

Understanding Diabetes and Prediabetes

WVDC Toolkit Section 1





What is Diabetes?

Diabetes is a metabolic disease or condition that occurs either when:

- The pancreas does not produce enough insulin
- When the body cannot effectively use the insulin it produces¹

There are three types of Diabetes:

- Type 1 Diabetes
- Gestational Diabetes
- Type 2 Diabetes

Type 2 Diabetes

- *Type 2 diabetes* is the most common form of diabetes and results when your body doesn't use insulin properly.
 - Type 2 can be developed at any age but mostly occurs in middle-aged and older adults who are overweight/obese.
 - Various risk factors include²
 - Body Mass Index (BMI)
 - Physical Activity
 - Family History
 - Age
 - History of gestational diabetes
 - High blood pressure
 - Abnormal cholesterol/triglyceride levels



Pre-diabetes

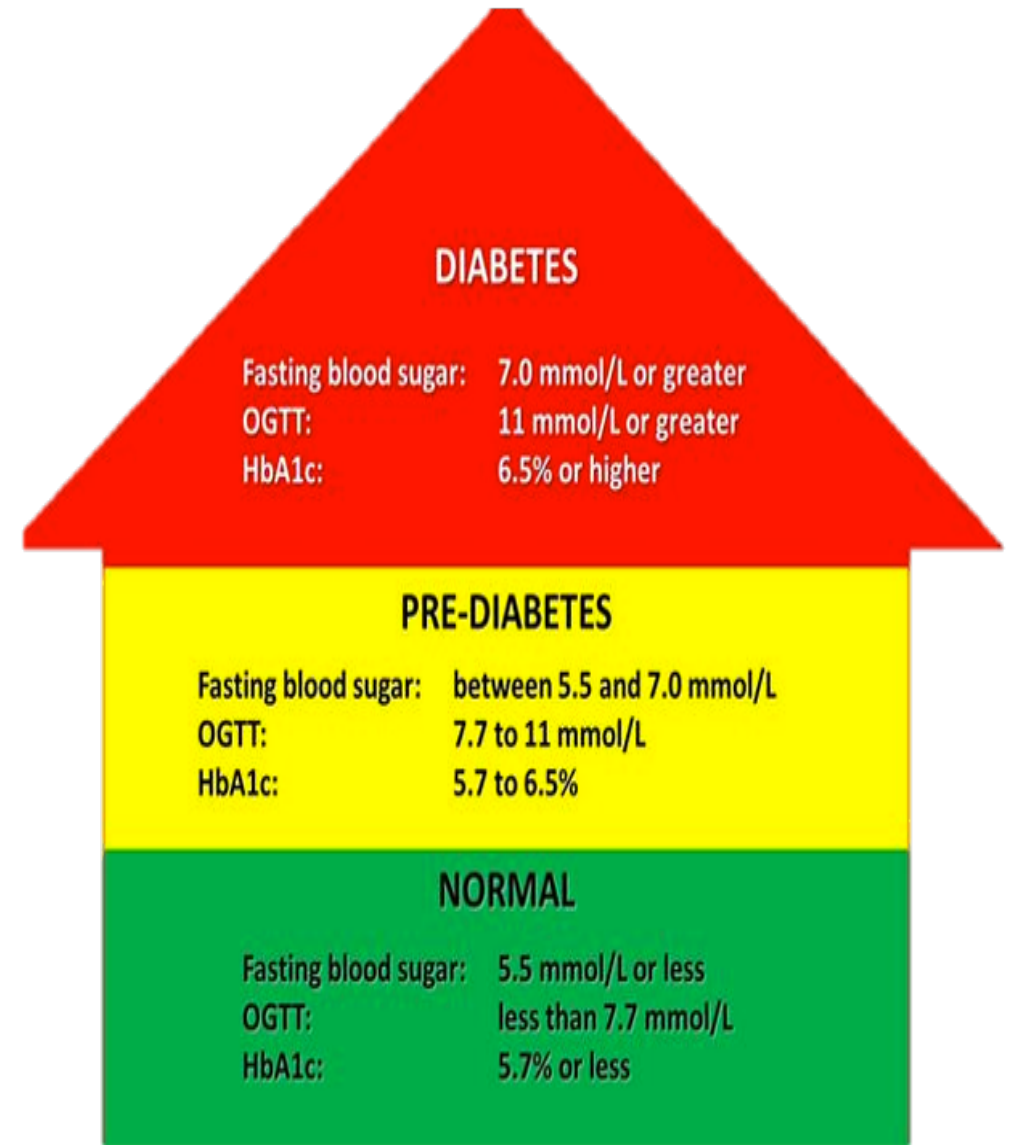
- The precursor to diabetes³
- Symptoms include:
 - Feeling extreme, unexplained fatigue
 - Frequent or reoccurring infections
 - Cuts and bruises that heal slowly
 - Tingling or numbness in the extremities
 - Blurry vision
 - Needing to urinate frequently
 - Being unusually thirsty

Symptoms of diabetes can suddenly appear. Contact your doctor or healthcare provider for more information.



Understanding Your A1C

- The A1C test is a simple blood test that measures your average blood sugar levels over the past 3 months.
 - The healthy A1C value is lower than 5.7%
 - 5.7%- 6.4% indicates prediabetes.
 - A level 6.5% or higher indicates diabetes.
- For diabetics, the A1C goal should be lower than 7%.



Understanding Your Blood Pressure

Blood pressure is measured by two number:

- Systolic blood pressure measures the pressure in your arteries when your heart beats.
- Diastolic blood pressure measures the pressure in your arteries when your heart rests between beats.
- High blood pressure is diagnosed if is consistently 130/80 mmHg or higher⁴. The blood pressure of a healthy individual is described as less than 120/80.



NORMAL BLOOD PRESSURE

*Recommendations: Healthy lifestyle choices and yearly checks.

ELEVATED BLOOD PRESSURE

*Recommendations: Healthy lifestyle changes, reassessed in 3-6 months.

HIGH BLOOD PRESSURE / STAGE 1

*Recommendations: 10-year heart disease and stroke risk assessment. If less than 10% risk, lifestyle changes, reassessed in 3-6 months. If higher, lifestyle changes and medication with monthly follow-ups until BP controlled.

HIGH BLOOD PRESSURE / STAGE 2

*Recommendations: Lifestyle changes and 2 different classes of medicine, with monthly follow-ups until BP is controlled.

Understanding Your Blood Pressure

What can contribute to high blood pressure?

- Unhealthy diet (high sodium, low potassium)⁵
- Not getting regular physical activity
- Having obesity or excess body fat
- Tobacco use
- Drinking too much alcohol

Preventing high blood pressure can lower your risk for heart disease and stroke⁶.



Understanding High Blood Sugar

- 60-140 mg/dL is considered the healthy range for blood glucose
- When blood glucose levels exceed 140 mg/dL then the individual is considered hyperglycemic.⁷
 - This means there is not enough insulin in the blood to reduce levels and sugar accumulates.
- Common symptoms of hyperglycemia include extreme thirst, frequent urination, fatigue, nausea, dizziness, and restlessness.
- In severe cases these symptoms can lead to diabetic coma or diabetic keto acidosis if left untreated.



Understanding Low Blood Sugar

- When you have low blood sugar (less than 70mg/dL), you are considered hypoglycemic.⁸
- Signs and symptoms include:
 - Elevated heart rate, cold sweats, pallor, headaches, dizziness, fatigue, extreme hunger, confusion, and weakness.



When you have low blood sugar....

- It's important to introduce a “sugary” food or beverage to bring levels back up.⁹
 - Glucose Tablets (4g per tab)
 - Juice
- Many may experience these lows overnight, so it is important to have something ready by your bed.
- It may take up to 15 minute to raise your sugar after eating.



Blood Sugar Monitoring

Blood sugar monitoring is the primary tool you must find out if your blood glucose levels are within your target range.¹⁰

- If they get too high and stay high, it can cause greater damage to the body long term.
- If your sugars get too low, you can lose the ability to think or function normally.



AVERAGE BLOOD GLUCOSE MG/DL	HBA 1C % 3 MONTH	DIABETES EFFECT ON LIFE TIME ACHIEVEMENT
110	5.5%	☺☺☺☺
126	6.0%	☺☺☺
145	6.5%	☺☺
170	7.5%	☺
180	8.0%	☹
200	8.5%	☹
225	9.5%	☹☹
250	10.5%	☹☹☹
>290	>11.5%	☹☹☹☹

How do You Track Blood Sugar?

- Keeping logs of your blood sugar before every meal and before going to bed can be a great way to provide you and your healthcare provider with a good picture of your body's response to your diabetes care plan.
- You can check your sugar by using:
 - A fingertip
 - A blood glucose meter
 - Continuous glucose monitor (CGM)

Before a meal, blood sugar should be between 80 and 130 mg/dL; after a meal, it should be lower than 180 mg/dL.



Managing Lifestyle Changes

- Setting small goals is one of the best toll for adapting to life with diabetes.¹¹
 - Walking for 20 minutes everyday- gradually making it 60 minutes
 - Keeping a food and blood glucose log to learn of body's response to certain foods
- Weight control and physical activity can help control diabetes and minimize the negative health consequences.
- Understanding the managing of diabetes is a lifelong journey. Bodies change over time. Mistakes will happen but progression is more important



Your Diabetes Allies

Allies in diabetes management are critical.

- Can include different people such as family, healthcare providers, friends and others with diabetes.
- You can share valuable information in order to better balance your diabetes.



Strategies for Talking with Your Doctor

It is true that health care providers are busy, and your visit may seem short, so you want to use the time to your best advantage.¹²

- Set an Agenda¹³
 - Many doctors' visits last only 10-15 minutes, so it's important to prioritize your concerns by setting an agenda.
 - Before the visit begins, create a list of topics that you want to address. Introduce them at the start of your visit.
 - Take your blood sugar or diet logs with you to your visit, and give it to your doctor, nurse, or dietitian at the start of your visit.



Be Honest

- It's important to share things about your lifestyle, social obligations and relationships at home and at work.
- Providing detailed information helps a doctor get the full picture of your overall well-being and assess lifestyle factors that might contribute to your health.
- Don't be afraid to bring up pain or a feeling that's bothering you.



Ask Questions

- It's OK to ask questions and you should feel comfortable asking as many of them as you need to understand your doctor's advice.
 - Ask your doctor to clarify what they're saying in plain language if they're talking in medical-speak
 - It's perfectly fine to say, 'Sorry, I'm just not following you. Can you explain that in another way?'"
 - Be sure your doctor has understood what you told him or her. For example, if you talk about a concern and your doctor brushes it off, don't be afraid to revisit the issue.



Work Collaboratively

- It's important to work together with your doctor for the best outcome.¹⁴
- If your doctor recommends a treatment, share your worries about possible side effects or questions about other options.
- It's a win for you and a win for your doctor, so don't be afraid to ask him or her to help you understand your options.



Additional Tips

- Write down a list of questions and concerns before your exam.
- Bring your logs (blood sugar readings, food, exercise, etc.)
- Consider bringing a close friend or family member with you.
- Speak your mind. Tell your doctor how you feel, including things that may seem unimportant or embarrassing.
- If you don't understand something, ask questions until you do.
- Take notes about what the doctor says or ask a friend or family member to take notes for you.
- Ask about the best way to contact the doctor (by phone, email, etc.).
- Remember that other members of your health care team, such as nurses and pharmacists, can be good sources of information.



Questions to Ask Yourself Before Your Visit

- Do I have any new symptoms?
- Have I experienced side effects from my medicines?
- Do I have any questions about information I've found online related to diabetes and my treatment/management plan?
- What is hardest or causing me the most concern about managing my diabetes (e.g. diet, medication, stress, cost, complications)?
- What would I like for my doctor to do during this visit to help address my concerns (e.g. work with me to address the concerns, refer me to another health professional)?



Empowering Yourself with Knowledge

- Patients feel more in control of their disease when they begin to know their body's unique responses and how to interpret them.¹⁵
- Health literacy has a strong impact not only on making important health decisions, but also how empowered patients feel to do-so.¹⁶



How to Eat Healthy at Home

- Counting carbs and the plate method are two common tools that can also help you plan meals.
- A good meal plan will consider your goals, tastes, and lifestyle, as well as any medicines you're taking.
- You'll want to plan for regular, balanced meals to avoid high or low blood sugar levels. Eating about the same amount of carbs at each meal can help.¹⁷



Carbs, Proteins, Fat, and Fiber

Carbs, protein, fat, and fiber in food all affect your blood sugar in different ways.

- Carbs can raise your blood sugar faster and higher than protein or fat.
- Fiber can help you manage your blood sugar.
- Protein can be very beneficial for diabetics as it will stabilize your blood sugar.
 - Try having extra protein before going to bed so that your sugar will stay steady while you sleep.



Counting Carbs

- Keeping track of how many carbs you eat and setting a limit for each meal can help keep your blood sugar levels in your target range.¹⁸
- Work with your doctor or dietitian to find out how many carbs you can eat each day and at each meal.
 - Refer to this [list](#) of common foods that contain carbs and serving sizes.
- Additionally, there are mobile apps (CalorieKing, MyFitnessPal, and CarbCounter) that can tell you the carb count for different components of a meal.



The Plate Method

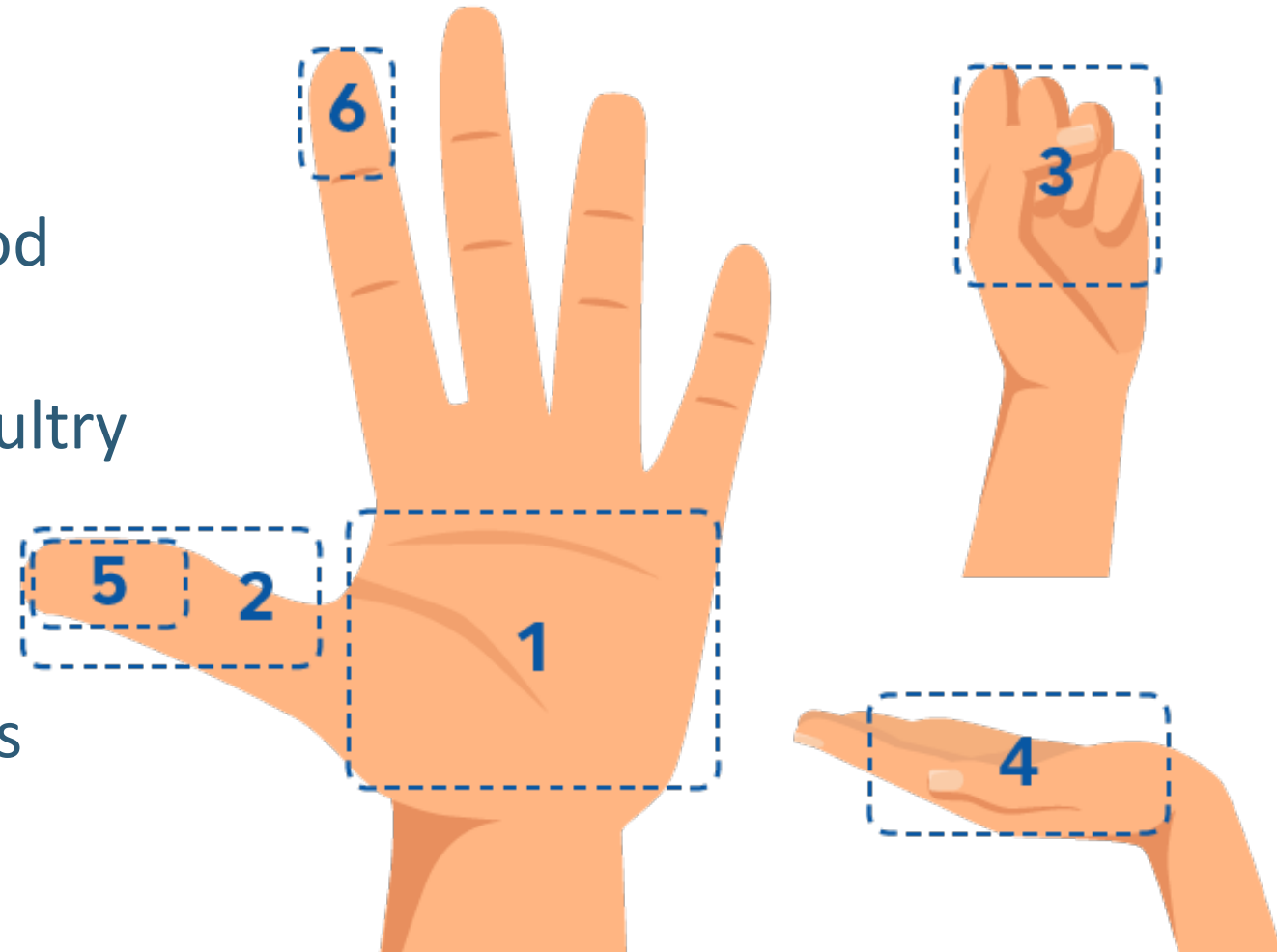
- The plate method is a simple, visual way to make sure you get all your necessary food groups.
- Start with a 9-inch dinner plate:
 - Fill half with non-starchy vegetables, such as salad, green beans, broccoli, cauliflower, cabbage, and carrots.
 - Fill one quarter with a lean protein, such as chicken, turkey, beans, tofu, or eggs.
 - Fill a quarter with a grain or starchy food, such as potatoes, rice, or pasta (or skip the starch altogether and double up on non-starchy veggies).



Portion Size

These areas on your hand can correspond to the amount of food on your plate:

1. 3 ounces of meat, fish, or poultry
2. 1 ounce of meat or cheese
3. 1 cup or 1 medium fruit
4. 1-2 ounces of nuts or pretzels
5. 1 tablespoon
6. 1 teaspoon



Learn from a Bad Day

- Everyone slips up from time to time.
- Figure out what went wrong and plan for it next time.
- Diabetes requires major life changes that cannot happen all at once, give yourself grace.
- You're only human, and humans are great learners!



Eating Away from Home

- If you have diabetes, barbecues, picnics, potlucks, family reunions, and get-togethers around the holidays can pose special challenges.
- Plan ahead: Decide which foods will help keep your blood sugar under control and which foods you want to avoid.¹⁹
- Check out all that's offered, have a few treats along with your healthy meal.
- Watch your portions.
- Focus on family and friends, instead of the food.



Vegetable Tips

- Fill Half of a 10-inch plate with colorful, non-starchy vegetables.
 - Broccoli, bell peppers, carrots, cabbage, eggplant, or spinach
- Choose fresh or steamed vegetable with light salad dressing or light salt.
 - Be aware of the amount of butter or cheese served in the dish



Protein Tips

- Take 2-3 ounces of protein to fill $\frac{1}{4}$ of your plate.
 - Chicken or another lean meat, fish, or bean dishes
- Pick dishes with bakes or grilled lean meat, fish, game, or shrimp.
- Turkey burgers can be a good alternative to normal fatty burgers.
- Try to stay away from heavily breaded meat (e.g. fried chicken) or anything with sugary sauces such as barbeque sauce.



Grains and Starches

- Fill $\frac{1}{4}$ of your plate with grain or starchy vegetables.
 - Rice, bread, potatoes, or green beans
- Choose high-fiber grains like steamed rice and whole grain breads.
- Avoid using butter or margarin on bread, rice, and others.
- Take small portions or avoid heavy sauces like macaroni and cheese and potato salad.



Sweet Treats

- Choose fresh fruits or a fruit salad.
 - Pears, apples, strawberries or melons
 - Fruit is an excellent source of fiber, vitamins, and minerals.
- Have small servings of foods that are high in sugar and fat or avoid them altogether.
 - Cookies, cake, cobblers, or pies



Drink Tips

- Drink water, unsweetened coffee or tea, or other sugar free beverages.
 - Diet soda or zero sugar soda is a good alternative, or Splenda in unsweetened tea.
- If you drink alcoholic beverages, have no more than one drink a day if you're a woman and no more than two for men.
 - Be aware of the risks of consuming alcohol as a diabetics and how it will affect your blood sugar.
 - Always eat food when drinking alcohol.



Being Active

- If you have diabetes, being active makes your body more sensitive to insulin which helps manage your diabetes.
- Exercise can lower your sugar as you can burning energy, so it can have a similar effect as insulin.²⁰
- Some other benefit include:
 - Lowers risk for health disease and nerve damage, maintaining a healthy weight, losing weight (if needed), feeling happier, sleeping better, improving your memory, controlling your blood pressure, lowering LDL (bad cholesterol), and raising HDL (good cholesterol).



How to Benefit from Physical Activity

- The goal is to get at least 150 minutes per week of moderate-intensity physical activity.
- Try to fit in at least 20 to 25 minutes of activity every day.
- On 2 or more days a week, include activities that work all major muscle groups.
 - Legs, hips, back, abdomen, chest, shoulders, and arms



Some Moderate-Intensity Physical Activities

- Walking Briskly
- Doing Housework
- Mowing the lawn
- Dancing
- Swimming
- Bicycling
- Playing Sports
- Weightlifting (if inaccessible use household items or body weight)



Ways to Get Started

- **Find something you like-** Find an activity that you and your healthcare provider agree you can do regularly for the best results.
- **Start small-** If you're not already regularly active, begin slowly and work your way up to the desired level.
- **Find a partner-** Its more fun when someone else is counting on you to show up.
- **Pick a goal-** An example could be to walk a mile every day for a month or be active every week.
- **Schedule it-** The more regular activity you do, the quicker it will become a habit.



Ways to Turn Excuses into Solutions

I'm not more active because...	Ways to make it work
...it's just too hard.	If you think being more active means hours at the gym, it's just not true! You can start by walking for 10 minutes after dinner, gradually building up to 30 minutes most days. Any exercise is better than none!
...the results take too long.	Some benefits start right away, even if they don't seem obvious to you. Check your blood sugar before and after you take a walk. You'll likely see a lower number after the walk. If you stick with it over time (weeks, months, years), you will see more obvious results.
...it's just not fun.	It can be lots of fun if you find an activity you enjoy. Don't force yourself to do something you don't like. You won't stick with it. Try doing a new activity a couple of times before deciding whether to continue with that activity. If one activity isn't a good fit, don't give up. Try something else.
...it costs too much.	The costs for gym memberships and fitness classes can add up. However, walking during lunch or after dinner, dancing to your favorite tunes at home, or working out to online videos are free and can be done at times that are more convenient for you.



Considerations when Doing Physical Activity

- Protect your feet by wearing cotton socks with well-fitting athletic shoes.
- Drink plenty of fluids while being physically active.
- Make sure to check blood sugar before being physically active, especially if you take insulin.
 - If under 100 mg/dL, eat a snack beforehand.
- After your activity, check your blood sugar level.
- After activity, check for sores, blisters, irritation, cuts, or other injuries and treat accordingly.



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