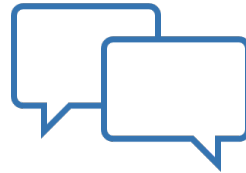


# Welcome!

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Visit the event page to download a copy of the webinar slides and any additional resources.



Select **'Everyone'** from the drop-down menu when commenting in the chat pod.



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# Diabetes Management for Patients Experiencing Food Insecurity

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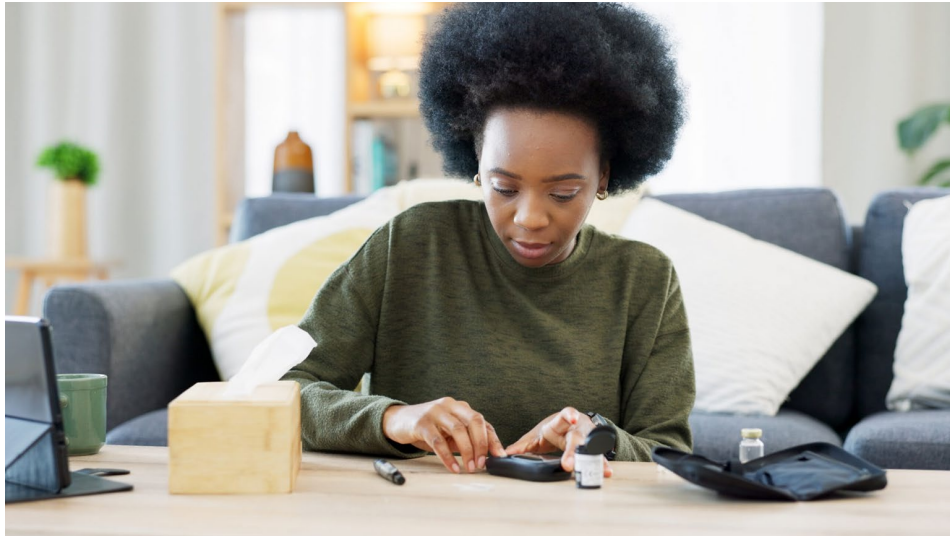
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# Diabetes Management for Patients Experiencing Food Insecurity

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## Event Materials

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# OneOp

## Readiness. Knowledge. Network.

This material is based upon work supported by the National Institute of Food and Agriculture,  
U.S. Department of Agriculture, and the Office of Military Family Readiness Policy,  
U.S. Department of Defense under Award Numbers 2019-48770-30366 and 2023-48770-41333.



**Among our nation's active-duty members and their families, almost 24% are food insecure.**

**Food Security in Focus!**





# Today's Presenter

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**Bailee Cooper, PhD, RDN, LD**

*Clinical Dietitian*

*Owner, Rural Health Dietitian*

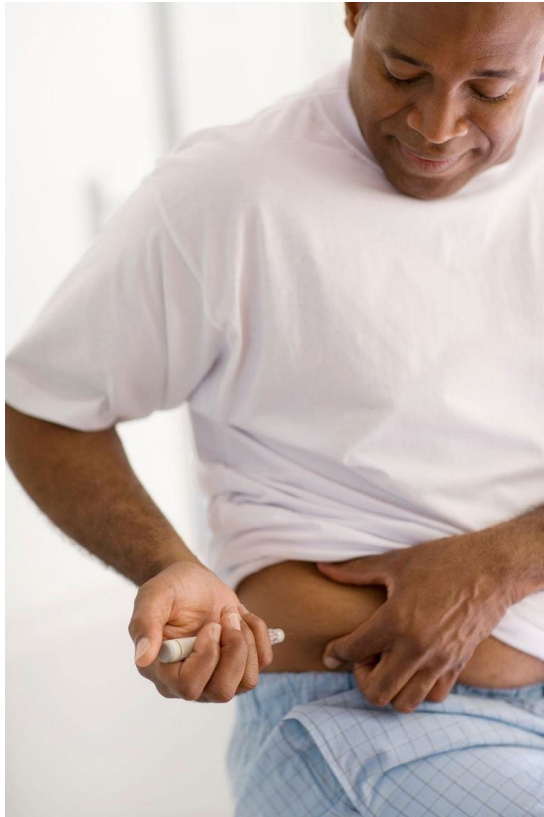
- PhD in Exercise Science and Nutrition
- Registered Dietitian Nutritionist for 8 years
- Co-author for *A Clinician's Guide to Type 1 Diabetes*
- Published first author for type 1 diabetes and metabolic original research
- Daughter of individual with type 1 diabetes

No disclosures to report.



# Walk a mile in their shoes

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Today we are taking a patient centered approach using Standards of Care in Diabetes for those who live with food insecurity.



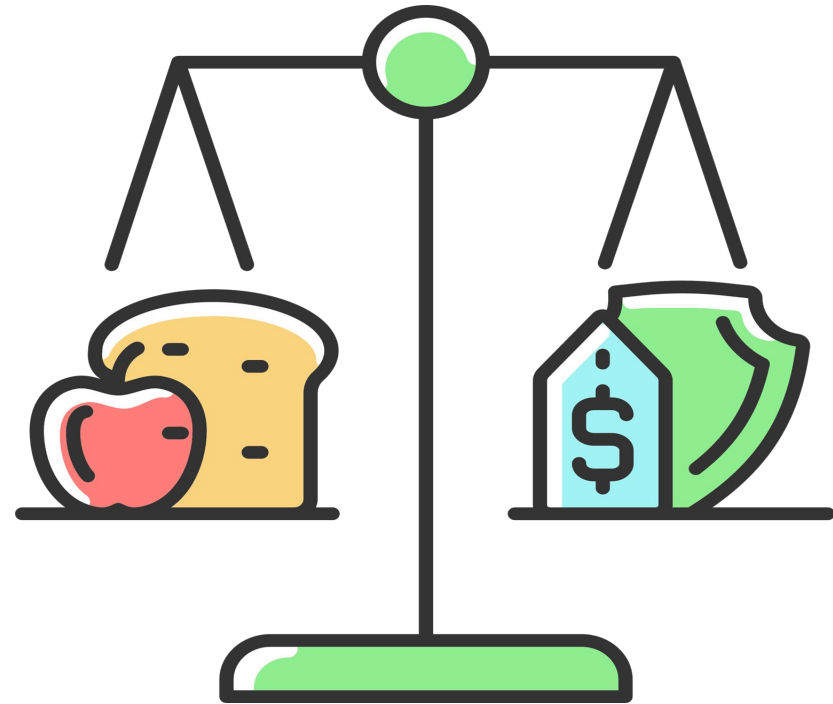


# Food Insecurity

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Is a household-level economic and social condition of limited or uncertain access to adequate food.

-U.S. Department of Agriculture



# Early Assessment of Food Insecurity

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Food insecure individuals with diabetes are at high risk for:

- Diabetes distress
- Depression
- Lower medication adherence
- Higher A1C



Easily add in survey tools to your area of practice

- U.S. Household Food Security Survey Module
- U.S. Adult Food Security Survey Module
- Six-Item Short Form of the Food Security Survey Module
- Self-Administered Food Security Survey Module for Youth Ages 12 and Older
- Spanish Translation of the U.S. Household Food Security Survey Module
- Chinese Translation of the U.S. Household Food Security Survey Module



## 2-Item Food Security Screen

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**Question 1: “Within the past 12 months, we worried whether our food would run out before we got money to buy more.”**

**Question 2: “Within the past 12 months the food we bought just didn’t last, and we didn’t have money to get more.”**

### **Response options:**

- Often true
- Sometimes true
- Never true

# Diabetes, Food Insecurity and Social Determinants of Health

World Health Organization (2010)	<b>Socioeconomic and Political Context</b> <ul style="list-style-type: none"> <li>Governance</li> <li>Macroeconomic policies</li> <li>Social policies (labor housing, land)</li> <li>Public policies (Education, health, social protection)</li> <li>Culture and societal values</li> </ul>	<b>Socioeconomic Position</b> <ul style="list-style-type: none"> <li>Social class</li> <li>Gender</li> <li>Ethnicity (racism)</li> <li>Education</li> <li>Occupation</li> <li>Income</li> </ul>	<b>Social Cohesion and Social Capital</b>	<b>Material Circumstances</b> <ul style="list-style-type: none"> <li>Housing and neighborhood quality</li> <li>Consumption potential (means to buy healthy food, warm clothes)</li> <li>Physical work environment</li> </ul>	<b>Health Care</b> <ul style="list-style-type: none"> <li>Access</li> </ul>	
Healthy People 2020	<b>Economic Stability</b> <ul style="list-style-type: none"> <li>Employment</li> <li>Food insecurity</li> <li>Housing instability</li> <li>Poverty</li> </ul>	<b>Education</b> <ul style="list-style-type: none"> <li>Early childhood education and development</li> <li>Enrollment in higher education</li> <li>High school graduation</li> <li>Language and literacy</li> </ul>	<b>Social and Community Context</b> <ul style="list-style-type: none"> <li>Civic participation</li> <li>Discrimination</li> <li>Incarceration</li> <li>Social cohesion</li> </ul>	<b>Neighborhood and Built Environment</b> <ul style="list-style-type: none"> <li>Access to foods that support healthy eating patterns</li> <li>Crime and violence</li> <li>Environmental conditions</li> <li>Quality of housing</li> </ul>	<b>Health and Health Care</b> <ul style="list-style-type: none"> <li>Access to health care</li> <li>Access to primary care</li> <li>Health literacy</li> </ul>	
County Health Rankings Model (2014)	<b>Economic Factors</b> <ul style="list-style-type: none"> <li>Education</li> <li>Employment</li> <li>Income</li> </ul>		<b>Social Factors</b> <ul style="list-style-type: none"> <li>Family and social support</li> <li>Community safety</li> </ul>	<b>Physical Environment</b> <ul style="list-style-type: none"> <li>Air and water quality</li> <li>Housing and transit</li> </ul>		
Kaiser Family Foundation (2018)	<b>Economic Stability</b> <ul style="list-style-type: none"> <li>Employment</li> <li>Income</li> <li>Expenses</li> <li>Debt</li> <li>Medical bills</li> <li>Support</li> </ul>	<b>Education</b> <ul style="list-style-type: none"> <li>Literacy</li> <li>Language</li> <li>Early childhood education</li> <li>Vocational training</li> <li>Higher education</li> </ul>	<b>Community and Social Context</b> <ul style="list-style-type: none"> <li>Social integration</li> <li>Support systems</li> <li>Community engagement</li> <li>Discrimination</li> <li>Stress</li> </ul>	<b>Neighborhood and Physical Environment</b> <ul style="list-style-type: none"> <li>Housing</li> <li>Transportation</li> <li>Safety</li> <li>Parks, playgrounds</li> <li>Walkability</li> <li>Zip codes/geography</li> </ul>	<b>Health and System</b> <ul style="list-style-type: none"> <li>Health coverage</li> <li>Provider availability</li> <li>Provider linguistic and cultural competency</li> <li>Quality of care</li> </ul>	<b>Food Environment</b> <ul style="list-style-type: none"> <li>Hunger</li> <li>Access to healthy options</li> </ul>

**Figure 1**—Nomenclatures for shared determinants among four social determinants of health frameworks, the World Health Organization Commission on the Social Determinants of Health, the U.S. Department of Health and Human Services Healthy People 2020, the County Health Rankings Model, and the Kaiser Family Foundation Social Determinants of Health framework.

# Questions

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# Take one step at a time

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## Summary of Revisions for Standards of Care in Diabetes - 2023 **Person-first and inclusive language**



# Section 1: Improving Care and Promoting Health in Populations

- Connect with community health workers (especially in underserved communities)
- Digital health, telehealth, and telemedicine
- Value-based payments
- Migrant and Seasonal Agricultural Workers
- Language Barriers



Source: *Diabetes Care* 2023;46(Suppl. 1):S5-S9.  
<https://doi.org/10.2337/dc23-Srev>

# Section 1: Subsection - Food Insecurity



“The food insecurity rate in individuals with diabetes may be up to 20%. Additionally, the risk for type 2 diabetes is increased two-fold in those with food insecurity.”

Populations of concern:

- Older adults
- Single mothers
- Individuals who are Latino and African American
- Low income

Source: *Diabetes Care* 2023;46(Suppl. 1): S10-S18.  
<https://doi.org/10.2337/dc23-S001>

# Section 1: Subsection Food Insecurity Treatment

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## Severe hypoglycemia

Inadequate or erratic carbohydrate consumption following the administration of sulfonylureas or insulin

## Under controlled Hyperglycemia

Steady consumption of inexpensive carbohydrate-rich processed foods

Binge eating

Financial constraints to filling diabetes medication prescriptions

Anxiety/depression leading to poor diabetes self-care behaviors

# Section 2. Classification and Diagnosis of Diabetes

Type 1	Type 2
Chronic, autoimmune disease, identified with destruction of insulin producing beta cells	Genetic and lifestyle related insulin resistance and dysfunction of insulin secretion
Revision - Utility of point-of-care A1C	



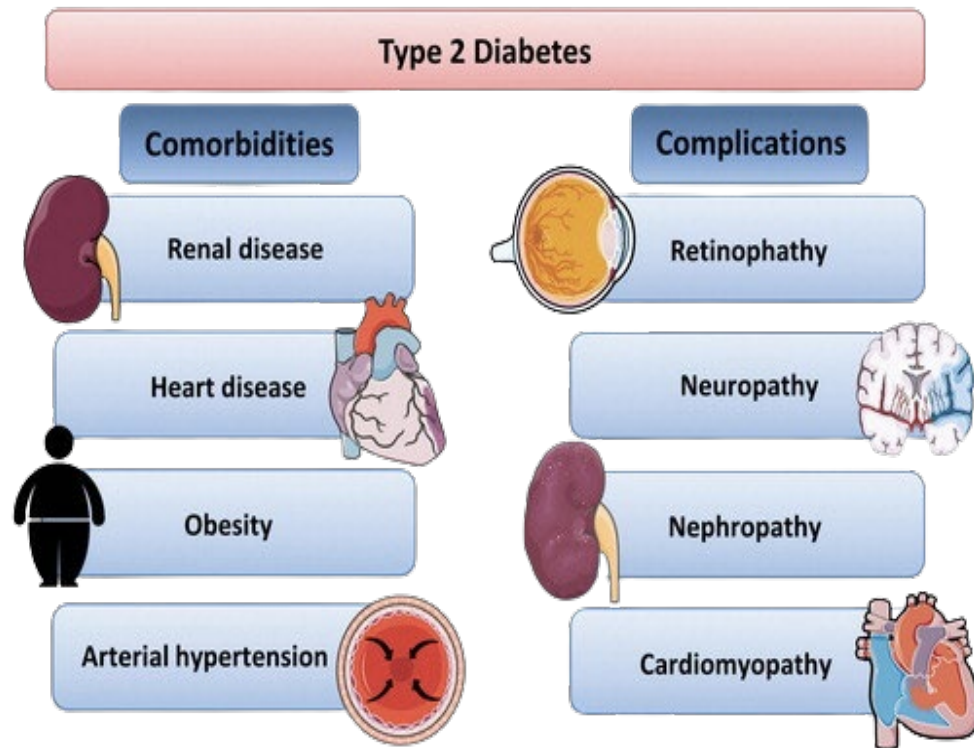
Sources: *Diabetes Care* 2023;46(Suppl. 1):S19-S40.

<https://doi.org/10.2337/dc23-S002>

*JAMA*. 2019; 322(14): 1404–1405. [10.1001/jama.2019.14063](https://doi.org/10.1001/jama.2019.14063)

Image from Canva Stock Images

# Section 3. Prevention or Delay of Type 2 Diabetes and Associated Comorbidities



- Monitor individuals who were prescribed statins increased risk for type 2 diabetes
- Use of pioglitazone increase risk for insulin resistance and prediabetes
- Intensive approaches may be necessary for those at a greater risk for type 2 diabetes
- Communicate pharmacotherapy
  - Weight management
  - Minimize progression of hyperglycemia
  - Reduce risk for cardiovascular disease

Sources: *Diabetes Care* 2023;46(Suppl. 1):S41-S48.

<https://doi.org/10.2337/dc23-S003>

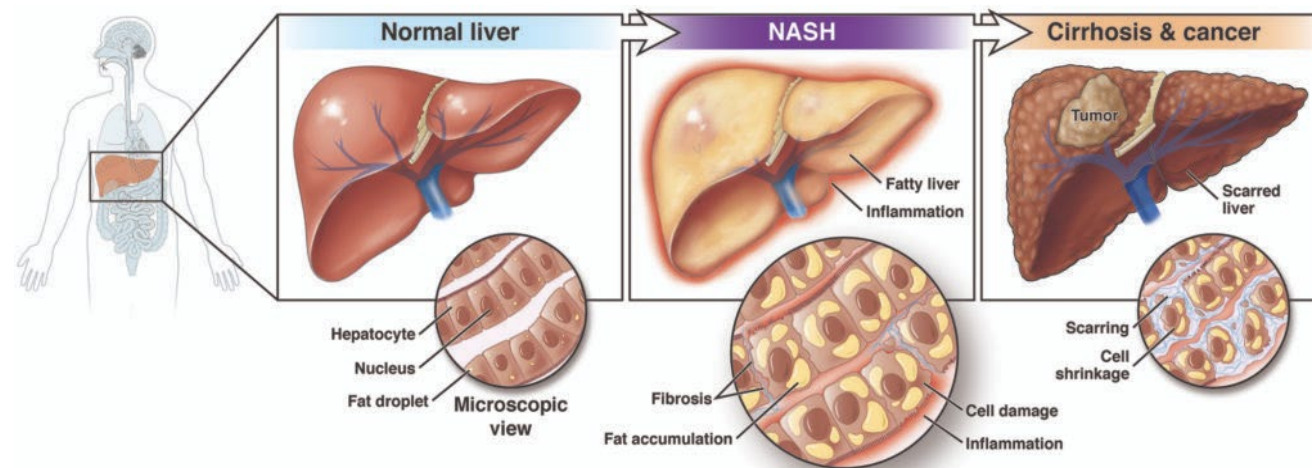
*Antioxidants & Redox Signaling*. 2023;39(Issue 4-6):278-320.

<http://doi.org/10.1089/ars.2022.0016>



# Section 4. Comprehensive Medical Evaluation and Assessment of Comorbidities

- Evaluation of overall health status and set goals
- Appropriate evaluation of age specific recommendations for vaccines
- Nonalcoholic Fatty Liver Disease, relationship to diabetes and lifestyle changes ADA added in “Preparing for the NASH Epidemic: A Call to Action”



Source: *Diabetes Care* 2023;46(Suppl. 1):S49-S67.2.

<https://doi.org/10.2337/dc23-S004>

*Gastroenterology* 2021; 161(3): P1030-1042.

<https://doi.org/10.1053/j.gastro.2021.04.074>



# Step 5. Facilitating Positive Health Behaviors and Wellbeing to Improve Health Outcomes

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- Diabetes Self-Management Education and Support
  - Using social determinants of health
  - Telehealth delivery and other digital solutions
- Use of food insecurity by any health care team
- Intermittent fasting and time-restricted eating
- Support of large weight losses (up to 15%) - efficacy and access to medications
- Addition of Supporting Positive Health Behaviors
- Psychosocial Care
  - Screen for sleep health
  - Mental/ behavioral health - screening, treatment, referrals
  - Include caregivers and family member when necessary

# Section 6. Glycemic Targets

## AGP Report

### GLUCOSE STATISTICS AND TARGETS

26 Feb 2019-10 Mar 2019 **13 days**  
 % Time CGM is Active **99.9%**

Glucose Ranges	Targets [% of Readings (Time/Day)]
Target Range 70–180 mg/dL	Greater than 70% (16h 48min)
Below 70 mg/dL	Less than 4% (58min)
Below 54 mg/dL	Less than 1% (14min)
Above 180 mg/dL	Less than 25% (6h)
Above 250 mg/dL	Less than 5% (1h 12min)

Each 5% increase in time in range (70–180 mg/dL) is clinically beneficial.

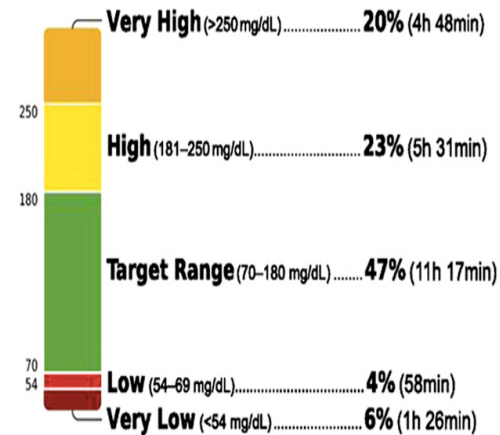
**Average Glucose** **173 mg/dL**  
**Glucose Management Indicator (GMI)** **7.6%**  
**Glucose Variability** **49.5%**

Defined as percent coefficient of variation (%CV); target ≤36%

Name \_\_\_\_\_

MRN \_\_\_\_\_

### TIME IN RANGES



Those at risk for frailty or high risk for hypoglycemia

- target of > 50% of time in range and < 1% time below range
- Address goal setting for glycemic control

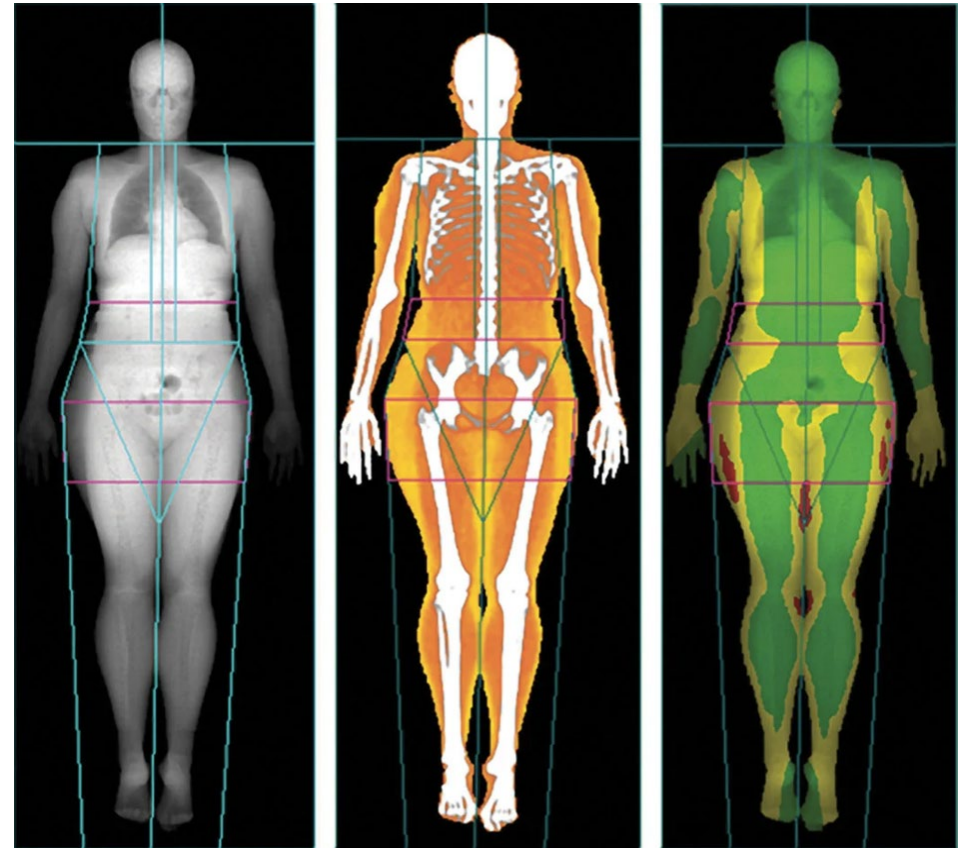
# Section 7. Diabetes Technology

- Personal preference
- Treated with basal insulin
- Uninterrupted access to supplies
- Interfering substances
- Benefits of early initiation of real-time CGM in children and adults
- Automated insulin delivery systems
- Do-it-yourself closed loop systems
- CGM use for inpatient care



# Section 8. Obesity and Weight Management for Prevention and Treatment of Type 2 Diabetes

- Obesity is a chronic disease
- Small and larger weight loss should be considered as treatment goals
- Dual GLP-1/glucose dependent receptor agonist (tirzepatide) was added
  - Glucose lower with potential weight loss



Source: *Diabetes Care* 2023;46(Suppl. 1):S128–S139.

<https://doi.org/10.2337/dc23-S008>

Image from: <https://www.itnonline.com/article/how-radiology-can-stay-strong-value-driven-medicine>

# Section 9. Pharmacologic Approaches to Glycemic Treatment

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- Healthy behaviors, DSMES, social determinants of health, and avoidance of clinical inertia
- Reduce cardiorenal risk
- Consider pharmacologic approaches that meet goals
- Consider GLP-1 receptor agonist prior to prandial insulin
  - minimize risk of hypoglycemia and weight gain





# Section 10. Cardiovascular Disease (CVD) and Risk Management

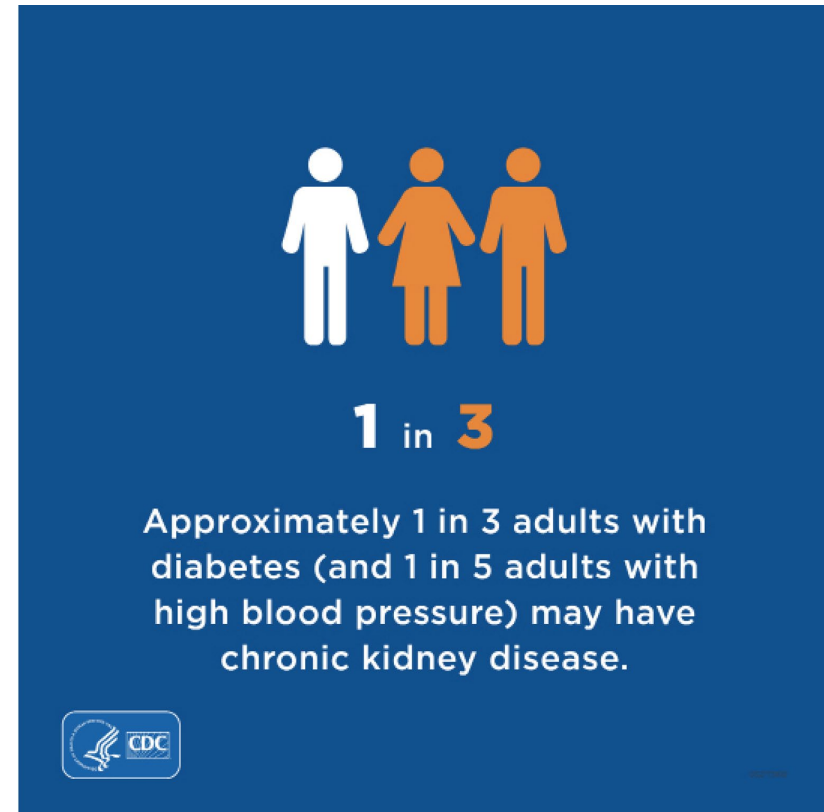
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- New blood pressure (BP) goal of < 130/80 mmHg for individuals with type 2 diabetes
- Pharmacological treatment
- Use high-intensity statin therapy and those aged 40-75
  - Goal to reduce LDL cholesterol by > 50% of baseline and target LDL cholesterol goal of < 70 mg/dL
  - Add PCSK9 inhibitor to maximum tolerated statin
  - Continue using statin therapy for individuals aged > 75 years
- Add sodium-glucose cotransporter for individuals with type 2 with heart failure



# Section 11. Chronic Kidney Disease and Risk Management

- Goal to prevent and slow progression
- Sodium-glucose cotransporter 2 inhibitor
  - eGFR  $\geq$  20 mL/min/1.73 m<sup>2</sup>
  - Urinary albumin  $\geq$  200 mg/g creatinine



# Section 12. Retinopathy, Neuropathy and Foot Care

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- Retinopathy
  - Pregnancy is a risk factor for retinopathy for those with preexisting type 1 and type 2 diabetes
- Peripheral neuropathy
  - Treatments for lipids and blood pressure can reduce progression and prevention
  - Anxiolytics (anti-anxiety) can help with pain management of neuropathic pain
- Foot care
  - Referral for those who smoke and other risk factors

# Section 13. Older Adults

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## Type 1

- Continue use of CGM
- Consider automated insulin delivery systems and insulin pens

## Type 2

- CGM
  - For those with multiple insulin injections

- Deintensification of goals
  - Reduce risk of hypoglycemia
- Simplification of regimens
  - Focus on individualized A1C target



# Section 15. Management of Diabetes in Pregnancy

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- Endorse nutrition counseling
- Strengthen preconception counseling
- Support the use of CGM with individuals who have type 1 diabetes
- Strict blood pressure targets
- Support breastfeeding to reduce risk of type 2 diabetes
- Strengthen weight management after gestational diabetes



# Section 16. Diabetes in the Hospital

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- Non-critically ill patients
  - 100-180 mg/dL target range
  - Revised insulin regimen
  - Importance of nutritional intake
  - Support CGM and automated insulin systems
    - Change in basal rate
    - Independent self-management
    - Proper supervision



# Resources for individuals with diabetes and food insecurity

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- USDA Supplemental Nutrition Assistance Program (SNAP)
- Feeding America: Find Your Local Food Bank
- American Diabetes Association: Budget Friendly Meal Plan and Tips
- Centers for Disease Control and Prevention: 10 Tips for Coping with Diabetes Distress
- Centers for Disease Control and Prevention: How to Save Money on Diabetes Care
- American Diabetes Association: Leading the Fight for Insulin Affordability
- CDC Priority Nutrition Strategy: Fruit and Vegetable Voucher Incentives and Produce Prescriptions
- Food is Medicine Initiative
- FindHelp.org



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- O'Brien MJ & Sacks DA. Point-of-care hemoglobin a1c *JAMA*. 2019; 322(14): 1404–1405. [10.1001/jama.2019.14063](https://doi.org/10.1001/jama.2019.14063)

# Questions

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# Upcoming Food Security in Focus Event

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## Supporting Military Teens: Community Healthy Living and Food Security Programs

Thursday, December 7, 2023

11:00AM-12:30PM EST

Through this webinar learn about the goals and management of the AmeriCorps VISTA project and receive examples of how to implement similar lessons in work with supporting families experiencing food insecurity.

**Continuing education credits will be available for this session!**

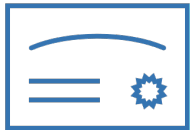
**EVENT PAGE:**

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# Continuing Education

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This webinar has been approved for the following **continuing education (CE) credits** :

- 1.0 CPEU from the **Commission on Dietetic Registration** for RDs and NDTRs.
- OneOp **certificate of attendance** available.

## Evaluation Link

Go to the event page for the evaluation and post-test link.

[Continuing Education](#)

## Questions?

Email us at:

[OneOpNutritionWellness@gmail.com](mailto:OneOpNutritionWellness@gmail.com)

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