Standards of Care 2025 Updates & Practice Implications

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Disclosures

- No Disclosures

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EVIDENCE	• Extensive literature search over the past year • Recommendations added and revised based on new evidence
PROCESS	• Professional Practice Committee • Invited external reviewers and ADA scientific review • ADA's Board of Directors review • Living Standards
FUNDING	• Funded out of ADA's general revenues • Does not use industry support

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Standards of Care Resources

- Full version available
- NEW abridged version for PCPs
- Free app, with interactive tools
- Pocket cards with key figures
- Free webcast for continuing education credit

Professional.Diabetes.org/SOC

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Section 1 highlights

Improving Care and Promoting Health in Populations

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1.1 Ensure treatment decisions are timely, rely on evidence-based guidelines, capture key elements within the social determinants of health, and are made collaboratively with people with or at risk for diabetes and caregivers based on individual preferences, prognoses, comorbidities, and informed financial considerations. **B**

1.2 Align approaches to diabetes management with **evidence-based care models**. These models emphasize person-centered team care, integrated long-term treatment approaches to diabetes and comorbidities, and ongoing collaborative communication and goal setting between all team members and with people with diabetes. **A**

1.5 Health systems should **adopt a culture of quality improvement, implement benchmarking programs, and engage interprofessional teams** to support sustainable and scalable process changes to improve quality of care and health outcomes. **A**

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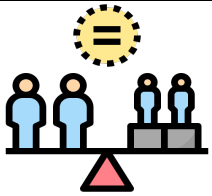

1.6 Health systems should **assess and address disparities in diabetes care and health outcomes** (e.g., by stratifying clinical quality data by factors such as insurance status, race, ethnicity, preferred language for health care discussions, disability, and other social determinants of health). **C**

1.7 During clinical encounters, **assess for social determinants of health**, including food insecurity, **A** housing insecurity, financial barriers, health insurance and health care access, environmental and neighborhood factors, and social capital/social community support, **B** to inform treatment decisions, with **referral to appropriate local community resources**.

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Section 2 highlights

Diagnosis and Classification of Diabetes

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Diagnosis and Classification of Diabetes

Section 2

- Type 1 Diabetes: **Antibody-based screening for type 1 diabetes** is emphasized for individuals with a family history or elevated genetic risk, with expanded supporting text.
  - Suspect with diagnosis at age <35 with BMI <25, unintentional weight loss, ketoacidosis or glucose >360 at presentation
  - Weak predictors: ketosis without acidosis, osmotic symptoms, family history, other autoimmune disorders
  - Check IAA, GAD65, IA-2A, ZnT8A
- Updates address diabetes and **immune checkpoint inhibitors**, the gut microbiome's role in diabetes risk, and monogenic diabetes.

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Section 4 highlights

Comprehensive Medical Evaluation and Assessment of Comorbidities

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Comprehensive Medical Evaluation and Assessment of Comorbidities

Section 4
"Immunizations" subsection

4.5 Provide routinely recommended vaccinations for children and adults with diabetes as indicated by age. **A**

- The **"Immunizations" subsection** now reflects updates for **COVID-19**, **pneumococcal pneumonia**, and **respiratory syncytial virus** vaccines.
- **Table 4.3** was revised to incorporate these important vaccination updates.

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4. Comprehensive Medical Evaluation and Assessment of Comorbidities

Table 4.3—Highly recommended immunizations for adults with diabetes (from the Advisory Committee on Immunization Practices and Centers for Disease Control and Prevention)

Vaccine	Recommended ages	Schedule	GRADE evidence type*	References
COVID-19	All people 6 months of age and older	Current initial vaccination and boosters		Centers for Disease Control and Prevention, Interim Clinical Considerations for Use of COVID-19 Vaccines in the United States (318)
Hepatitis B	Adults with diabetes aged <60 years; for adults aged ≥60 years, hepatitis B vaccine may be administered at the discretion of the treating clinician based on the person's likelihood of acquiring hepatitis B infection			Weng et al., Universal Hepatitis B Vaccination in Adults Aged 19–59 Years: Updated Recommendations of the Advisory Committee on Immunization Practices—United States, 2022 (19)
Influenza	All people with diabetes advised to receive a trivalent influenza vaccine and not to receive live attenuated influenza vaccine	Annual		Centers for Disease Control and Prevention, Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices—United States, 2024–25 Influenza Season (22)
Pneumonia (PPSV23 [Pneumovax])	19–64 years of age, vaccinate with Pneumovax	One dose is recommended for those who previously received PCV13; if PCV15 was used, follow with PPSV23 ≥1 year later; PPSV23 is not indicated after PCV20; adults who received only PPSV23 may receive PCV15 or PCV20 ≥1 year after their last dose	2	Centers for Disease Control and Prevention, Updated Recommendations for Prevention of Invasive Pneumococcal Disease Among Adults Using the 23-Valent Pneumococcal Polysaccharide Vaccine (PPSV23) (24,319)
	≥65 years of age	One dose is recommended for those who previously received PCV13; if PCV15 was used, follow with PPSV23 ≥1 year later; PPSV23 is not indicated after PCV20; adults who received only PPSV23 may receive PCV15 or PCV20 ≥1 year after their last dose	2	Falkenhorst et al., Effectiveness of the 23-Valent Pneumococcal Polysaccharide Vaccine (PPV23) Against Pneumococcal Disease in the Elderly: Systematic Review and Meta-analysis (24,320)

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Comprehensive Medical Evaluation and Assessment of Comorbidities: *Standards of Care in Diabetes - 2025, Diabetes Care* 2025;48(Suppl. 1):S59-S85

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4. Comprehensive Medical Evaluation and Assessment of Comorbidities

PCV20 or PCV15	Adults 19–64 years of age with an immunocompromising condition (e.g., chronic renal failure), cochlear implant, or cerebrospinal fluid leak	One dose of PCV15 or PCV20 is recommended by the Centers for Disease Control and Prevention		Kobayashi et al., Use of 15-Valent Pneumococcal Conjugate Vaccine and 20-Valent Pneumococcal Conjugate Vaccine Among U.S. Adults: Updated Recommendations of the Advisory Committee on Immunization Practices—United States, 2022 (24, 321)
	Adults 19–64 years of age, immunocompetent	For those who have never received any pneumococcal vaccine, the Centers for Disease Control and Prevention recommends one dose of PCV15 or PCV20		
	≥65 years of age, immunocompetent, have shared decision-making discussion with health care professionals	One dose of PCV15 or PCV20; PCSV23 may be given ≥8 weeks after PCV15; PPSV23 is not indicated after PCV20		
RSV	Older adults ≥60 years of age with diabetes appear to be a risk group	Adults aged ≥75 years and those aged ≥60 years and at high risk may receive a single dose of an RSV vaccine		Centers for Disease Control and Prevention, CDC Recommends RSV Vaccine for Older Adults (25)
Tetanus, diphtheria, pertussis (Tdap)	All adults; pregnant individuals should have an extra dose	Booster every 10 years	2 for effectiveness, 3 for safety	Havers et al., Use of Tetanus Toxoid, Reduced Diphtheria Toxoid, and Acellular Pertussis Vaccines: Updated Recommendations of the Advisory Committee on Immunization Practices—United States, 2019 (322)

Continued on p. S67

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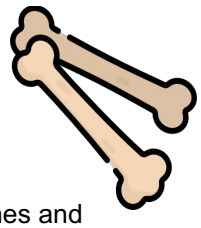
Comprehensive Medical Evaluation and Assessment of Comorbidities

Section 4



4.10 Consider the **potential adverse impact on skeletal health when selecting pharmacological options** to lower glucose levels in people with diabetes. Avoiding medications with a known association with higher fracture risk (e.g., thiazolidinediones and sulfonylureas) is recommended, particularly for those at elevated risk for fractures. **B**

4.12 Advise people with diabetes on their **intake of calcium** (1,000–1,200 mg/day) and vitamin D to ensure it meets the recommended daily allowance for those at risk for fracture, either through their diet or supplemental means. **B**

4.13 Antiresorptive medications and osteoanabolic agents should be recommended for older adults with diabetes who are at higher risk of fracture, including those with low bone mineral density with a **T-score ≤ -2.0**, history of fragility fracture, or elevated Fracture Risk Assessment Tool score (≥3% for hip fracture or ≥20% for major osteoporotic fracture). **B**

The "Bone Health" subsection is endorsed by the American Society for Bone and Mineral Research.

American Diabetes Association.

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Comprehensive Medical Evaluation and Assessment of Comorbidities

Section 4-
A new subsection on "Dental Care".

4.15 People with diabetes should be **referred for a dental exam at least once per year**. **E**

4.16 Coordinate efforts between the medical and dental teams to appropriately adjust glucose-lowering medication and treatment plans prior to and in the post–dental procedure period as needed. B

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Comprehensive Medical Evaluation and Assessment of Comorbidities

Section 4
Sexual Health in Men

4.18 In men with diabetes or prediabetes, **inquire about sexual health** (e.g., low libido and erectile dysfunction [ED]). If symptoms and/or signs of hypogonadism are detected (e.g., low libido, ED, and depression), screen with a morning serum total testosterone level. **B**

4.19 In men with diabetes or prediabetes, **screen for ED,** particularly in those with high cardiovascular risk, retinopathy, cardiovascular disease, chronic kidney disease, peripheral or autonomic neuropathy, longer duration of diabetes, depression, and hypogonadism, and in those who are not meeting glycemic goals. **B**

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Comprehensive Medical Evaluation and Assessment of Comorbidities

Section 4 –
A new subsection on "Female Sexual Dysfunction"

4.20 In women with diabetes or prediabetes, **inquire about sexual health** by screening for desire (libido), arousal, and orgasm difficulties, particularly in those who experience depression and/or anxiety and those with recurrent urinary tract infections. **B**

4.21 In postmenopausal women with diabetes or prediabetes, **screen for symptoms and/or signs of genitourinary syndrome of menopause, including vaginal dryness and dyspareunia**. **B**

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Comprehensive Medical Evaluation and Assessment of Comorbidities

Section 4 –
Liver Health

Updated Terminology: The terms **nonalcoholic fatty liver disease (NAFLD)** and **nonalcoholic steatohepatitis (NASH)** have been updated to **Metabolic-Associated Steatotic Liver Disease (MASLD)** and **Metabolic-Associated Steatohepatitis (MASH).**

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4. Comprehensive Medical Evaluation and Assessment of Comorbidities

Diagnostic Algorithm for the Prevention of Cirrhosis in People With Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD)

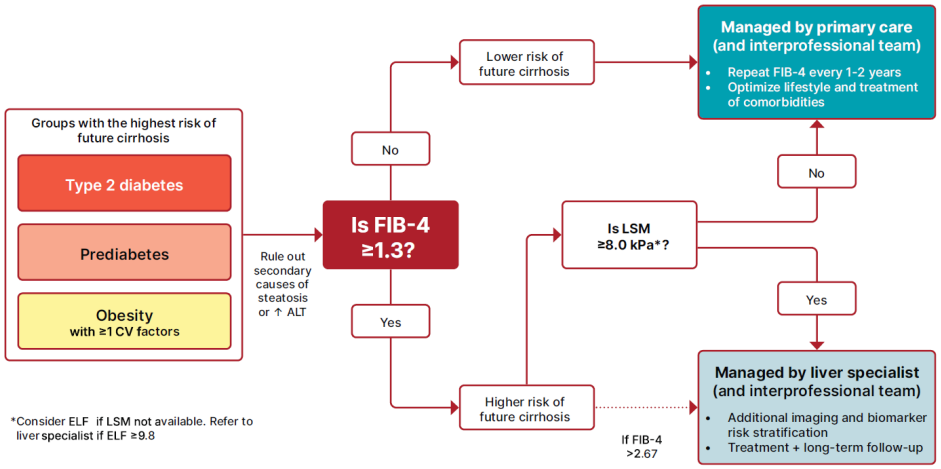

Figure 4.2—Diagnostic algorithm for risk stratification and the prevention of cirrhosis in individuals with metabolic dysfunction–associated steatotic liver disease (MASLD). CV, cardiovascular; ELF, enhanced liver fibrosis test; FIB-4, fibrosis-4 index; LSM, liver stiffness measurement, as measured by vibration-controlled transient elastography. *In the absence of LSM, consider ELF a diagnostic alternative. If ELF ≥9.8, an individual is at high risk of metabolic dysfunction–associated steatohepatitis with advanced liver fibrosis (≥F3–F4) and should be referred to a liver specialist.

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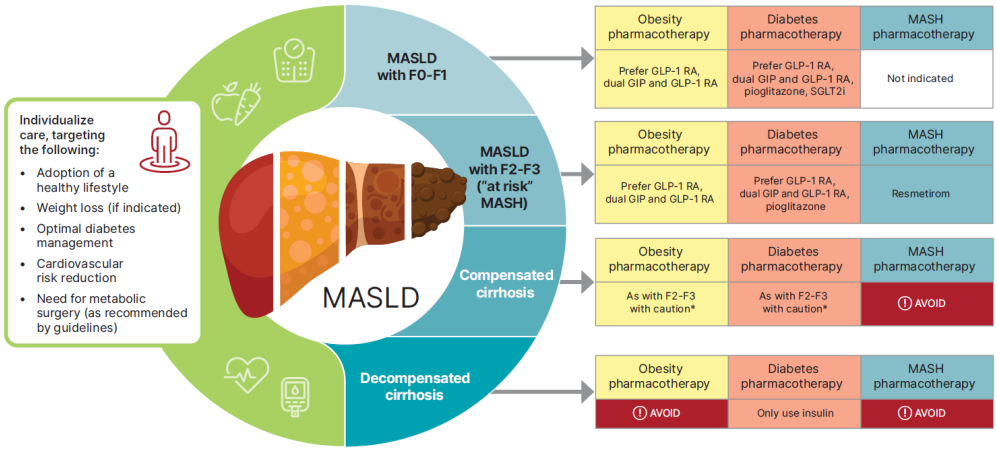
4. Comprehensive Medical Evaluation and Assessment of Comorbidities

Metabolic Dysfunction–Associated Steatotic Liver Disease (MASLD) Treatment Algorithm



*Individualized care and close monitoring needed in compensated cirrhosis given limited safety data available.

Figure 4.3—Metabolic dysfunction–associated steatotic liver disease (MASLD) treatment algorithm. F0-F1, no to minimal fibrosis; F2-F3, moderate fibrosis; F4, cirrhosis; GIP, glucose-dependent insulinotropic polypeptide; GLP-1 RA, glucagon-like peptide 1 receptor agonist; MASH, metabolic dysfunction–associated steatohepatitis; SGLT2i, sodium–glucose cotransporter 2 inhibitor.

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Comprehensive Medical Evaluation and Assessment of Comorbidities:
Standards of Care in Diabetes - 2025. Diabetes Care 2025;48(Suppl. 1):S59-S85

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Section 5 highlights

Facilitating Positive Health Behaviors and Well-being to Improve Health Outcomes

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5. Facilitating Positive Behaviors and Well-being to Improve Health Outcomes

Religious and Intermittent Fasting: Differences and Similarities

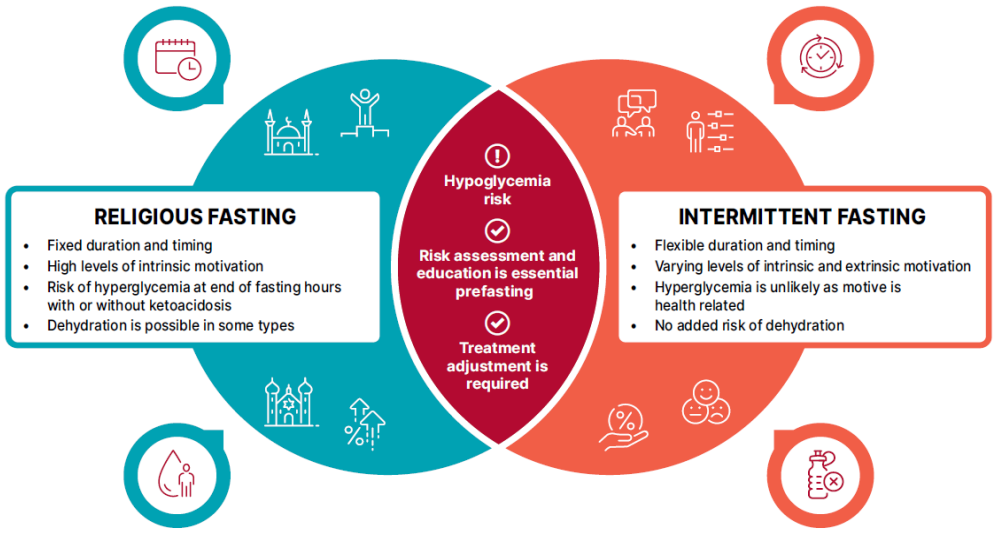

Figure 5.1—Differences and similarities of religious and intermittent fasting for people with diabetes.

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Facilitating Positive Heath Behaviors and Well-being to Improve Health Outcomes: *Standards of Care in Diabetes - 2025. Diabetes Care* 2025;48(Suppl. 1):S86-S127

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Facilitating Positive Health Behaviors and Well-being to Improve Health Outcomes

Section 5
Smoking Cessation: Tobacco, E-cigarettes, and Cannabis" subsection

5.42 Advise people with type 1 diabetes **C** and those with other forms of diabetes at risk for diabetic ketoacidosis **E** **not to use recreational cannabis in any form**.

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Section 6 highlights

Glycemic Goals and Hypoglycemia

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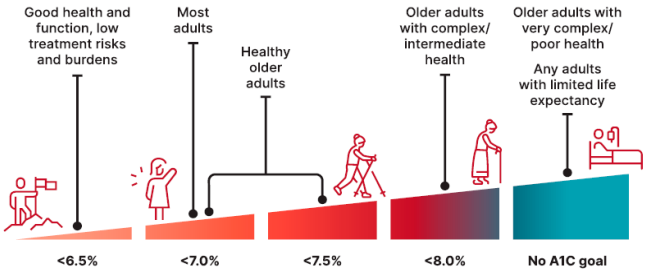
6. Glycemic Goals and Hypoglycemia



Modifying Factors

Favor more stringent goal	Favor less stringent goal
Short diabetes duration	Long diabetes duration
Low hypoglycemia risk	High hypoglycemia risk
Low treatment risks and burdens	High treatment risks and burdens
Pharmacotherapy with cardiovascular, kidney, weight, or other benefits	Pharmacotherapy without nonglycemic benefits
No cardiovascular complications	Established cardiovascular complications
Few or minor comorbidities	Severe, life-limiting comorbidities

Figure 6.2—Individualized A1C goals for nonpregnant adults. Select the glycemic goal based on individual health and function as described at the top of the figure. Consider modifying to a more or less stringent goal according to the factors listed in the table. Older adults are classified as healthy (few coexisting chronic illnesses, intact cognitive and functional status), as having complex/intermediate health (multiple coexisting chronic illnesses, two or more instrumental impairments to activities of daily living, or mild to moderate cognitive impairment), or as having very complex/ poor health (long-term care or end-stage chronic illnesses, moderate to severe cognitive impairment, or two or more impairments to activities of daily living). Select glycemic goals that avoid symptomatic hypoglycemia and hyperglycemia in all individuals. Consider individuals' resources and support systems to safely achieve glycemic goals. Incorporate the preferences and goals of people with diabetes through shared decision-making.

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Glycemic Goals and Hypoglycemia:
Standards of Care in Diabetes - 2025. Diabetes Care 2025;48(Suppl. 1):S128-S145

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Section 7 highlights

Diabetes Technology

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Diabetes Technology

Section 7

- **7.16** Consider using rtCGM and isCGM in **adults with type 2 diabetes treated with glucose-lowering medications other than insulin** to achieve and maintain individualized glycemic goals. The choice of device should be made based on the individual's circumstances, preferences, and needs. **B**
- **7.18 CGM can help achieve glycemic goals** (e.g., time in range and time above range) A and A1C goal **B** in type 1 diabetes and pregnancy and may be beneficial for other types of diabetes in pregnancy. **E**
- **7.29** Support and provide diabetes management advice to people with diabetes who choose to use an **open-source closed-loop system**. **B**
- **7.30** Consider combining technology (CGM, insulin pump, and/or diabetes apps) with **online or virtual coaching** to improve glycemic outcomes in individuals with diabetes or prediabetes. **B**
- **7.32** Continue **use of insulin pump or AID in people with diabetes who are hospitalized** when clinically appropriate, with confirmatory POC blood glucose measurements for insulin dose decisions and hypoglycemia assessment and treatment. This is contingent upon availability of necessary supplies, resources, and training, ongoing competency assessments, and implementation of institutional diabetes technology protocols. **C**

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Section 8 highlights

Obesity and Weight Management for the Prevention and Treatment of Type 2 Diabetes

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Obesity and Weight Management for the Prevention and Treatment of Type 2 Diabetes

Section 8

- **8.2a** To support the diagnosis of obesity, measure height and weight to calculate BMI and perform additional measurements of body fat distribution, like **waist circumference, waist-to-hip ratio, and/or waist-to-height ratio** if BMI is indeterminant. **E**
- **8.2b** Monitor obesity-related anthropometric measurements at least annually to inform treatment considerations. During active weight management treatment, increase monitoring to **at least every 3 months**. **E**
- **8.11** For those who achieve weight loss goals, continue to monitor progress, provide ongoing support, and recommend **continuing interventions to maintain weight goals long term**. **E** Effective long-term (≥1 year) weight maintenance programs provide monthly contact and support, include frequent self-monitoring of body weight (weekly or more frequently) and other self-monitoring strategies (e.g., food diaries or wearables), and encourage regular physical activity (200–300min/week). **A**

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- **8.18** Screen people with diabetes and obesity who have lost significant weight for **malnutrition**, especially those who have undergone metabolic surgery **A** and those treated with weight management pharmacologic therapy. **B**
- **8.19 Weight management pharmacotherapy indicated for chronic therapy should be continued** beyond reaching weight loss goals to maintain the health benefits. Sudden discontinuation of weight management pharmacotherapy often results in weight gain and worsening of cardiometabolic risk factors. **A**

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Section 9 highlights

Pharmacologic Approaches to Glycemic Treatment

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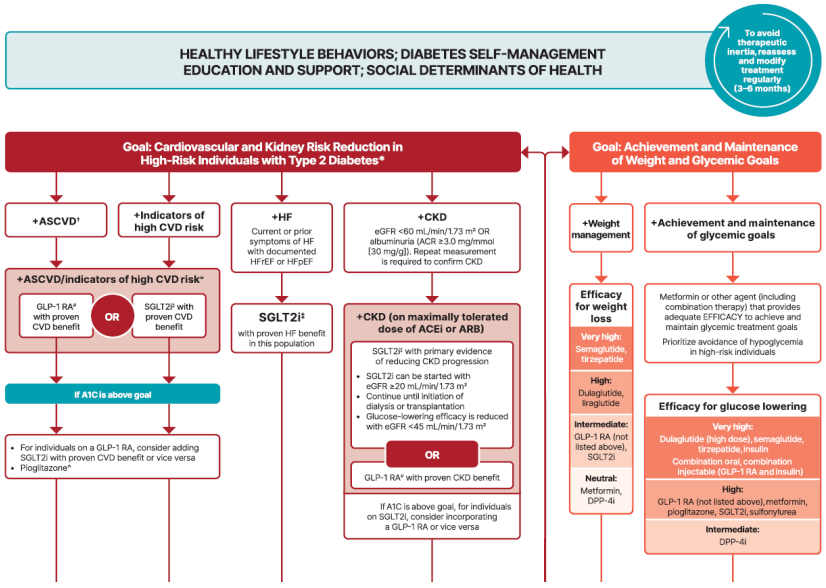
9. Pharmacologic Approaches to Glycemic Treatment

Use of Glucose-Lowering Medications in the Management of Type 2 Diabetes



Pharmacologic Approaches to Glycemic Treatment:
Standards of Care in Diabetes - 2025 Diabetes Care 2025;48(Suppl. 1):S181-S206

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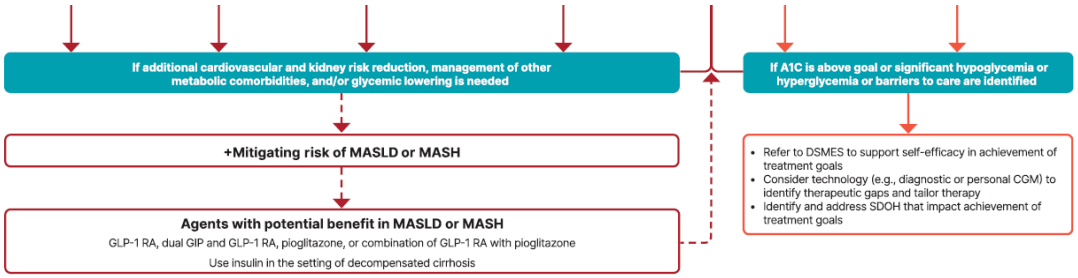
9. Pharmacologic Approaches to Glycemic Treatment

Figure 9.3 (continued)



* In people with HF, CKD, established CVD, or multiple risk factors for CVD, the decision to use a GLP-1 RA or SGLT2i with proven benefit should be made irrespective of background use of metformin or A1C.

† ASCVD: Defined differently across CVOTs but all included individuals with established CVD (e.g., MI, stroke, and arterial revascularization procedure) and variably included conditions such as transient ischemic attack, unstable angina, amputation, and symptomatic or asymptomatic coronary artery disease. Indicators of high risk: While definitions vary, most comprise ≥55 years of age with two or more additional risk factors (including obesity, hypertension, smoking, dyslipidemia, or albuminuria).

≈ A strong recommendation is warranted for people with CVD and a weaker recommendation for those with indicators of high-risk CVD. Moreover, a higher absolute risk reduction and thus lower numbers needed to treat are seen at higher levels of baseline risk and should be factored into the shared decision-making process. See text for details.

For GLP-1 RAs, CVOTs demonstrate their efficacy in reducing composite MACE, CV death, all-cause mortality, MI, stroke, and kidney end points in individuals with T2D with established or high risk of CVD. One kidney outcome trial demonstrated benefit in reducing persistent eGFR reduction and CV death for a GLP-1 RA in individuals with CKD and T2D.

‡ For SGLT2is, CV and kidney outcomes trials demonstrate their efficacy in reducing the risks of composite MACE, CV death, all-cause mortality, MI, HHF, and kidney outcomes in individuals with T2D and established or high risk of CVD.

^ Low-dose pioglitazone may be better tolerated and similarly effective as higher doses.

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Pharmacologic Approaches to Glycemic Treatment:
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Pharmacologic Approaches to Glycemic Treatment

Section 9

- **9.21** Concurrent use of dipeptidyl peptidase 4 (DPP-4) inhibitors with a GLP-1 RA or a dual GIP and GLP-1 RA is not recommended due to lack of additional glucose lowering beyond that of a GLP-1 RA alone. **B**
- **9.24** In adults with type 2 diabetes and no evidence of insulin deficiency, a GLP-1 RA, including a dual GIP and GLP-1 RA, is preferred to insulin (Fig. 9.4). **A**

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Section 9
Glucose-Lowering Pharmacotherapy in Special Circumstances and Populations

- **9.31a** Use of **compounded products that are not approved by the FDA is not recommended** due to uncertainty about their content and resulting concerns about safety, quality, and effectiveness. **E**
- **9.31b** If a glucose-lowering medication is unavailable (e.g., in shortage), it is recommended to switch to a different FDA-approved medication with similar efficacy, as clinically appropriate. **E**
- **9.31c** Upon resolution of the unavailability (e.g., shortage), reassess the appropriateness of resuming the original FDA-approved medication. **E**

Section 9
Glucose-Lowering Pharmacotherapy in Special Circumstances and Populations

- **9.32a** Individuals with diabetes of childbearing potential should be counseled on **contraception** options A and the impact of some glucose-lowering medications on contraception efficacy. **C**
- **9.32b** A person-centered shared decision-making approach to preconception planning is essential for all individuals with diabetes and of childbearing potential. **A** **Preconception planning** should address attainment of glycemic goals, **A** the time frame for discontinuing noninsulin glucose-lowering medications, **E** and optimal glycemic management in preparation for pregnancy. **A**
- **9.33** Educate individuals with diabetes who are **at risk for developing diabetic ketoacidosis and/or follow a ketogenic eating pattern and who are treated with SGLT inhibitors** on the risks and signs of ketoacidosis and methods of risk mitigation management, and provide them with appropriate tools for accurate ketone measurement (i.e., serum b-hydroxybutyrate). **E**

Section 10 highlights

Cardiovascular Disease and Risk Management

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10. Cardiovascular Disease and Risk Management

Lipid Management for Primary Prevention of Atherosclerotic Cardiovascular Disease Events in People With Diabetes in Addition to Healthy Behavior Modification

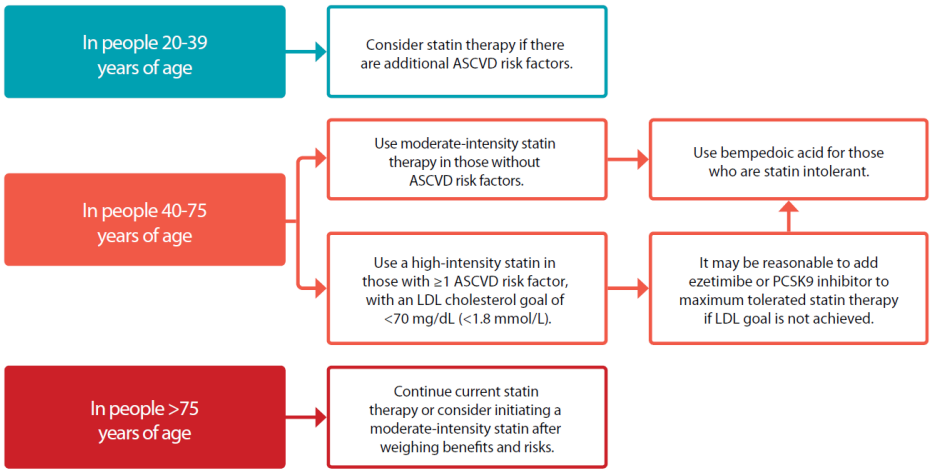

Figure 10.3—Recommendations for primary prevention of atherosclerotic cardiovascular disease (ASCVD) in people with diabetes using cholesterol-lowering therapy. Adapted from *"Standards of Care in Diabetes—2024* Abridged for Primary Care Professionals" (325).

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Cardiovascular Disease and Risk Management:
Standards of Care in Diabetes - 2025 Diabetes Care 2025;48(Suppl. 1):S206-S238

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Lipid Management for Secondary Prevention of Atherosclerotic Cardiovascular Disease Events in People With Diabetes

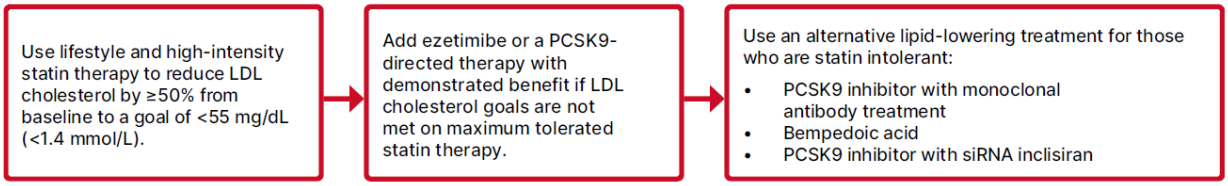

Figure 10.4—Recommendations for secondary prevention of atherosclerotic cardiovascular disease (ASCVD) in people with diabetes using cholesterol-lowering therapy. Adapted from *"Standards of Care in Diabetes—2024* Abridged for Primary Care Professionals" (325).

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Screening for Undiagnosed Cardiovascular Disease

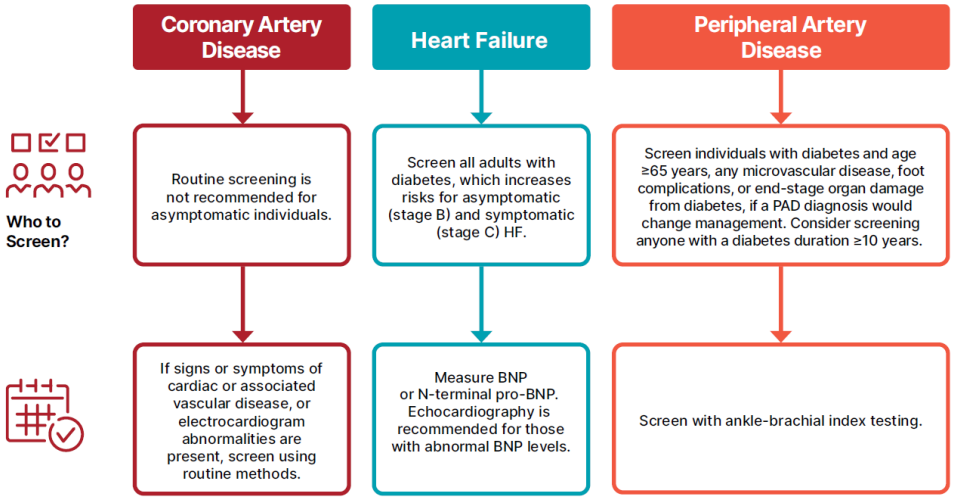

Figure 10.5—Recommendations for screening of asymptomatic and undiagnosed cardiovascular disease. BNP, B-type natriuretic peptide; HF, heart failure; PAD, peripheral artery disease. Adapted from *"Standards of Care in Diabetes—2024* Abridged for Primary Care Professionals" (325).

Cardiovascular Disease and Risk Management:
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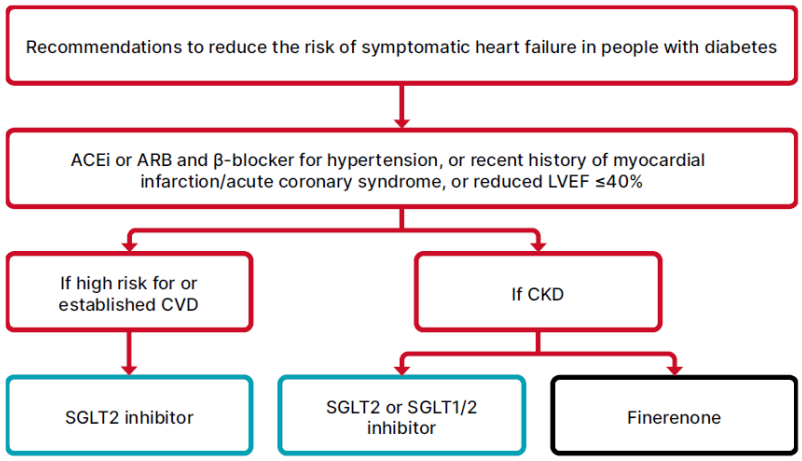

Figure 10.6—Overview of recommendations for the prevention of the development of symptomatic heart failure in people with diabetes. ACEi, ACE inhibitor; ARB, angiotensin receptor blocker; CKD, chronic kidney disease; CVD, cardiovascular disease; LVEF, left ventricle ejection fraction; SGLT2, sodium–glucose cotransporter 2. Adapted from *"Standards of Care in Diabetes—2024* Abridged for Primary Care Professionals" (325).

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Cardiovascular Disease and Risk Management:
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Section 13 highlights

Older Adults

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Introduced the 4M framework of Age-Friendly Health Systems (Mentation, Medications, Mobility, and What Matters Most) tailored to diabetes management in older adults

- **13.8a** Older adults with diabetes who are otherwise **healthy with few and stable coexisting chronic illnesses** and **intact cognitive and functional status** should have **lower glycemic goals (such as A1C <7.0–7.5%** [<53–58 mmol/mol]) and/or time in range [TIR] 70-180 mg/dL [3.9-10.0 mmol] of 70% and time below range ≤70 mg/dL [3.9 mmol/L] of ≤4%) if CGM is used. **C**

- **13.8b** Older adults with diabetes and **intermediate or complex health are clinically heterogeneous with variable life expectancy**. Selection of glycemic goals should be **individualized** and should prioritize avoidance of hypoglycemia, with less stringent goals (such as A1C <8.0% [<64 mmol/mol] and/or TIR 70-180 mg/dL [3.9-10.0 mmol] of 50% and time below range <70 mg/dL [3.9 mmol/L] of <1%) for those with significant cognitive and/or functional limitations, frailty, severe comorbidities, and a less favorable risk-to-benefit ratio of diabetes medications. **C**

This section is endorsed by the American Geriatrics Society

American Diabetes Association. 72

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13. Older Adults

Using the 4Ms Framework of Age-Friendly Health Systems to Address Person-Specific Issues That Can Affect Diabetes Management

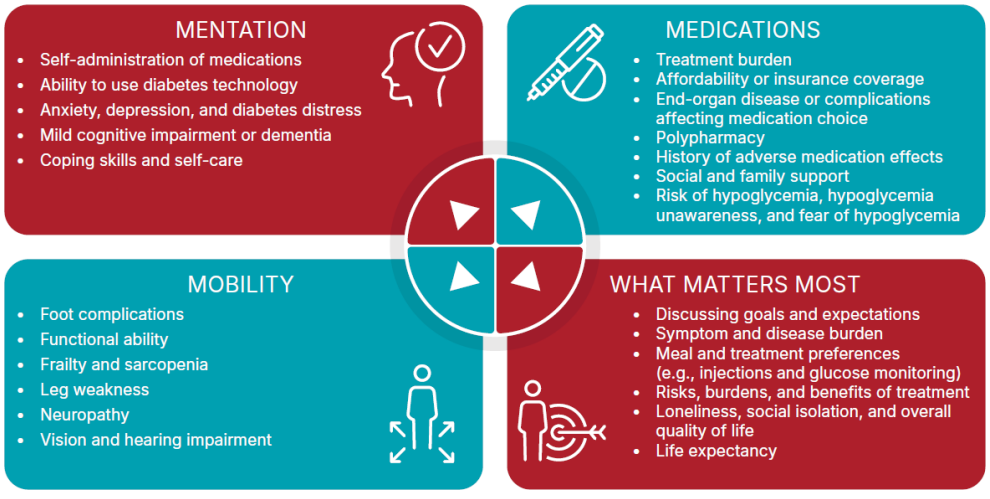

Figure 13.1—Using the 4Ms framework of age-friendly health systems to address person-specific issues that can affect diabetes management.

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Section 16 highlights

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Section 16

- **16.4a Insulin should be initiated or intensified for treatment of persistent hyperglycemia starting at a threshold of ≥180 mg/dL** (≥10.0 mmol/L) (confirmed on two occasions within 24 h) for the majority of critically individuals (those in the intensive care unit [ICU]). **A**
- **16.4b** Insulin and/or other glucose-lowering therapies should be initiated or intensified for treatment of persistent hyperglycemia starting at a threshold of ≥180 mg/dL (≥10.0 mmol/L) (confirmed on two occasions within 24 h) for the majority of noncritically ill individuals (those not in the ICU). **B**
- **16.5a** Once therapy is initiated, a **glycemic goal of 140–180 mg/dL** (7.8–10.0 mmol/L) is recommended for most **critically ill** individuals (those in the ICU) with hyperglycemia. **A** More stringent individualized glycemic goals may be appropriate for selected critically ill individuals if they can be achieved without significant hypoglycemia. **B**

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Section 16 (continued)

- **16.5b** For **noncritically ill** individuals (those not in the ICU), a **glycemic goal of 100–180 mg/dL** (5.6-10.0 mmol/L) is recommended if it can be achieved without significant hypoglycemia. **B**
- **16.7 Continue use of insulin pump or automated insulin delivery** in people with diabetes who are hospitalized when clinically appropriate, with **confirmatory POC blood glucose** measurements for insulin dosing decisions and hypoglycemia assessment and treatment. This is contingent upon availability of necessary supplies, resources, and training, ongoing competency assessments, and implementation of institutional diabetes technology protocols. **C**
- **16.8a** Continuous **intravenous insulin** infusion is recommended for achieving glycemic goals and avoiding hypoglycemia in **critically ill** individuals. **A**
- **16.12** A **hypoglycemia management surveillance protocol** should be adopted by all health systems. A plan for identifying, treating, and preventing hypoglycemia should be established for each individual. Episodes of hypoglycemia in the hospital should be documented in the health record and tracked to inform quality improvements. **C**

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16. Diabetes Care in the Hospital

Diabetic Ketoacidosis and Hyperglycemic Hyperosmolar State

16.14 Manage diabetic ketoacidosis (DKA) and hyperglycemic hyperosmolar state (HHS) by administering **intravenous fluids, insulin, and electrolytes** (Fig. 16.1) and by closely monitoring during treatment, ensuring **timely and bridged transition to maintenance subcutaneous insulin** administration, and identifying and treating the **precipitating cause**. **A**

16.15 The **discharge planning** process should include education on the recognition, prevention, and management of DKA and/or HHS for all individuals affected by or at high risk for these events to prevent recurrence and readmission. **B**

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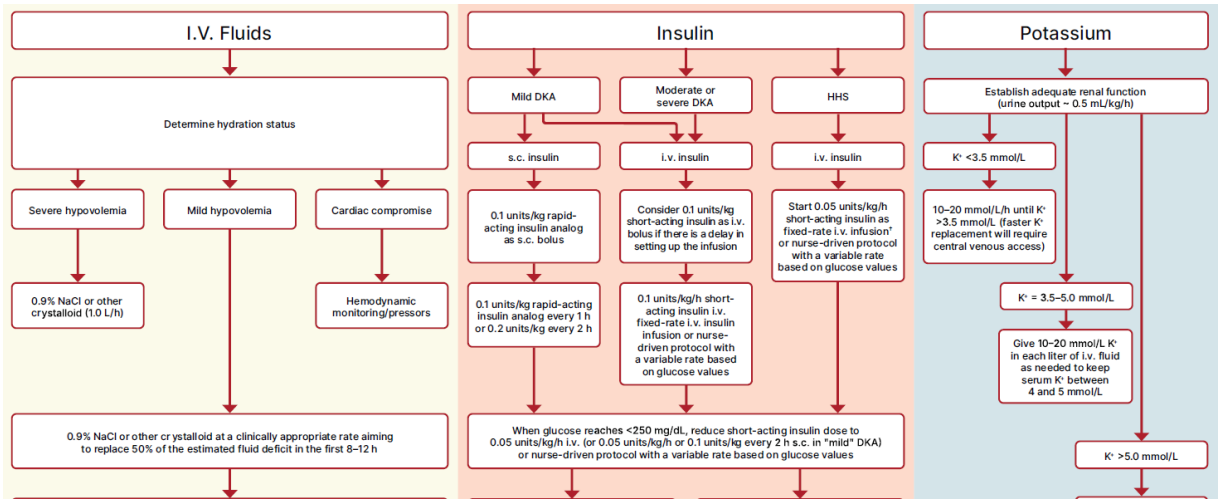

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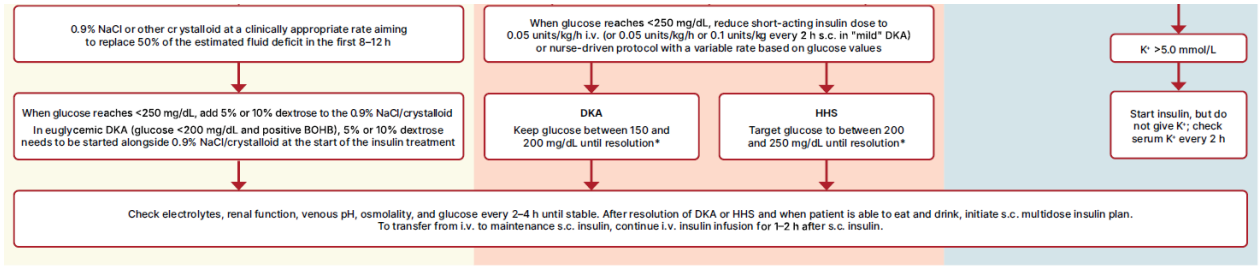

† Some have recommended that insulin be withheld until glucose has stopped dropping with fluid administration alone.
* Definitions of resolution (use clinical judgment and do not delay discharge or level of care if these are not met):
› **DKA**: Venous pH >7.3 or bicarbonate >18 mmol/L and plasma/capillary ketones <0.6 mmol/L
› **HHS**: Calculated serum osmolality falls to <300 mOsm/ kg and urine output is >0.5 mL/kg/h and glucose is <250 mg/dL

150 mg/dL = 8.3 mmol/L
200 mg/dL = 11.0 mmol/L
250 mg/dL = 13.9 mmol/L
300 mg/dL = 16.6 mmol/L

ⓘ Bicarbonate should only be considered if pH is <7.0
ⓘ Phosphate should not be given unless there is muscle weakness, respiratory compromise, and a phosphate <1.0 mmol/L

Figure 16.1—Treatment pathways for diabetic ketoacidosis (DKA) and hyperglycemic hyperosmolar state (HHS). BOHB, β-hydroxybutyrate. Adapted from Umpierrez et al. (70).

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THANK YOU

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