

Prediabetes & Type 2 Diabetes Prevention

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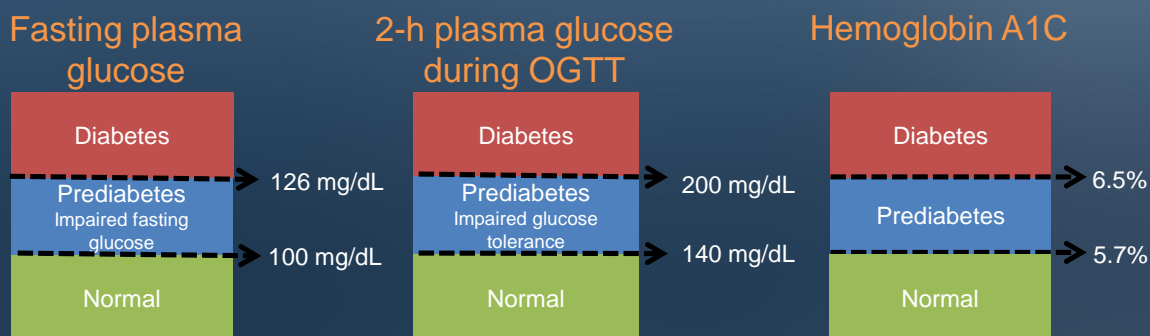
Disclosures

- Speaker Bureau, Boehringer Ingelheim

Learning Objectives

- Screen patients for prediabetes and type 2 diabetes risk
- Identify and treat modifiable risk factors for cardiovascular disease
- Refer patients to a Diabetes Prevention Program or a Diabetes Self-Management Program

What is Prediabetes?



Any abnormality must be repeated and confirmed on a separate day using the same test

Diagnosis of diabetes can also be made based on unequivocal symptoms & a random plasma glucose ≥ 200 mg/dL

Prevalence of Prediabetes

- 84.1 million people (33.9% of U.S. adults aged 18 years or older) had prediabetes in 2015
- Nearly half of adults aged 65 years or older had prediabetes
- Among adults with prediabetes, 11.6% reported being told by HCP that they had this condition
- Prevalence of prediabetes was similar among racial and ethnic groups

2011–2014 National Health and Nutrition Examination Survey (NHANES), CDC

 American Diabetes Association.

ASSESSMENT

 American Diabetes Association.

Case Study

Introduction

- Mr. N is an Asian male who just turned 45 years old. He comes in for a routine checkup a week after his birthday. He has mild asthma and is a pack-a-day smoker but is considering quitting. He has no other health complaints and hasn't had a checkup in 3 years.
- He is an investment banker and spends long hours at the office on his computer. He claims that he has limited time to exercise. No one in his immediate family has had diabetes but his father has hypertension.
- **Physical exam:** height, 5'9" (175 cm); weight, 180 lbs (82 kg); BMI, 26.7 kg/m²; BP, 130/80 mmHg



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 American Diabetes Association.

Type 2 Diabetes Risk Factors

- First-degree relative with diabetes
- High-risk race/ethnicity (e.g., African American, Latino, Native American, Asian American, Pacific Islander)
- History of CVD
- Hypertension ($\geq 140/90$ mmHg or on therapy for hypertension)
- HDL cholesterol level < 35 mg/dL (0.90 mmol/L) and/or a triglyceride level > 250 mg/dL (2.82 mmol/L)
- Women with polycystic ovary syndrome
- Physical inactivity
- Other clinical conditions associated with insulin resistance (e.g., severe obesity, acanthosis nigricans)

American Diabetes Association. 2. Classification and diagnosis of diabetes: Standards of Medical Care in Diabetes 2019. Diabetes Care 2019;42(Suppl. 1):S13–S28

 American Diabetes Association.

Criteria for Screening for Prediabetes in Asymptomatic Adults

- Consider testing all adults with a BMI ≥ 25 kg/m² (≥ 23 in Asian Americans) and additional risk factors
 - If no risk factors, consider screening no later than age 45 years
- Women who were diagnosed with gestational diabetes should have lifelong testing at least every 3 years
- If normal results, repeat testing at ≤ 3 -year intervals
 - More frequently depending on initial test results and risk factors
 - Test yearly if prediabetes

American Diabetes Association. 2. Classification and diagnosis of diabetes: Standards of Medical Care in Diabetes 2019. Diabetes Care 2019;42(Suppl. 1):S13–S28

 American Diabetes Association.

Case Study (cont'd)

Discussion Question

Should Mr. N be screened for type 2 diabetes?

- A. Yes
- B. No

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Risk Assessment for Diabetes

- Be proactive
- Assess for risk factors
- Ask patients to take the ADA Diabetes Risk Test.* (5 or more=risk)
- If at high risk:
 - refer to a **Diabetes Prevention Program**
 - continue ongoing diabetes screening

* Available at: diabetes.org/risktest

Are you at risk for type 2 diabetes?

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1. How old are you? Less than 40 years (0 points) 40-49 years (1 point) 50-59 years (2 points) 60 years or older (3 points)

2. Are you a man or a woman? Man (0 points) Woman (0 points)

3. If you are a woman, have you ever been diagnosed with gestational diabetes? Yes (1 point) No (0 points)

4. Do you have a mother, father, sister or brother with diabetes? Yes (1 point) No (0 points)

5. Have you ever been diagnosed with high blood pressure? Yes (1 point) No (0 points)

6. Are you physically active? Yes (0 points) No (0 points)

7. What is your weight category? See chart at right.

If you scored 5 or higher:
You are at increased risk for having type 2 diabetes. However, only your doctor can tell for sure if you do have type 2 diabetes or prediabetes, a condition in which blood glucose levels are higher than normal but not yet high enough to be diagnosed as diabetes. Talk to your doctor to see if additional testing is needed.

Type 2 diabetes is more common in African Americans, Hispanics/Latinos, Native Americans, Asian Americans, and Native Hawaiians and Pacific Islanders.

Higher body weight increases diabetes risk for everyone. Asian Americans are at increased diabetes risk at lower body weight than the rest of the general public (about 15 pounds lower).

ADD UP YOUR SCORE.

1 point 2 points 3 points

The good news is you can manage your risk for type 2 diabetes. Small steps make a big difference in helping you live a longer, healthier life.

For more information, visit us at diabetes.org/risktest or call 1-800-DIABETES (800-342-2383).

WRITE YOUR SCORE IN THE BOX.

Height	Weight (lbs.)
4' 10"	119-142 143-190 191+
4' 11"	124-147 148-197 198+
5' 0"	128-162 163-203 204+
5' 1"	132-167 168-210 211+
5' 2"	136-163 164-217 218+
5' 3"	141-168 169-224 225+
5' 4"	145-175 176-231 232+
5' 5"	150-179 180-239 240+
5' 6"	155-185 186-246 247+
5' 7"	159-190 191-254 255+
5' 8"	164-196 197-261 262+
5' 9"	169-202 203-269 270+
5' 10"	174-208 209-277 278+
5' 11"	179-214 215-286 286+
6' 0"	184-220 221-293 294+
6' 1"	189-226 227-301 302+
6' 2"	194-232 233-310 311+
6' 3"	199-238 239-318 319+
6' 4"	205-245 246-327 328+

If you weigh less than the amount in this left column: 0 points.

Asian Americans, Hispanics/Latinos, Native Americans, and Pacific Islanders are at increased diabetes risk at lower body weight than the rest of the general public (about 15 pounds lower).

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PREVENTING OR DELAYING TYPE 2 DIABETES

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Overview of Type 2 Diabetes Prevention Trials: Lifestyle Modification Intervention

- Lifestyle intervention continues to have an effect, even after 20 years

Study		n	Intervention	Treatment	Risk reduction
Da Qing ^{1,2}	IGT	577	Lifestyle	6 years	51%
				23 years	45%
Finnish DPS ^{3,4}	IGT	523	Lifestyle	3+ years	58%
				7 years	43%
Diabetes Prevention Program (DPP) ^{5,6}	IGT	3,324	Lifestyle	3 years	58%
				10 years	34%

1. *Diabetes Care*. 1997;20:537-544. 2. *Lancet*. 2008;371:1783-1789.
3. *N Engl J Med*. 2001;344:1343-1350. 4. *Lancet*. 2006;368:1673-1679.
5. *N Engl J Med*. 2002;346:393-403. 6. *Lancet*. 2009;374:1677-1686.

 American Diabetes Association.

Diabetes Prevention Program

- Lifestyle reduced type 2 diabetes by 58% over 3 years
- Metformin reduced type 2 diabetes by 31%
- Major goals of the program:
 - Achieve and maintain minimum 7% weight loss
 - 150 minutes of physical activity/week (brisk walking)

Diabetes Prevention Program Research Group. *Diabetes Care*. 2012;35:723-730.

 American Diabetes Association.

National Diabetes Prevention Program

Refer patients to an intensive behavioral lifestyle intervention program modeled on the **Diabetes Prevention Program** to:

- achieve and maintain 5-7% loss of initial body weight
- increase moderate-intensity physical activity (such as brisk walking) to at least 150 min/week

cdc.gov/prediabetes

Diabetes Prevention Program Research Group. *Diabetes Care*. 2012;35:723-730.

 American Diabetes Association.

Standardization of the National DPP

1. Structured curricula available through CDC
2. DPP Lifestyle Coach training and certification for lay persons and for healthcare personnel who will deliver DPP
3. Intervention delivery method and intensity
 - In-person group or combined with virtual/online
 - Program duration of 12 months minimum
 - Two phases: months 0 – 6 is lifestyle change for weight loss goals; months 7 – 12 is maintenance
 - A minimum of 16 weekly sessions during phase 1 and 6 monthly sessions during phase 2
4. Performance metrics are required to certify a program through CDC.

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National DPP



Build a workforce that can implement the lifestyle change program effectively



Ensure quality and standardized reporting



Deliver the lifestyle change program through organizations nationwide



Increase referrals to and participation in the lifestyle change program

A key part of the National DPP is a **lifestyle change program** that provides:



**A TRAINED
LIFESTYLE
COACH**



**CDC-APPROVED
CURRICULUM**



**GROUP SUPPORT
OVER THE COURSE
OF A YEAR**

Centers for Disease Control and Prevention

 American Diabetes Association.

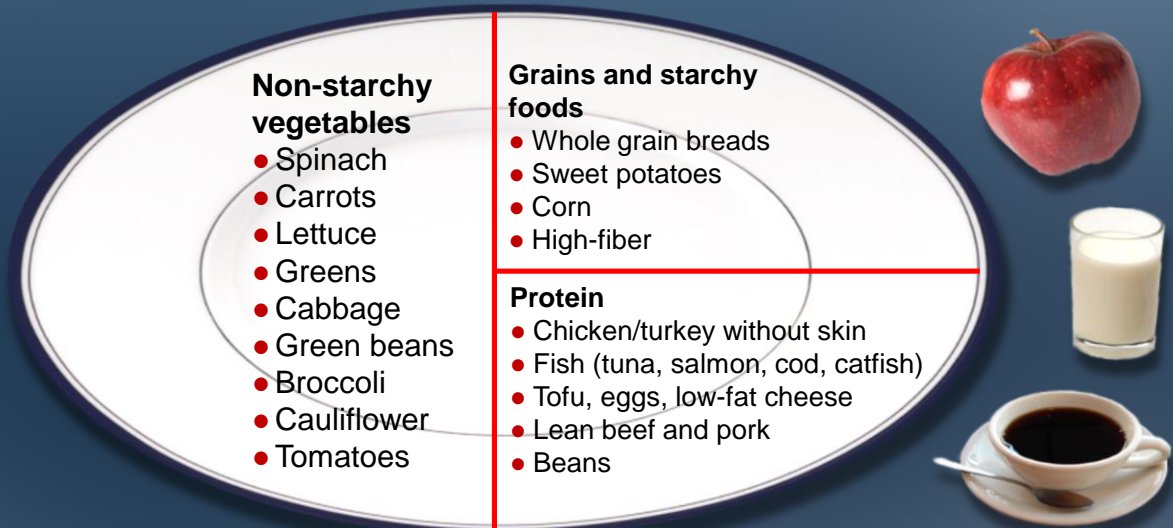
Lifestyle Modification: *Facilitating Weight Loss*

- Initial target: 1-2 pound/week weight loss
- Long-range goal: 7% loss of body weight
- Increase physical activity to at least 150 min/week
- Individualized medical nutrition therapy

American Diabetes Association. 3. Prevention or delay of type 2 diabetes: Standards of Medical Care in Diabetes 2019. Diabetes Care 2019;42(Suppl. 1):S29–S33

 American Diabetes Association.

Achieving Healthy Eating Habits: *Plate Method*



American Diabetes Association. Create your plate.
Available at: diabetes.org/createyourplate/

 American Diabetes Association.

Technology Tools for Prevention

Technology-assisted tools may be useful elements of effective lifestyle modification to prevent diabetes

- Internet-based social networks
- Distance learning
- DVD-based content
- Mobile applications
- Fitness trackers

American Diabetes Association. 3. Prevention or delay of type 2 diabetes: Standards of Medical Care in Diabetes 2019. Diabetes Care 2019;42(Suppl. 1):S29–S33

 American Diabetes Association.

Diabetes Prevention Program: 10-Year Cost-Effectiveness

- Lifestyle cost-effective, metformin cost-saving vs. placebo
- Investment in lifestyle, metformin interventions for diabetes prevention in high-risk adults provides good value

Metformin For Prediabetes

Consider metformin therapy for prevention of type 2 diabetes in those with prediabetes, especially for those with

- BMI ≥ 35 kg/m²
- Age < 60 years
- Prior gestational diabetes
- Rising A1C despite lifestyle intervention

Referrals

- National Diabetes Prevention Program
cdc.gov/prediabetes
- Team-based approach to care
 - Physician
 - Nurse practitioner/physician assistant
 - Certified diabetes educator
 - Registered dietitian
 - Pharmacist
 - Exercise physiologist
 - Social worker/psychologist

American Diabetes Association. 3. Prevention or delay of type 2 diabetes: Standards of Medical Care in Diabetes 2019. Diabetes Care 2019;42(Suppl. 1):S29–S33

 American Diabetes Association.

Medicare Reimbursement for DPP



The screenshot shows the HHS.gov website with the following elements:

- Header:** HHS.gov logo, U.S. Department of Health & Human Services, and a search icon.
- Navigation Bar:** About HHS, Programs & Services, Grants & Contracts, and Laws & Regulations.
- Left Sidebar:** View 2012 - 1991 archive +
- Main Content Area:**
 - Headline:** Independent experts confirm that diabetes prevention model supported by the Affordable Care Act saves money and improves health
 - Sub-headline:** First ever preventive service model eligible for expansion under Medicare holds promise for employers, private insurers and patients
 - Text:** The Department of Health and Human Services announced a significant step forward in building a better, spends dollars smarter, and keeps people healthy. Secretary... at the independent Office of the Actuary in the Centers for Medicare & Medicaid Services announced that expansion of the Diabetes Prevention Program, a model funded by the Affordable Care Act, would reduce net Medicare spending. The expansion was also determined to be a cost-effective way to provide care without limiting coverage or benefits. This is the first time that a Medicare Innovation Center has become eligible for expansion into the Medicare program.
 - Text:** Approximately 100 million Americans have type 2 diabetes, resulting in two deaths every five minutes. [86 million - PDF](#) Americans have a high risk of developing type 2 diabetes. One in three adults has prediabetes, a condition that arises when blood sugar is higher than normal but not high enough for a diagnosis of diabetes. Prediabetes can be reversed with lifestyle changes.

- Sites that deliver DPP, including non-healthcare settings with lay DPP coaches (e.g. churches, community centers, organizations) register as Medicare DPP suppliers
- Medicare DPP suppliers must be CDC-recognized
- Coverage started 04/01/18
- Pay-for-performance model

 American Diabetes Association.

Identify and Treat CV Risk Factors in People with Prediabetes

Non-modifiable	Modifiable
Age	Physical inactivity
Race/ethnicity	Overweight/obesity
Gender	Hypertension
Family history	Smoking
	Abnormal lipid levels

American Diabetes Association. 3. Prevention or delay of type 2 diabetes: Standards of Medical Care in Diabetes 2019. Diabetes Care 2019;42(Suppl. 1):S29–S33

 American Diabetes Association.

Follow-up Screening/Counseling

- Shown to be important to success
- Provide follow-up screenings for the development of diabetes
 - At least every 12 months for those with prediabetes
 - At least every 3 years if screening is negative
- On a regular basis, search EHR to determine who needs to be screened/rescreened
- Continually screen for modifiable risk factors at each interaction

Continued...

American Diabetes Association. 3. Prevention or delay of type 2 diabetes: Standards of Medical Care in Diabetes 2019. Diabetes Care 2019;42(Suppl. 1):S29–S33

 American Diabetes Association.

Evaluating Progress – *What to Do*

- Assess patient's concerns
- Reconcile their medications and lifestyle
- Revise the management plan as needed
 - If it doesn't work in the patient's life, it doesn't work
- Ask the patient to identify one strategy/goal they would like to accomplish
- Provide information about materials available to achieve goals, such as weight loss or physical activity log

Funnell M. Role of Diabetes Education in Patient Management.
Therapy for Diabetes Mellitus and Related Disorders.

 American Diabetes Association.

Conclusions

As a member of the healthcare team,
YOU can make a difference.

- *Only* 11% of people with prediabetes are aware they have it
- Identify those at risk for diabetes:
 - Proactively assess risk and screen/rescreen
 - Assess/advise with management strategies
 - Refer to Diabetes Prevention Program
 - Continually follow-up and evaluate
- Collaborate with other members of the healthcare team

 American Diabetes Association.

Helpful Resources

ADA's DPP Charting Platform

- ~15% of ADA's recognized DSMES programs are also Diabetes Prevention Programs
- ADA can assist your organization in becoming a CDC Recognized DPP provider with our web-based DPP Charting Platform that aligns with the CDC DPP data collection reporting requirements
- ADA conducts free monthly DPP Charting Platform webinars. Register at www.diabetes.org/erpqa

For more information on the DPP Charting Platform
contact the ADA at:

erp@diabetes.org or 1.888.232.0822

Thank You!