

WELL *moment*

Better Conversations. Better Health.

Preventing and Managing Diabetes

Vanderbilt Health

Affiliated Network

The Experts



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Agenda

Overview –
Diabetes and Prediabetes: What
is it and why does it matter?

1

Know Your Risk

2

Preventative Exams/ Tests
importance

3

Warning Signs

4

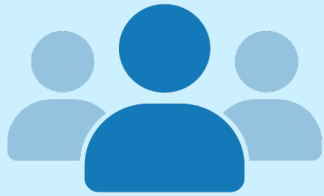
When to Seek Care

5

Questions to Ask Your Provider

6

Overview and Impact of Diabetes



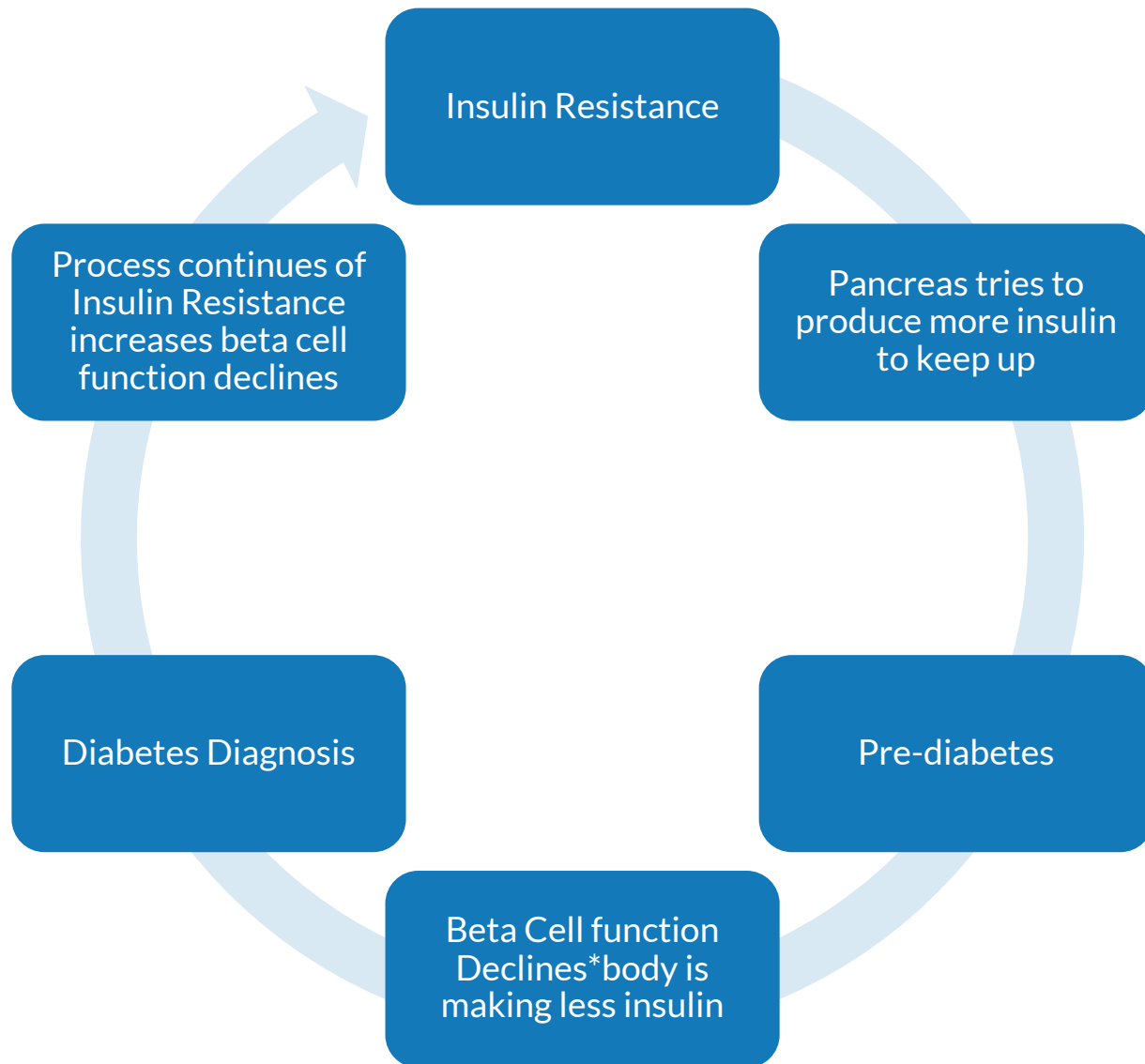
Prediabetes – 1 out of 3 people 38% of the Adult population has prediabetes. Up to 80% unaware that they have this



Diabetes - 11.3% of the US adult population has Diabetes
37.3 Million Adults with diagnosis
Someone is diagnosed every 21 seconds



Tennessee 13.8% of the adult population, have diagnosed diabetes.
Diagnosed diabetes costs an estimated \$7.3 billion in Tennessee each year.
327 Billion Nationwide in Medical Cost and lost



The progression of diabetes

Pre-Diabetes

HgA1c 5.7-6.4% characterized by “*insulin resistance*”, your body produces insulin but does not respond to and use it effectively, so glucose can build up in the blood. The body responds by trying to produce more insulin (*hormone responsible for storing sugar for energy and regulates blood glucose levels).. This can result in further weight gain. Eventually the body can not keep up- setting the stage for Type 2 Diabetes.

Diabetes

HgA1c 6.5 or higher In type 2 diabetes, your body does not respond to and use insulin as well as it should (*insulin resistance*) + the body is not making as much insulin. In fact, research shows that by the time of diagnosis *most have lost 50-80% of beta cell function (which is responsible for making insulin)*.

Overtime, this excess sugar can cause damage throughout our bodies including in our brain, heart, kidneys, skin, nerves, and eyes

How does diabetes affect my cholesterol? Your body uses blood glucose for energy and insulin is what carries it to the muscles. People with diabetes do not have enough insulin to move blood glucose from their bloodstream into their muscle cells. Because your muscles always need energy, your liver combines fat (triglycerides) with cholesterol for use as an alternate energy source. So, when your blood glucose is high, your triglycerides and cholesterol levels also tend to be high

UNDERSTANDING TYPE 2 DIABETES AND HEART DISEASE



Type 2 diabetes causes abnormally high blood glucose (also called blood sugar) levels and develops when the body does not produce enough insulin or is unable to use the insulin it does make properly.²



Coronary heart disease or heart disease is one type of cardiovascular disease and describes a range of conditions that affect the heart, including heart attack, angina (chest pain), and coronary artery disease.³



By managing your blood glucose levels, you can reduce your risk of cardiovascular disease by 33 to 50 percent.⁴

WHAT'S THE CONNECTION?

People with diabetes have an increased risk of heart disease. High blood glucose levels damage blood vessels, making them more prone to injury from high blood pressure and from plaque build-up in the arteries.⁵

Type 2 diabetes is a risk factor for the development of cardiovascular disease which is the

#1 CAUSE OF DEATH FOR PEOPLE WITH DIABETES.⁵

People with diabetes are:

2x MORE LIKELY

TO DEVELOP AND DIE FROM **CARDIOVASCULAR DISEASE**, which includes heart attacks and strokes, than people without diabetes.⁵



Weights: what's the correlation?

Excess weight specifically an excess of fat in your belly and around your organs (visceral fat), is a primary cause of insulin resistance. *A waist measurement of 40 inches or more for men and people assigned male at birth and 35 inches or more for women and people assigned female at birth is linked to insulin resistance.

Moderate weight loss, defined as a 5–10% reduction from baseline weight, is associated with clinically meaningful improvements in obesity-related metabolic risk factors .

A 5% weight loss has been shown to improve pancreatic β -cell function and the sensitivity of liver and skeletal muscle to insulin, with larger relative weight losses leading to graded improvements in key adipose tissue disturbances.

5-7% of their body weight and added 150 minutes of exercise per week cut their risk of developing type 2 diabetes by up to **58%**

71% for people over 60 years old



Know your Risk

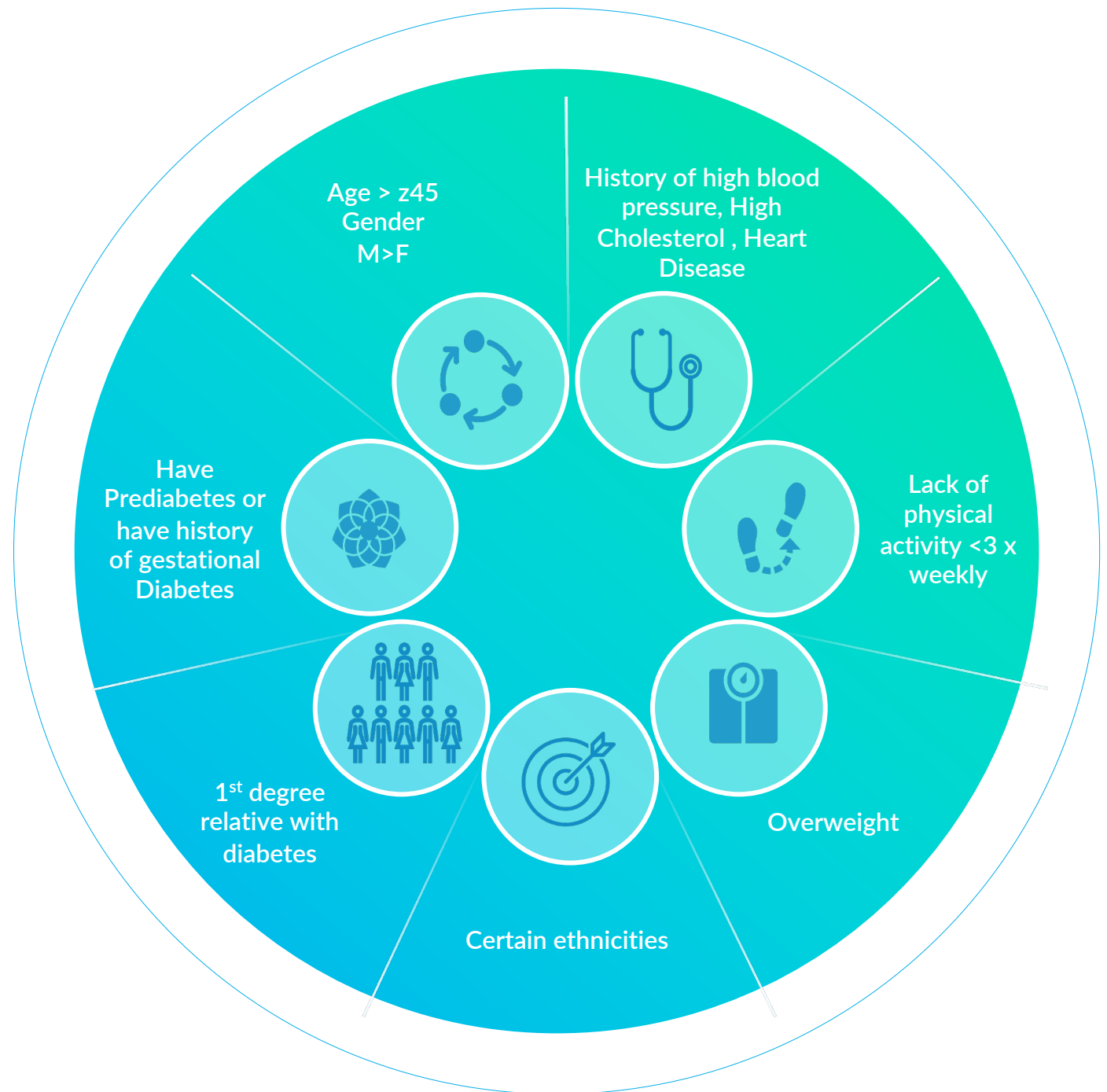
each factor increases the risk of developing diabetes

Non-Modifiable Risk

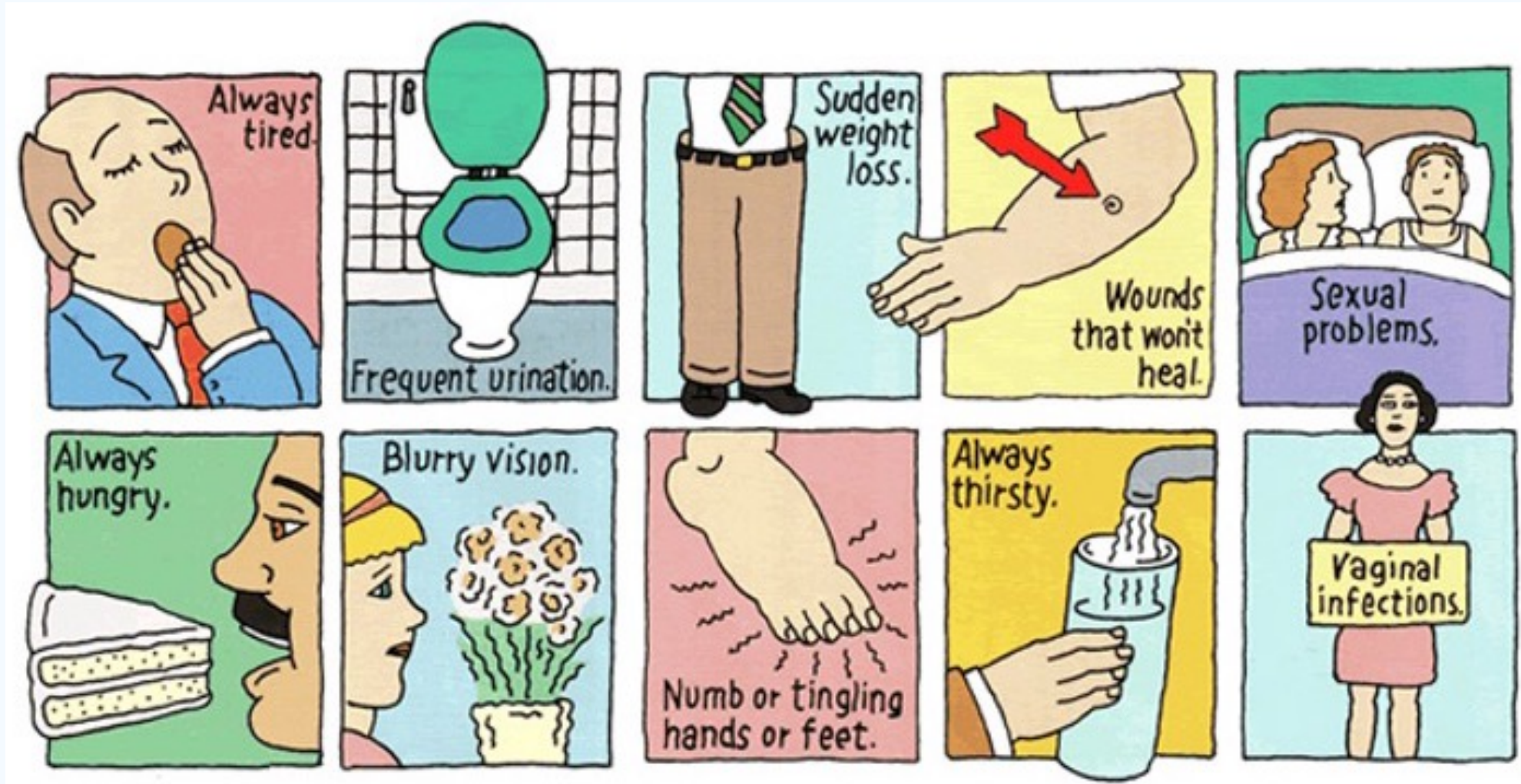
Age
Family History
History of heart disease or gestational diabetes
Ethnicity

Modifiable Risk

Weight
Activity
Diet
Blood Pressure/cholesterol



Diabetes – Know the Symptoms



The importance of preventative care



Effective blood sugar management can reduce the risk of eye disease, kidney disease, and nerve disease by 40%.⁹



Managing your blood sugar can reduce your risk of Cardiovascular disease by up to 50%



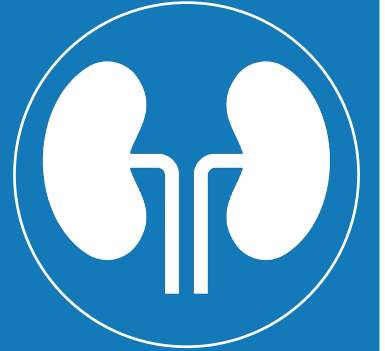
Blood pressure management can reduce the risk of heart disease and stroke by 33% to 50%.¹⁰ Improved cholesterol levels can reduce cardiovascular complications by 20% to 50%.¹¹



Regular eye exams and timely treatment could prevent up to 90% of diabetes-related blindness.¹²



Health care services that include regular foot exams and patient education could prevent up to 85% of diabetes-related amputations.¹³



Detecting and treating early diabetic kidney disease by using kidney protective medicines that lower blood pressure can reduce decline in kidney function by 33% to 37%.¹⁴



Screening Laboratory Tests for Diabetes

Fasting glucose

A1c

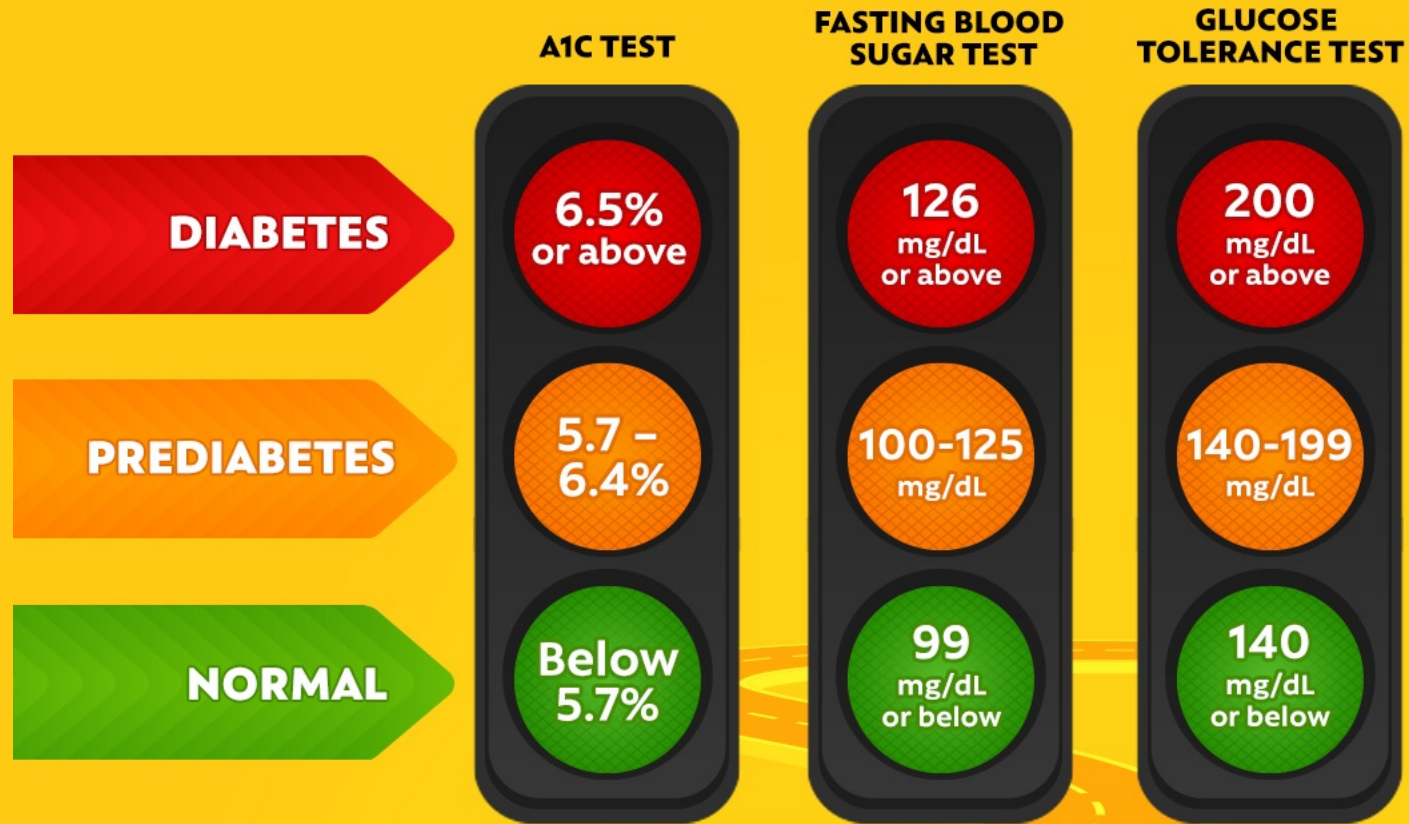
Oral glucose tolerance test

- Performed at 24-28 weeks during pregnancy

Random glucose

Autoantibody and urine ketone test (Type 1)

THE ROAD TO TYPE 2 DIABETES



Source: American Diabetes Association



What to do if I am diagnosed

- Breathe-you are not alone!
- See your primary care provider routinely. Some providers like to see patients every 3-6 months when newly diagnosed.
- Ask your provider for a referral to see a certified diabetes care and education specialist.
- Find a support group
- If you are diagnosed with pre-diabetes, participate in your local National Diabetes Prevention Program.
 - Program is through the CDC and available at many locations in TN
 - Through the program, you can lower your risk of developing type 2 diabetes by as much as 58% (71% if you're over age 60).



Preventative Care and Tests

It is important to be screened regularly for complications of diabetes. Complications can be prevented and treated/managed if caught early. It is also important to do things every day to care for yourself and your diabetes.

Do everyday:

- Monitor blood sugar
- Take medications, if prescribed
- Get at least 150 minutes of physical activity per week
- Eat healthy
- Reduce stress
- Check your feet

Preventative Care and Tests

Do every year:

- Dilated eye exam
- Kidney tests
- Flu vaccination
- Cholesterol test
- Foot exam performed by care team
- Hearing test (if needed)

Do every 3 months:

- A1c test
- See your care team

Do every 6 months:

- Dental exam/ cleaning

Preventative Care and Tests

Pneumonia Vaccination

Hepatitis B Vaccination

Mental Health Visit

**Covid 19 Vaccine – Check
with your provider about
recommendations**

What to do if you have symptoms of diabetes

- Make an appointment with your primary care doctor as soon as possible
- Explain your symptoms and get glucose tests





My Emergency Plan of Care

When to Call Your Diabetes Care Team

- ✓ Your blood sugar is less than 70 mg/dl twice in one week or you experience a severe low blood sugar of less than 50
- ✓ Your blood sugar is higher than 250 mg/dl for more than 2 days
- ✓ You are vomiting or are unable to keep fluids down
- ✓ You have had a fever of 101.5 or higher for 24 hours
- ✓ You have been vomiting or having diarrhea for more than 6 hours
- ✓ You have cuts, burns or blisters that don't seem to be healing

AFTER HOURS / WEEKENDS:

Call 911 for a loss of consciousness or life-threatening emergency.



1. CHECK BLOOD SUGAR READING MORE FREQUENTLY

- For a mild illness check every 6 hours
- For severe illness check every 3-4 hours

Never stop taking medications without discussing with your provider. Some diabetes medications may need to be stopped or adjusted when you are sick. Contact your diabetes health care team to discuss.



2. STICK TO YOUR MEAL PLAN AS CLOSELY AS POSSIBLE

Eating well is important when you are sick, so try to follow your usual meal plan. You can also choose items from the healthy list below. Each item counts as 1 carbohydrate choice or 15 grams of carbs. Try to eat or drink at least 3 of these (45 grams of carbs) every 3 to 4 hours:

- ½ cup fruit juice (like orange or apple)
- ½ cup regular (not sugar free) soda pop
- ½ cup regular gelatin dessert
- 1 double ice pop
- 1 cup soup
- 1 cup sports drink
- 1 slice toast
- 6 soda crackers



3. PREVENT DEHYDRATION

Signs of dehydration include dry mouth, thirst, decreased urination, very dark urine and dry flushed skin that does not snap back when pinched.

- Take small sips of fluid every 10 to 15 minutes.
- Consume a total of about 1 cup (8 oz.) of fluid per hour when sick.

Questions

1

Talk with your Doctor about what preventative screenings, labs, vaccines you may need.

2

Targets and goals – HgA1c, Glucose Levels, Monitoring, Diet, Activity, Weight, Blood Pressure

3

Medications Options, benefits, side effects, how to use. How will I know if my medications are working? Are there other medications I would benefit from taking such as medications for blood pressure or cholesterol or a daily (*Aspirin, Ace-I, Statins)?

4

Referrals – see extension of your healthcare team – Are there other services I might benefit from – how can I learn more about managing my diabetes?

5

Plan – How do I know if I should seek care or know that there is a problem? Where should I go? Who do I contact? Are there things I can do at home prior to seeking care? Plan for Sick Days

Ask your Provider about possible referrals – Extension of the Healthcare Team

Endocrinologist A doctor that specializes in the management of diabetes and other endocrine related diseases

Pharm D Pharm D or Pharmacist -This professional knows about medicines, what's in them and how they interact with each other.

Podiatrist This doctor, also known as a foot doctor, is trained to treat feet and lower leg problems.

Ophthalmologist diagnoses and treats eye diseases and eye disorders

Registered Dietitian A dietitian is an expert in nutrition (what foods your body needs to stay healthy)

Certified Diabetes Care and Education Specialist these are health care providers with extensive training and experience working with people with diabetes, and who have passed a credentialed board exam. They can help you figure out how to manage the things you need to do to take care of your diabetes, in a way that fits with your daily life, diet, activity, medications, monitoring routines, environment and family dynamics

Dentist this doctor knows about oral care and is trained to take care of your teeth and gums

Mental Health Care Provider This person may be a psychiatrist (MD or DO), psychologist (PhD) or clinical social worker (LCSW or LISW). These professionals can help you deal with the day-to-day challenges of living with diabetes as well as more serious emotional issues

Prediabetes Risk Test



1. How old are you?

- Younger than 40 years (0 points)
- 40–49 years (1 point)
- 50–59 years (2 points)
- 60 years or older (3 points)

Write your score in the boxes below

2. Are you a man or a woman?

- Man (1 point)
- 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 (1 point)

7. What is your weight category?

(See chart at right)

Total score:

Height	Weight (lbs.)		
4'10"	119-142	143-190	191+
4'11"	124-147	148-197	198+
5'0"	128-152	153-203	204+
5'1"	132-157	158-210	211+
5'2"	136-163	164-217	218+
5'3"	141-168	169-224	225+
5'4"	145-173	174-231	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	215-285	286+
6'0"	184-220	221-293	294+
6'1"	189-226	227-301	302+
6'2"	194-232	233-310	311+
6'3"	200-239	240-318	319+
6'4"	205-245	246-327	328+
	1 Point	2 Points	3 Points

You weigh less than the 1 Point column (0 points)

Adapted from Bang et al., Ann Intern Med 151:775-783, 2009. Original algorithm was validated without gestational diabetes as part of the model.

If you scored 5 or higher

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

If you are African American, Hispanic/Latino American, American Indian/Alaska Native, Asian American, or Pacific Islander, you are at higher risk for prediabetes and type 2 diabetes. Also, if you are Asian American, you are at increased risk for type 2 diabetes at a lower weight (about 15 pounds lower than weights in the 1 Point column). Talk to your doctor to see if you should have your blood sugar tested.

You can reduce your risk for type 2 diabetes

Find out how you can reverse prediabetes and prevent or delay type 2 diabetes through a **CDC-recognized lifestyle change program** at <https://www.cdc.gov/diabetes/prevention/lifestyle-program>.



Helpful Links

<https://vhanhub.com/>

[American Diabetes Association: Know Your Risk](#)

[National Institute of Diabetes and Digestive and Kidney Diseases: Diabetes Risk Test](#)

[American Diabetes Association <https://diabetes.org/>](#)

<https://www.cdc.gov/diabetes/index.html>

<https://www.cdc.gov/diabetes/prevention/index.html>

[Find a Program - <https://www.cdc.gov/diabetes/prevention/find-a-program.html>](#)

<https://www.medicareadvantage.com/coverage/does-medicare-cover-diabetes-supplies>

<https://diatribe.org/>

<https://diabetescare.net/>

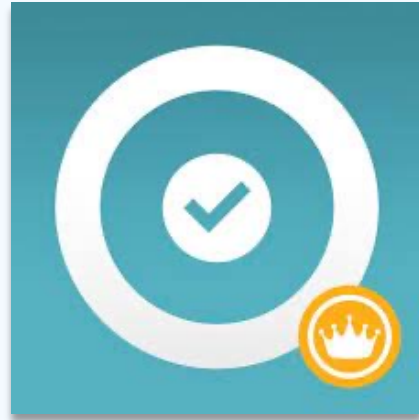
[Mindful eating practices for Prediabetes and Diabetes](#)

<https://amihungry.com/programs/mindful-eating-for-diabetes>

Apps and Websites



MyFitnessPal



CalorieKing



MyNetDiary



Noom

Eating Well: <https://www.eatingwell.com/category/4291/meal-plans-for-diabetes/> publishes journalism about food, nutrition, and sustainability and shares flavor-packed recipe from around the world

Diabetes Food Hub: <https://www.diabetesfoodhub.org/> digital cooking and recipe destination from the American Diabetes Association

MyPlate: <https://www.myplate.gov/> personalized way to build healthy habits from the U.S Department of Agriculture

Taking Control of My Diabetes

Keeping Track of What I Need to Know



Choose healthy foods and maintain a healthy weight:

Losing just 7% of your body weight if you're overweight can make a significant difference in your blood sugar control. A healthy diet is one with plenty of fruits, vegetables, whole grains and legumes, with a limited amount of saturated fat.



Make physical activity part of your daily routine:

Regular exercise can help those who have diabetes maintain better blood sugar control. Thirty minutes of moderate exercise, like brisk walking, on most days of the week is recommended.



Mix it up: A combination of exercises—aerobic exercises, such as walking or dancing on most days, combined with resistance training, such as weightlifting or yoga twice a week—often helps control blood sugar more effectively than does either type of exercise alone.

Set realistic goals as directed.

By the time I see my doctor next, I will:

- Exercise for at least 30 minutes once a week
- Monitor and record my blood glucose daily
- Take my medications daily
- Quit smoking
- Learn relaxation techniques
- Get plenty of sleep
- Learn more about the diabetes resources in my community
- Join a diabetes support group
- Write down any questions or concerns



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What to Do If You Have...

LOW BLOOD SUGAR

If you experience signs and symptoms of low blood sugar, such as headache, blurred vision, weakness, cold sweat, fast heartbeat or trembling, check your blood sugar. If it is less than 70:



½ glass of OJ

—OR—



3-4 glucose tablets

—OR—



5-6 hard candies



Wait 15 Minutes



Then recheck blood sugar

Still Low? Continue to:

1. Alternate 15 grams of carbohydrates
2. Recheck blood sugar in 15 minutes
3. Repeat until your blood sugar reaches a normal level

Be sure to eat your next meal to prevent another low sugar episode. If symptoms continue or you experience further low blood sugars, call your doctor to discuss.

For recurrent, severe hypoglycemia, educate family members.

Glucagon is available in a kit and is recommended for treating low blood sugar in some patients at higher risk. Ask your doctor for more information or if you need a pen.

HIGH BLOOD SUGAR

Recognizing early symptoms of hyperglycemia can help you treat the condition promptly.

Watch for:

- Frequent urination
- Increased thirst
- Blurred vision
- Fatigue
- Headache



Online Resources for Managing Diabetes

Mobile Apps

Meals	Blood Sugar, Medications & Diet
My Fitness Pal	Diabetes: M
Fooducate	Diabetes Connect
Calorie King	Accu-chek Connect
MyNetDiary & Calorie Counter Pro	Glooko
MyPlate Calorie Tracker	MySugr
Lose It!	Glucose Buddy
MyPlate	

Websites

Planning Meals & Tracking Food
cdc.gov/diabetes/managing/eat-well.html
diabetes.org
diabetes.org/healthy-living
eatright.org
myplate.gov
eatingwell.com/category/4248/diabetes-diet-center
diabetesfoodhub.org
calorieking.com

<https://vhanhub.com/>

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Questions?

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