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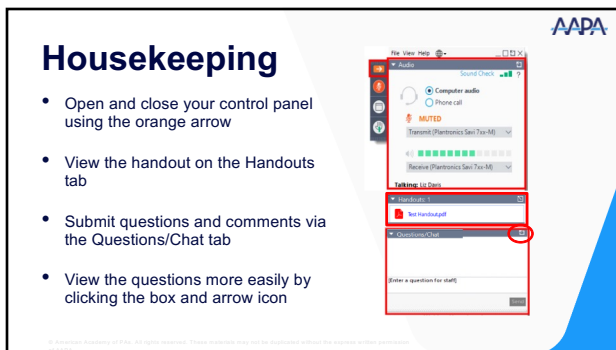
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**Learning Objectives** AAPA

At the conclusion of this webinar, you should be able to:

- Identify the 2024 ADA Standards of Care for classifying, diagnosing, preventing, and treating prediabetes and diabetes

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**AAPA**  
American Academy of  
Physician Assistants



Kevin Peterson, MD, MPH, FRCS(Ed), FAAFP  
Vice President, Primary Care and Quality Improvement  
American Diabetes Association

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**Updates in  
Standards of Care in  
Diabetes – 2024**



American  
Diabetes  
Association.  
**CLINICAL  
UPDATE  
CONFERENCE**  
CUC2024.org

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**EVIDENCE**

- Extensive literature search over the past year
- Recommendations revised based on new evidence

**PROCESS**

- Professional Practice Committee
- Invited 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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Logos of various medical institutions: UT Southwestern Medical Center, Cleveland Clinic, University of Kentucky, UT Health San Antonio, Johns Hopkins University, Baylor College of Medicine, Stanford University, UCSF, UVA Health, Saint Luke's, Mid America Heart Institute, American Diabetes Association, etc.

PPC members: 21  
External subject matter experts: 19

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**General Concept Updates**

- Person centeredness
- Culturally informed care
- Inclusive approach to care
- Utilization of telehealth, AI, and digital interventions

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**Standards of Care Resources**

- Full version available
- Abridged version for PCPs
- Free app, with interactive tools
- Slide Deck
- Pocket cards with key figures
- Free webcast
- Stay tuned for new visuals!

[Professional.Diabetes.org/SOC](http://Professional.Diabetes.org/SOC)



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**Key Themes**

1. Cardiovascular disease risk reduction
2. Obesity
3. Chronic Kidney disease
4. Diabetes diagnosis and classification
5. Prevention or Delay of Diabetes and Associated Comorbidities
6. Pharmacologic Approaches to Glycemic Treatment
7. Diabetes Care in the Hospital



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**Cardiovascular Disease and Risk Management**



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## Statin Intolerance



10.24 In people with diabetes intolerant to statin therapy, treatment with **bempedoic acid** is recommended to reduce cardiovascular event rates as an alternative cholesterol-lowering

10.28b For people with diabetes and ASCVD intolerant to statin therapy, PCSK9 inhibitor therapy with monoclonal antibody treatment, A bempedoic acid therapy, A or **PCSK9 inhibitor therapy with inclisiran siRNA** E should be considered as an alternative cholesterol-lowering therapy



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## Screening for Heart Failure



10.39a Adults with diabetes are at **increased risk** for the development of asymptomatic cardiac structural or functional abnormalities (stage B heart failure) or symptomatic (stage C) heart failure. **Consider screening adults** with diabetes by measuring a natriuretic peptide (B-type natriuretic peptide [**BNP**] or N-terminal pro-BNP [**NTproBNP**]) to facilitate prevention of stage C heart failure. B

10.39b In asymptomatic individuals with diabetes and **abnormal natriuretic peptide levels**, **echocardiography** is recommended to identify stage B heart failure. A



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## Screening for PAD



10.40 In asymptomatic individuals with diabetes and **age >50 years**, **microvascular disease** in any location, or **foot complications** or any end-organ damage from diabetes, screening for PAD with **ankle-brachial index testing** is recommended to guide treatment for cardiovascular disease prevention and limb preservation. A

In individuals with **diabetes duration >10 years**, screening for PAD should be considered. B



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**SGLT2 Inhibitors and HF**

10.42a In people with type 2 diabetes and established heart failure with either **preserved or reduced ejection fraction**, an SGLT2 inhibitor (including SGLT1/2 inhibitor) with proven benefit in this patient population is recommended to reduce the risk of worsening heart failure and cardiovascular death. **A**



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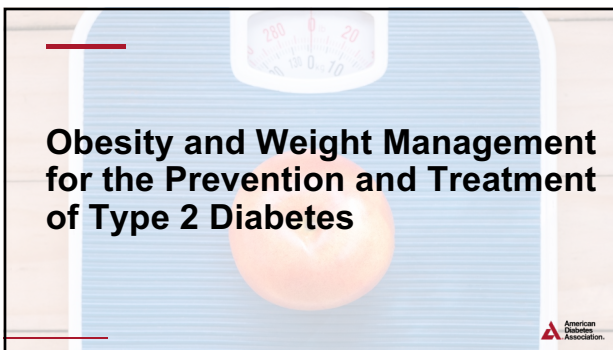
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**Obesity and Weight Management for the Prevention and Treatment of Type 2 Diabetes**



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**Anthropometric Measures**

- Calculate BMI
- Perform **additional body fat** distribution measurements like **waist** circumference, **waist to- hip** ratio, and/or waist-to-height ratio
- Monitor annually
- **Ensure privacy**



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## Individualize Approach

8.6 **Individualize** initial treatment approaches for obesity (i.e., lifestyle and nutritional therapy, pharmacologic agents, or metabolic surgery) **A** based on the person's medical history, life circumstances, preferences, and motivation. **C** Consider combining treatment approaches if appropriate. **E**



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## Weight Loss Maintenance



8.11a For those who achieve weight loss goals, long-term (> 1 year) weight maintenance programs are recommended, when available. Effective programs provide **monthly contact and support**, recommend ongoing monitoring of body weight (weekly or more frequently) and other self-monitoring strategies, and encourage regular **physical activity (200–300 min/week)**. **A**

8.11b For those who achieve weight loss goals, continue to monitor progress periodically, provide ongoing support, and recommend continuing adopted interventions to maintain goals long term. **E**



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## Preferred Pharmacotherapy for People with Diabetes + Overweight/ Obesity

8.17 In people with diabetes and overweight or obesity, the preferred pharmacotherapy should be a glucagon-like peptide 1 receptor agonist or dual glucose dependent insulinotropic polypeptide and glucagon-like peptide 1 receptor agonist with greater weight loss efficacy (i.e., **semaglutide or tirzepatide**), especially considering their added weight-independent benefits (e.g., glycemic and cardiometabolic). **A**



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**Re-evaluate!**

8.18 To prevent therapeutic inertia, for those not reaching goals, reevaluate weight management therapies and intensify treatment with additional approaches (e.g., metabolic surgery, additional pharmacologic agents, and structured lifestyle management programs). **A**

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**Chronic Kidney Disease and Risk Management**




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**Treatment of Kidney Disease**

- \* Blood pressure control <130/80 (possibly lower)
- \* Lower albuminuria/proteinuria (multiple treatments)
  - \* Blood glucose control
- \* Dietary and Lifestyle Interventions as indicated:
  - \* Low Salt intake (for Blood Pressure Control and Edema Management)
    - \* Avoid High Protein Intake (>1.5-2.0 g/kg/day ?)
  - \* Consider Protein Diet of 0.8 g/kg/day
    - \* Weight Loss
    - \* Encourage Exercise
    - \* Stop Smoking
- \* Start with ACE Inhibitors or ARBs – Increase to Maximally Tolerated Dose
- \* Add SGLT2 Inhibitors and/or Mineralocorticoid Receptor Antagonists if Albumin Lowering Goal and/or Slowing of GFR Decline Goal is Not Achieved
- \* Consider Using SGLT2i as First Line Agent in People with Type 2 Diabetes Mellitus and CKD if eGFR >45 ml/min to Achieve Blood Sugar Control as well as Cardiovascular and Kidney Disease Benefits



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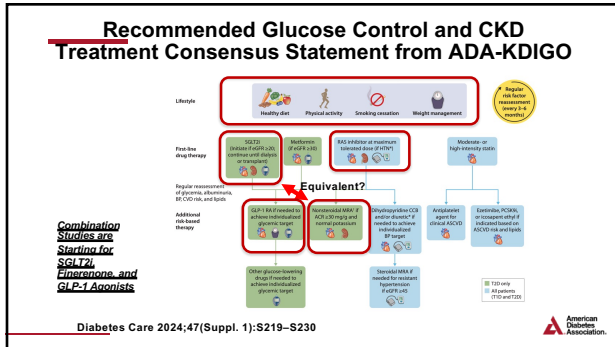
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## Mineralocorticoid Receptor Antagonists (MRAs)

10.45d In individuals with type 2 diabetes and **diabetic kidney disease**, **finerenone** is recommended to reduce the risk of hospitalization for heart failure. A

10.45e In individuals with diabetes, guideline-directed medical therapy for **myocardial infarction and symptomatic stage C heart failure** is recommended with **ACE inhibitors/ARBs, MRAs, angiotensin receptor/neprilysin inhibitor, b-blockers, and SGLT2 inhibitors**, similar to guideline-directed medical therapy for people without diabetes. A

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## Diabetes Diagnosis & Classification

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## Screening for Type 1 Diabetes



2.6 Screening for presymptomatic type 1 diabetes may be done by detection of autoantibodies to insulin, glutamic acid decarboxylase (GAD), islet antigen 2 (IA-2), or zinc transporter 8 (ZnT8). **B**

2.7 Having **multiple confirmed islet autoantibodies** is a risk factor for clinical diabetes. **Testing for Dysglycemia** may be used to further forecast near term risk. When multiple islet autoantibodies are identified, **referral** to a specialized center for further evaluation and/or **consideration** of a clinical trial or approved **therapy** to potentially delay development of clinical diabetes should be considered. **B**

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## Screening for Type 1 Diabetes

2.8 **Standardized islet autoantibody tests** are recommended for classification of diabetes in adults who have phenotypic risk factors that overlap with those for type 1 diabetes (e.g., **younger age** at diagnosis, **unintentional weight loss**, **ketoacidosis**, or **short time to insulin treatment**). **E**

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## Staging of Type 1 Diabetes

**Table 2.3—Staging of type 1 diabetes**

|                     | Stage 1   | Stage 2   | Stage 3   |
|---------------------|---|---|---|
| Characteristics     | <ul style="list-style-type: none"> <li>Autoimmunity</li> <li>Normoglycemia</li> <li>Presymptomatic</li> </ul> | <ul style="list-style-type: none"> <li>Autoimmunity</li> <li>Dysglycemia</li> <li>Presymptomatic</li> </ul>   | <ul style="list-style-type: none"> <li>Autoimmunity</li> <li>Overt hyperglycemia</li> <li>Symptomatic</li> </ul>          |
| Diagnostic criteria | <ul style="list-style-type: none"> <li>Multiple islet autoantibodies</li> <li>No IGT or IFG</li> </ul>        | <ul style="list-style-type: none"> <li>Islet autoantibodies (usually multiple)</li> <li>Dysglycemia: IFG and/or IGT</li> <li>IFG 100–125 mg/dL (5.6–6.9 mmol/L)</li> <li>2-h PG 140–199 mg/dL (7.8–11.0 mmol/L)</li> <li>A1C 5.7–6.4% (39–47 mmol/mol) or ≥10% increase in A1C</li> </ul> | <ul style="list-style-type: none"> <li>Autoantibodies may become absent</li> <li>Diabetes by standard criteria</li> </ul> |

Adapted from Skyler et al. (40). FPG, fasting plasma glucose; IFG, impaired fasting glucose; IGT, impaired glucose tolerance; 2-h PG, 2-h plasma glucose. Alternative additional stage 2 diagnostic criteria of 30-, 60-, or 90-min plasma glucose on oral glucose tolerance test ≥200 mg/dL (≥11.1 mmol/L) and confirmatory testing in those aged ≥18 years have been used in clinical trials (79).



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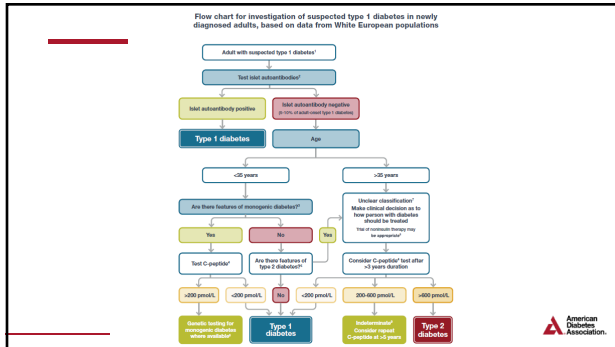
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## Screening for People on High Risk Diabetes Medications

2.15a Consider screening people for prediabetes or diabetes if on certain medications, such as **glucocorticoids, statins, thiazide diuretics, some HIV medications,** and second-generation antipsychotic medications, as these agents are known to increase the risk of these conditions. **E**

2.15b In people who are prescribed **second-generation antipsychotic medications,** screen for prediabetes and diabetes at **baseline and repeat 12–16 weeks** after medication initiation or sooner, if clinically indicated, and annually.

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## CFRD (Cystic Fibrosis-Related Diabetes)

2.18 **Annual screening** for cystic fibrosis–related diabetes (CFRD) with an **OGTT** should begin **by age 10 years** in all people with cystic fibrosis not previously diagnosed with CFRD. **B**

2.19 **A1C is not recommended** as a screening test for CFRD due to low sensitivity. However, a value of  $\geq 6.5\% \geq 48$  mmol/mol) is consistent with a diagnosis of CFRD. **B**

2.20 Beginning **5 years after the diagnosis** of CFRD, **annual monitoring** for complications of diabetes is recommended

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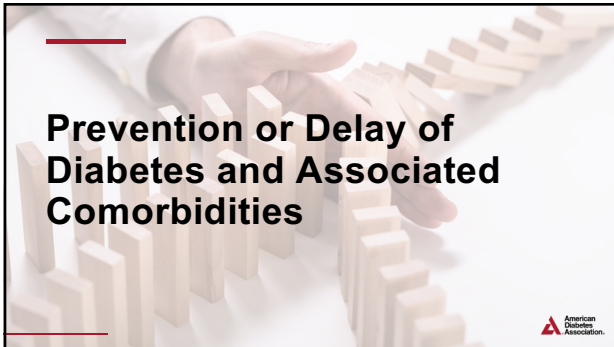
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## Prevention or Delay of Diabetes and Associated Comorbidities

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## Monitoring Type 1 Diabetes Disease Progression

3.2 In people with preclinical type 1 diabetes, monitor for disease progression using **A1C** approximately **every 6 months** and **75-g oral glucose tolerance test** (i.e., fasting and 2-h plasma glucose) **annually**; modify frequency of monitoring based on individual risk assessment based on age, number and type of autoantibodies, and glycemic metrics. **E**

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## Pharmacological Interventions to Delay Type 1 Diabetes

3.15 **Teplizumab-mzw** infusion to delay the onset of symptomatic type 1 diabetes (stage 3) should be considered in selected individuals aged  $\geq 8$  years with **stage 2** type 1 diabetes. Management should be in a specialized setting with appropriately trained personnel. **B**



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**Bone Health**

4.9 Fracture risk should be assessed in older adults with diabetes as a part of routine care in diabetes clinical practice, according to risk factors and comorbidities. **A**

4.10 Monitor **bone mineral density** using dual-energy X-ray absorptiometry of high-risk older adults with diabetes (aged **>65 years**) and younger individuals with diabetes and multiple risk factors **every 2–3 years**. **A**

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**Bone Health**

4.11 Clinicians should consider the potential adverse impact on bone health when **selecting pharmacological options** to lower glucose levels in people with diabetes. Prioritizing medications with a proven safety profile for bones is recommended, particularly for those at elevated risk for fractures. **A**

4.12 To reduce the **risk of falls** and fractures, glycemic management goals should be individualized for people with diabetes at a higher risk of fracture. **C**. Prioritize use of glucose-lowering medications that are associated with **low risk for hypoglycemia** to avoid falls. **E**

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**Bone Health**

4.13 Advise people with diabetes on their intake of **calcium 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**

4.14 **Antiresorptive medications and osteoanabolic agents** should be considered for people with diabetes who have low bone mineral density with a **T-score -2.0** or have experienced fragility fractures. **B**

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# Pharmacologic Approaches to Glycemic Treatment





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## General Updates

- Continued emphasis on **cardiorenal risk reduction**
- Continued emphasis on **HF risk reduction**
- **Early A1D for type 1 diabetes**
- Insulin – more details on education, insulin types
- Avoid **therapeutic inertia**



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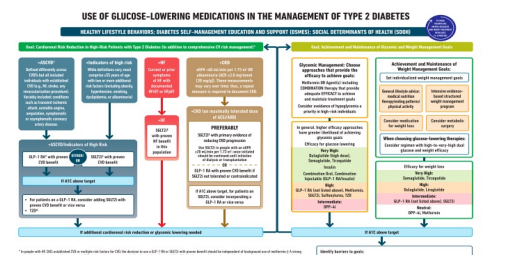
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### USE OF GLUCOSE-LOWERING MEDICATIONS IN THE MANAGEMENT OF TYPE 2 DIABETES

HEALTHY LIFESTYLE BEHAVIORS, DIABETES SELF-MANAGEMENT EDUCATION AND SUPPORT (DSMES), SOCIAL DETERMINANTS OF HEALTH (SDOH)





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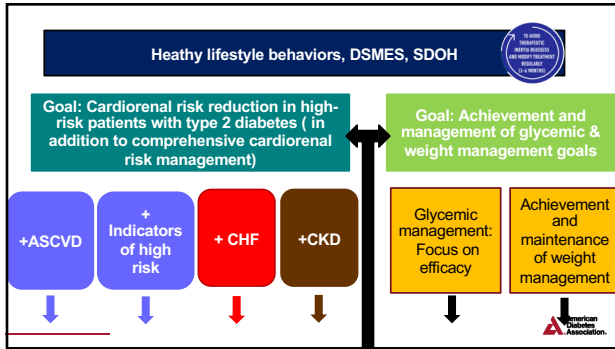
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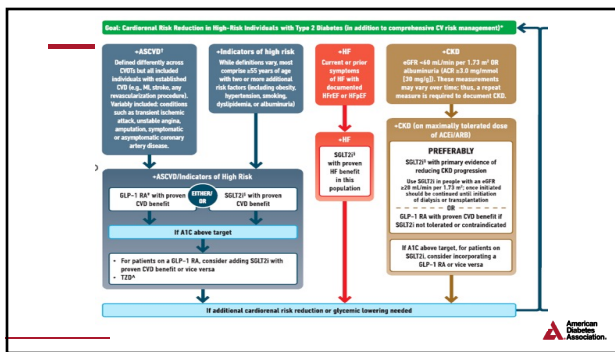
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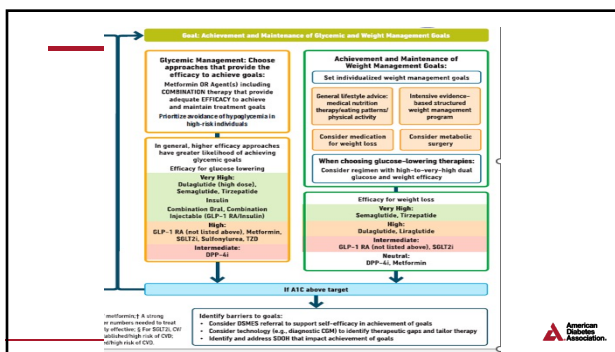
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## Diabetes Care in the Hospital



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16.2 Institutions should implement protocols using **validated written or computerized provider order entry sets** for management of dysglycemia in the hospital (including emergency department, intensive care unit [ICU] and non-ICU wards, gynecology-obstetrics/delivery units, dialysis suites, and psychiatric wards) that allow for a personalized approach, including glucose monitoring, insulin and/or noninsulin therapy, hypoglycemia management, diabetes self-management education, nutrition recommendations, and transitions of care. **B**



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## Inpatient use of CGM and AIDs

16.6 In people with diabetes using a **personal continuous glucose monitoring (CGM)** device, the use of CGM should be **continued** during hospitalization if clinically appropriate, with **confirmatory point-of-care (POC)** glucose measurements for insulin dosing decisions and hypoglycemia assessment, if resources and training are available, and according to an institutional protocol. **B**

16.7 For people with diabetes using an automated insulin delivery (AID) system along with CGM, the use of **AID and CGM** should be **continued** during hospitalization if clinically appropriate, with **confirmatory POC blood glucose measurements for insulin dosing decisions and hypoglycemia assessment**, if resources and training are available, and according to an institutional protocol. **C**



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## Inpatient use of SGLT2 inhibitors

16.11 For people with type 2 diabetes **hospitalized with heart failure**, it is recommended that use of a sodium–glucose cotransporter 2 inhibitor be initiated or continued **during hospitalization or upon discharge**, if there are no contraindications and after recovery from the acute illness. **A**



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## Standards of Care Resources

- Full version available
- Abridged version for PCPs
- Free app, with interactive tools
- Slide Deck
- Pocket cards with key figures
- Free webcast
- Stay tuned for new visuals!

[Professional.Diabetes.org/SOC](https://Professional.Diabetes.org/SOC)



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