

Prediabetes Basics



Kentucky Public Health
Prevent. Promote. Protect.



**Taking Steps
to Prevent Type 2 Diabetes**

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This booklet is designed to give you basic information on how to take action to prevent type 2 diabetes. It does not replace meeting with your healthcare team. For more information, ask your healthcare provider or your local health department about CDC-Recognized National Diabetes Prevention Programs (NDPP).

Find a CDC-Recognized Diabetes Prevention Program in your area:

Visit CDC to find a program near you:

<https://www.cdc.gov/diabetes/prevention/find-a-program.html>



What is Prediabetes?

Prediabetes: a condition in which blood glucose levels are higher than normal and can lead to type 2 diabetes. Approximately 1 out of 3 American adults have prediabetes.

Blood Sugar Numbers: <i>What Do They Mean?</i>			
Adults Who Are Not Pregnant	Normal Blood Sugar Range	Prediabetes Blood Sugar Range	Diabetes Blood Sugar Range
Fasting Blood Sugar (sometimes called plasma glucose)	less than 100 mg/dL	100 - 125 mg/dL	126 mg/dL or higher
2 hours after glucose challenge (OGTT) (sometimes called an oral glucose tolerance test)	less than 140 mg/dL	140 - 199 mg/dL	200 mg/dL or higher
A1C (blood test showing average blood glucose over 2-3 months)	less than 5.7 %	5.7- 6.4 %	6.5 % or higher

Risk Factors for Prediabetes

- Being overweight (see BMI pages 12-13)
- 45 years or older
- Have a parent or sibling with type 2 diabetes
- Physically active less than 3 times a week
- Ever had gestational diabetes (diabetes during pregnancy) or gave birth to a baby that weighed more than 9 pounds
- Have polycystic ovary syndrome (PCOS)
- Are Black or African Americans, Hispanic or Latino Alaskan Natives, American Indians, Asian, Native Hawaiian, or Pacific Islander



Most people (9 out of 10) who have prediabetes do not know it!

Could I Have Prediabetes?

Answer the questions and write



your score in the box.

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)

Are you a man or a woman?

Man (1 point) Woman (0 points)

If you are a woman, have you ever been diagnosed with gestational diabetes?

Yes (1 point) No (0 points)

Do you have a mother, father, sister, or brother with diabetes?

Yes (1 point) No (0 points)

Have you ever been diagnosed with high blood pressure?

Yes (1 point) No (0 points)

Are you physically active?

Yes (0 points) No (1 point)

What is your weight status?
(see the chart on the right)

Add up your 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+
What is Your Weight Score?	(1 Point)	(2 Points)	(3 Points)
You weigh less than the weight in the left 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.

Could I Have Prediabetes?

Read what your score means



If you scored 5 or higher:

- You are likely to have prediabetes and are at high risk for type 2 diabetes.
- Only a doctor can tell for sure, if you do have type 2 diabetes or prediabetes (a condition that precedes type 2 diabetes in which blood glucose levels are higher than normal).
- Talk to your doctor to see if additional testing is needed.
- Type 2 diabetes is more common in:
 - African Americans
 - Hispanic/Latinos
 - American Indians
 - Asian Americans
 - Pacific Islanders
- Higher body weights increase diabetes risk for everyone.
- Asian Americans are at increased diabetes risk at lower body weights than the general public.

This Prediabetes Risk Test has been adapted from the American Diabetes Association and CDC screening forms.

For more information visit:

<https://www.cdc.gov/diabetes/prevention/pdf/Prediabetes-Risk-Test-Final.pdf>

Why Worry About Prediabetes?

Prediabetes is serious!

- High blood sugar over time causes damage to the entire body from head to toe.
 - Prediabetes can lead to type 2 diabetes, heart disease and stroke.
-
- It is possible to delay or prevent prediabetes from becoming type 2 diabetes.
 - Participating in a structured lifestyle change program, like the National Diabetes Prevention Program, can cut the risk of developing diabetes in half!

The National Diabetes Prevention Program focuses on:

- Lowering body weight by 4 - 7%
or 0.2% or more reduction in hemoglobin
- Increasing physical activity to at least
150 minutes per week



Take Action to Prevent Type 2 Diabetes



Eat Healthy
Move More
Manage Weight
Manage Stress
Get Enough Sleep
No Tobacco Use



Eat Healthy

- Use MyPlate to build your healthy eating style and maintain it for a lifetime.
- Choose foods and beverages from each MyPlate food group.
- Make sure your choices are limited in sodium, saturated fat, and added sugars.
- Start with small changes to make healthier choices you can enjoy.

Eat a variety of foods:

Fruits, vegetables, whole grains, protein foods, and fat-free or low-fat dairy or fortified soy alternatives are healthy choices.

Include a variety of protein foods:

Seafood, lean meats, poultry, beans, peas, lentils, nuts, and eggs.

Enjoy fruits and vegetables:

Fruits and veggies provide key nutrients and dietary fiber. Their colors, flavors, and textures make meals more enjoyable.

Be mindful of your nutrient needs:

Focus on dietary changes that increase your dietary fiber, calcium, and vitamin D, and decrease added sugars, saturated fat, and sodium.

Read the Nutrition Facts label to make healthier choices:

Will show you amounts of carbohydrate, fat and protein, as well as some vitamins and minerals in the product.

Go easy on the salt:

Choose fresh foods when possible or low-sodium packaged foods. Add flavor to foods with spices and herbs and skip the salt shaker at the table.

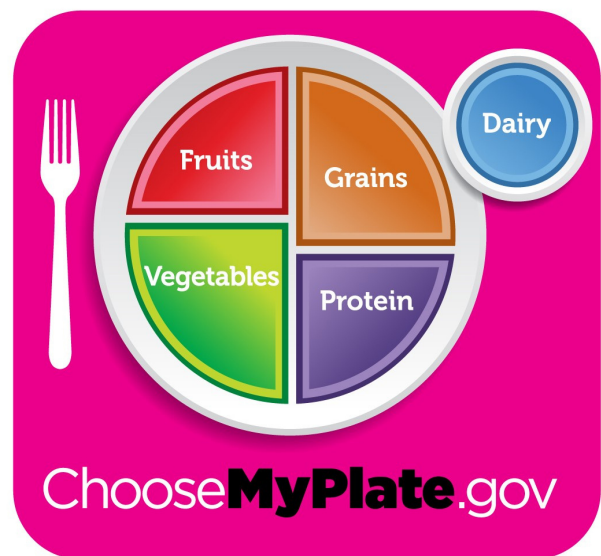
Shift your sweet tooth:

Choose foods with little or no added sugars and drink water or unsweetened sparkling water in place of soda or juice. Fruits are naturally sweet and packed with nutrients.

Strive for a healthy weight:

Make food and beverage choices from all five food groups to achieve or maintain a healthy weight. Get the MyPlate Plan to find out what is right just for you.

The benefits of healthy eating add up over time, bite by bite.



Reference: Healthy Eating for Adults [ChooseMyPlate.gov](https://www.choosemyplate.gov)

Eat Healthy

Read Food Labels

Nutrition Facts	
2 servings per container	
Serving size 1 1/2 cup (208g)	
Amount per serving	
Calories	240
% Daily Value*	
Total Fat 4g	5%
Saturated Fat 1.5g	8%
Trans Fat 0g	
Cholesterol 5mg	2%
Sodium 430mg	19%
Total Carbohydrate 46g	17%
Dietary Fiber 7g	25%
Total Sugars 4g	
Includes 2g Added Sugars	4%
Protein 11g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 6mg	35%
Potassium 240mg	6%
* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

Serving Size:

Information is for one serving.

Calories:

- Calories are listed for one serving.
- Knowing how many calories to eat daily is a key part of weight loss.

Total Carbohydrate:

- Carbohydrates are needed every day.
- Total carbohydrates may include fiber, sugars, and other carbohydrates.
- When counting carbohydrates, only use “Total Carbohydrate” listed on the food label.

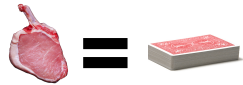
Count Calories

- To lose weight, most people need to decrease the amount of calories they get from food and beverages and increase the calories used in physical activity.
- Lowering calorie intake by 500 to 750 calories each day can result in a weight loss of 1 to 1½ pounds a week.
- Eating plans that have 1,200 - 1,500 calories each day will help most women lose weight safely.
- Eating plans that have 1,500 - 1,800 calories each day will help most men lose weight safely.
- Eating plans with less than 800 calories should not be used unless they are monitored by a doctor.

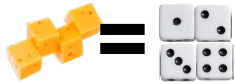
Reference: www.nhlbi.nih.gov

Eat Healthy

What does a serving look like?



3 ounces of meat is about the size and thickness of a deck of playing cards



1 oz of cheese is about the size of 4 stacked dice



1/2 cup of ice cream is about the size of a tennis ball



1 cup of veggies is about the size of your fist



1 teaspoon of butter or peanut butter is about the size of the tip of your thumb



1 ounce of nuts or small candies equals one handful



Need help?

Meet with a Registered Dietitian Nutritionist (RDN) to discuss your calorie and carbohydrate goals. <https://eatright.org/find-a-nutrition-expert>

Visit Kynect for more information and local resources:
https://kynect.ky.gov/resources/s/?language=en_US



Move More



Being Active:

- Increases energy
- Helps manage cholesterol
- Helps lower stress and anxiety
- Increases strength and range of motion
- Helps keep blood sugars in a healthy range
- Helps manage blood pressure
- Improves your mood



Activity Tips

- Choose an activity you enjoy: gardening, walking, swimming, cleaning, etc.
- Plan activity in your schedule
- Begin slowly (Example: 10 minutes/day)
- Include a warm-up and cool-down each time
- Enjoy activity with a buddy
- Aim for at least 30 minutes of activity most days (Activity may be broken into three 10-minute time frames)
- Wear good fitting shoes
- Drink plenty of sugar-free fluids like water
- Avoid an intense outside workout if it is very hot, humid, smoggy or cold



Make An Activity Plan

What's your favorite activity that gets you moving?

List some other activities that you enjoy doing.

What stands in the way of you doing these activities?

(Circle as many as you want)

Not enough time

Too out of shape

Too tired

Not motivated

Can't afford it



My _____ hurts too much.

Other reason/s _____

What is something you can do to overcome the obstacles that keep you from doing activities, you enjoy?

What can you do to get started doing an activity you enjoy or working up to it? (One small change or added activity to begin)

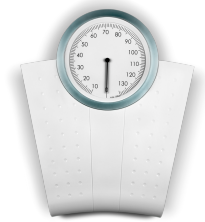
When will you begin doing this?

How will you reward yourself for meeting your goal (Avoid food related rewards)

Write a goal (Specific, Measurable, Achievable, Realistic, Time-based) for what you can do to increase activity (include when you will begin to do this). **Example:** Starting next week, I will walk ten minutes during my lunch break at work Monday through Thursday.

Weight Matters

- Weight loss of 5-7% of weight (if overweight) can delay or prevent type 2 diabetes
- Lower calorie intake and increase activity



Tips to help with weight loss:

- Choose smaller servings
- Drink low or no calorie beverages such as water, unsweetened tea, diet drinks or black coffee
- Monitor your weight
- Keep a daily food and activity journal
- Use a smaller plate to make portions look larger

Weight Goals

- Start with small amounts of weight loss as beginning goal, as you reach one goal add another, until you reach desired weight.
- Give yourself time to reach each weight loss goal, steady weight loss of about 1-2 pounds per week is more likely to stay off.
- Make lifestyle changes that are realistic and you can stick with long term.
- Prepare for slips or breaks from weight loss plan, and how to get back on your plan.
- Reward yourself with something other than food for a job well done.



Waist Size



Fat around the belly can cause a person's insulin not to work right or be as effective (sometimes called insulin resistance).

People have a higher risk of prediabetes if they have a larger waist measurement:

- Women with a waist more than 35 inches
- Men with a waist more than 40 inches

How to measure your waist size:

- Use a soft tape measure
- Pull up your shirt to reveal the stomach
- Press fingers into one side of your waist until you feel your hip bones
- Find the top of the hip bone
- Place tape measure horizontal on hip bone and wrap around waist
- Measure your waist just after you breathe out



Manage Stress

- Everyone has stress in their lives.
- The way we cope physically, mentally, and emotionally to stress has an impact on our health.
- High levels of stress over long periods of time (sometimes called chronic stress) increases levels of cortisol (a stress hormone the body makes).
- When cortisol levels remain high, it causes higher insulin resistance (insulin does not work right or as effectively) which is a risk factor in prediabetes, high blood pressure and heart disease.

Circle what works for you:



Listen to music

Play with a pet

Laugh

Cry

Go out with a friend

Take a bath or shower

Paint

Craft

Pray or go to church

Being active

Be outdoors

Discuss situations with someone

Gardening

Home repair

Practicing deep breathing

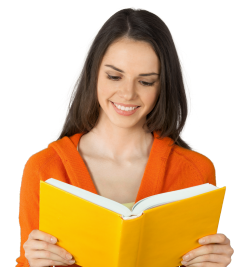
Breathing exercises

Meditation

Muscle relaxation

Read

Write



Get Plenty of Sleep

- Sleep problems, especially sleep apnea, contribute to high levels of cortisol (stress hormone) and the body not using insulin effectively (Insulin resistance).
- Obstructive sleep apnea is a condition in which the airway becomes blocked during sleep.
- Sleep studies are used to diagnose sleep apnea.
- People who have sleep apnea have increased risk for pre diabetes and high blood pressure.

Age	Hours of Sleep Recommended
Birth-3 months	14-17
4-11 months	12-15
1-3 years old	11-14
3-5 years old	10-13
6-13 years old	9-11
14-17 years old	8-10
18-25 years old	7-9
26-64 years old	7-9
65 years and older	7-8

Reference: sleephealthjournal.org

Signs of sleep apnea include: reduced or absent breathing, loud snoring, and gasping for air during sleep. Symptoms include excessive daytime sleepiness and fatigue, decreased attention, headaches, and frequent waking throughout the night.

- Go to bed at the same time each night, and rise at the same time each morning.
- Sleep in a quiet, dark, and relaxing environment, neither too hot or too cold.
- Make your bed comfortable and use it for sleeping and not for reading, watching TV, using a cell phone or tablet, or listening to music.
- Sleep in silence, remove TVs and music to sleep without distractions.
- Get regular activity, but avoid physical activity close to bedtime.
- Avoid large meals before bedtime.
- Avoid caffeine, especially near bedtime.



No Tobacco

- Smokers are twice as likely to develop type 2 diabetes than people who have never smoked.
- Heavy smokers are 5 times more likely to develop type 2 diabetes than nonsmokers.
- Smoking is linked with higher levels of belly fat.
- Tobacco use can cause a person's insulin to not work right (insulin resistance).
- Tobacco users have a harder time managing their blood sugar levels because of insulin resistance (insulin does not work right).
- The benefits of quitting tobacco use are dramatic and help with lowering risk for prediabetes:
 - Better blood glucose
 - Better circulation
 - Less resistance to insulin
 - Lower blood pressure
 - Lower cholesterol levels



Find Help to Quit Free/No Cost Program

Quit Now Kentucky

<https://www.quitnowkentucky.org/en-US/>

1-800-Quit-Now

1-800-784-8669



Available Support:

- Tobacco Cessation Programs
- Telephone Support
- Email Support
- Texting Support
- In-person Meetings



The Good News!

- It is possible to reverse prediabetes with small lifestyle changes.
- These changes can help you live a longer and healthier life.
- The Centers for Disease Control and Prevention (CDC) National Diabetes Prevention Program (DPP) is a structured lifestyle change program proven to reduce the risk of developing type 2 diabetes by more than half in people with prediabetes who follow the program.

CDC's National Diabetes Prevention Program is

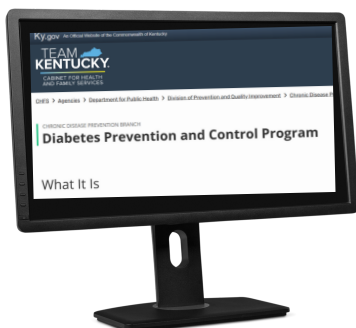
A peer support group, led by a trained Lifestyle Coach, that provides an entire year of support for participants in the lifestyle change program. Participants learn how to make small, sustainable changes, manage stress, and problem solve to reduce their risk of developing type 2 diabetes.



To see if you are at risk and take the test visit
[DoIHavePrediabetes.org](https://www.doihaveprediabetes.org)

Find a CDC-Recognized Diabetes Prevention Program in your area:

<https://www.chfs.ky.gov/agencies/dph/dpqi/cdpb/Pages/diabetes.aspx>



Diabetes Prevention Program (DPP) Organizations
(may have CDC Pending, Preliminary, or Full Recognition)

References and Resources

- **Academy of Nutrition & Dietetics**

www.eatright.org

- **Association of Diabetes Care and Education Specialists**

www.diabeteseducator.org

- **American Diabetes Association**

www.diabetes.org

- **Centers for Disease Control and Prevention**

www.cdc.gov/diabetes

www.cdc.gov/diabetes/prevention/index.html

www.cdc.gov/prediabetes/takethetest

- **Kentucky Diabetes Network**

www.kydiabetes.net

- **Kentucky Diabetes Prevention and Control Program**

<https://www.chfs.ky.gov/agencies/dph/dpqi/cdpb/Pages/diabetes.aspx>

- **Kynect Resources**

https://kynect.ky.gov/resources/s/?language=en_US

- **National Sleep Foundation**

www.sleepfoundation.org

- **National Institutes of Health**

<https://www.niddk.nih.gov/bwp> (Body Weight Planner)

<https://www.nhlbi.nih.gov>

- **United States Department of Agriculture (USDA)**

www.ChooseMyPlate.gov

<https://www.nutrition.gov>



