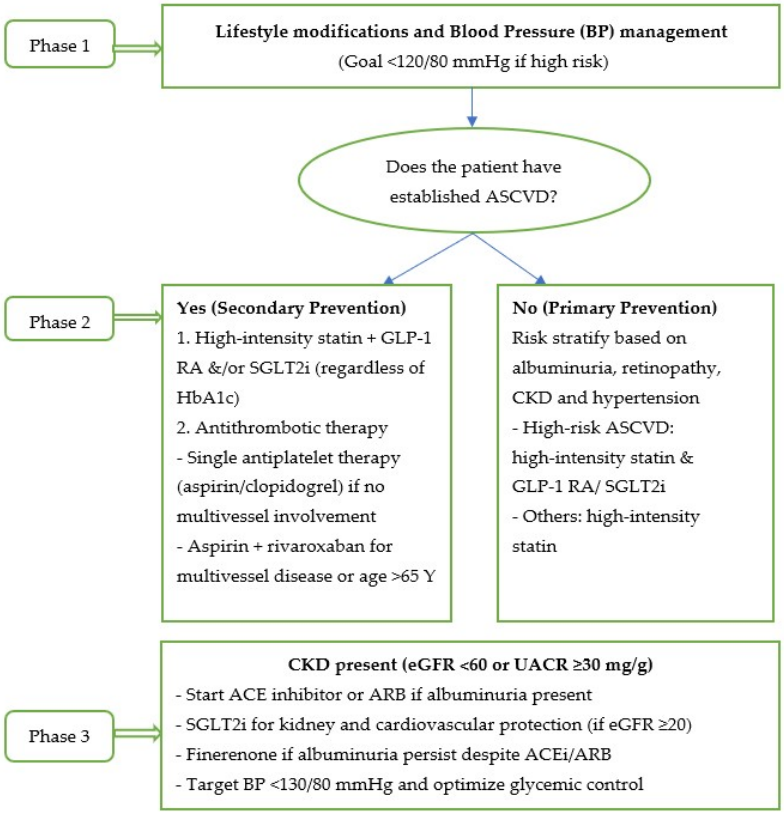


Figure 2. Algorithm for the integrated management of cardio–metabolic–kidney disease in patients with diabetes according to the ADA 2026 *Standards of Care in Diabetes*.

In people with diabetes, certain lipid profile abnormalities signal increased cardiovascular risk. Elevated LDLC (≥100 mg/dL), low HDLC (<40 mg/dL in men, <50 mg/dL in women), and high triglycerides (≥150 mg/dL) should prompt intensified lifestyle interventions and consideration of pharmacologic therapy. The presence of complications further guides management: patients with established ASCVD require high-intensity statins, often with ezetimibe or PCSK9 inhibitors, to achieve LDLC < 55 mg/dL and ≥50% reduction, while those with chronic kidney disease are considered high-risk and should receive appropriately intensified therapy. Microvascular complications signal higher cardiovascular risk, and very high triglycerides (≥500 mg/dL) necessitate urgent intervention to prevent pancreatitis, in line with the ADA 2026 recommendations [33,34].

5.2. Obesity and Weight Management in Diabetes

The guidelines support the application of obesity management strategies used in the general population—including GLP-1 receptor agonist–based pharmacotherapy (Grade B) and metabolic surgery (Grade C)—for individuals with type 1 diabetes and obesity [34]. While the strength of the evidence for these interventions does not reach Class A, reflecting limited randomized data in this population, their adoption requires careful patient selection. Lifestyle therapy remains the foundation of management and should include individualized nutritional counseling aimed at achieving a sustained caloric deficit, increased physical activity, and behavioral support for weight reduction. When lifestyle measures alone are insufficient, pharmacologic therapy may be considered in individuals with BMI ≥ 27 kg/m^2

with obesity-related comorbidities or ≥30 kg/m^2, with preference for agents that promote clinically meaningful weight loss, such as GLP-1 receptor agonists (e.g., semaglutide). Metabolic surgery may be considered in carefully selected individuals with severe obesity, ideally within experienced multidisciplinary centers. However, its use warrants caution as studies report a substantial risk of postoperative diabetic ketoacidosis (estimated at 15–20%). This treatment modality therefore requires specialized perioperative glucose management and structured long-term follow-up [33,34].

In addition, the guidelines emphasize adequate protein intake to preserve lean body mass and prevent sarcopenia during weight loss, particularly in older adults, with individualized targets generally ranging from ~1.0–1.5 g/kg/day depending on age, renal function, and clinical status. They also highlight evidence-based dietary patterns for type 2 diabetes prevention, including Mediterranean, DASH (Dietary Approaches to Stop Hypertension), plant-based, and other nutrient-dense eating patterns that emphasize whole grains, legumes, fruits, vegetables, and unsaturated fats while limiting refined carbohydrates and ultra-processed foods [38].

6. Conclusions

The ADA 2026 *Standards of Care in Diabetes* builds upon the foundational changes of the 2025 edition [39], promoting an environment of highly individualized, technology-supported, and preventative diabetes care. The expanded use of CGM, the formal integration of cancer-related hyperglycemia management, and the refinement of T1D staging represent advancements that will significantly impact clinical protocols. For laboratory professionals, these updates reinforce the need to provide robust and timely testing in three key areas: advanced glucose metrics (TIR), autoantibody profiling for risk assessment, and monitoring protocols for specialized pharmacotherapies (e.g., in cancer or CKD). These standards ensure that diabetes care continues to evolve, prioritizing both glycemic control and long-term cardiometabolic health. The global burden of DM from 2020 to 2050 has been estimated to be $78.8 trillion [40]. Given the impending explosive macroeconomic impact of DM, adoption of the ADA *Standards of Care in Diabetes*, in particular the 2026 update, will hopefully mitigate against the rising tide of DM [1]. It is in all our interests, including laboratorians, to pay close attention to DM.

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Abbreviations

The following abbreviations are used in this manuscript:

ADA	American Diabetes Association
AID	Automated Insulin Delivery
CGM	Continuous Glucose Monitoring
CKD	Chronic Kidney Disease
CSII	Continuous Subcutaneous Insulin Infusion
DM	Diabetes Mellitus
FDA	US Food and Drug Administration
GADA	Glutamic Acid Decarboxylase Antibodies
GLP-1	Glucagon-Like Peptide-1
IA-2A	Insulinoma-Associated Antigen 2
IAA	Insulin-Associated Antibodies
ICI	Immune Checkpoint Inhibitor
MASLD	Metabolic Dysfunction-Associated Steatotic Liver Disease
mTOR	Mammalian/Mechanistic Target of Rapamycin
PI3Kα	Phospho-Inositide 3-Kinase Alpha
SGLT-2	Sodium-Glucose Cotransporter-2
TBR	Time Below Range
TIR	Time In Range
T1D	Type 1 Diabetes
T2D	Type 2 Diabetes
ZnT8A	Zinc Transporter-8 Antibodies

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