What is Pre-Diabetes?
Pre-diabetes means your blood glucose (also known as blood sugar) levels are higher than normal, but not high enough to be called diabetes. If you have pre-diabetes, your body does not use insulin well which leads to high blood sugar. Insulin is a hormone that helps your body use glucose for energy. Long-term high blood glucose can cause damage to your eyes, kidneys, nerves, heart, and blood vessels. Making changes to your diet and lifestyle may prevent these complications and delay or prevent the onset of diabetes.

What can I do to decrease my risk of developing diabetes?
1. Know your numbers. The table below shows the ranges of blood-test values for what is considered normal, pre-diabetes and diabetes.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Fasting Glucose (mg/dL)</th>
<th>A1c (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>Less than 99</td>
<td>Less than 5.5</td>
</tr>
<tr>
<td>Pre-diabetes</td>
<td>Between 100-125</td>
<td>Between 5.7-6.4</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Over 126</td>
<td>6.5 or over</td>
</tr>
</tbody>
</table>
2. **Aim for a healthy weight**
   - If you are overweight, losing 5 – 10% of your weight through healthy eating and exercise can help your insulin work better and lower your blood sugar. This means that a person who weighs 200 pounds can greatly improve their health by losing 10 pounds.
   - Your weight loss goal is: ____________.

3. **Be more active**
   - Include at least 30 minutes a day, 5 days a week, of moderate activity to help your body use insulin better.
   - Walking is an excellent activity and typically safe for most people.
   - Make it fun by doing a mix of different exercises like jogging, biking, stretching, hiking, lifting weights, or dancing. Consult your physician to determine what types of exercise are safe for you.

4. **Eat a healthy diet**
   - Carbohydrates provide glucose for energy and should be part of a balanced meal which also includes proteins, non-starchy vegetables, and healthy fats.
   - Choose carbohydrates that are high in fiber and/or protein, such as
     - whole grains like brown rice, quinoa, 100% whole wheat bread, 100% whole wheat pasta, popcorn, oatmeal.
     - starchy vegetables like sweet potatoes or spaghetti squash,
     - fruit
     - beans (like black beans, pinto beans, garbanzo beans), peas and lentils
     - low-fat milk and yogurt, or alternatives like soy milk
   - Limit refined carbohydrates and added sugars, such as white pasta, white rice, soda pop and juice, candy, cookies and other sweets.
**How should I plan my meals?**

- Make half your plate non-starchy vegetables
- Make 1 quarter (1/4) of your plate whole grains or starchy vegetables
- Make 1 quarter (1/4) of your plate a lean or plant-based protein

Add:
- 1 serving nonfat or 1% milk like 1 cup of milk or yogurt.
- 1 serving fruit like 1 cup of mixed berries, one piece of whole fruit, or ½ cup of cut melon.

See a registered dietitian nutritionist for more meal planning ideas, recipes, and other tips to include variety in your meals.

**What are some healthy eating tips?**

- Limit portion sizes of carbs.
- Eat 3 meals of similar size each day.
- Eat balanced meals and include foods from all the food groups every day.
- Choose foods that are high in fiber.
  
  Examples: whole-grain bread and pasta, brown rice, oatmeal, bran cereal, fresh vegetables, beans, nuts, and seeds.
- Limit sweets, high fat meat, high fat dairy, palm and coconut oils
• Include moderate amounts of healthy fats like extra virgin olive oil, nuts, nut butters, seeds, and avocado.
• Limit your alcohol intake.

Where can I learn more?
• For more information about meal planning to prevent pre-diabetes visit: http://careguides.med.umich.edu and search for: pre-diabetes diet
• For more information about physical activity to prevent pre-diabetes visit http://careguides.med.umich.edu and search for: pre-diabetes activity
• CDC National Diabetes Prevention Program: https://www.cdc.gov/diabetes/prevention
• USDA ChooseMyPlate.gov: http://www.myplate.gov
• For healthy recipe ideas, go to http://diabetesfoodhub.org

Disclaimer: This document contains information and/or instructional materials developed by Michigan Medicine for the typical patient with your condition. It may include links to online content that was not created by Michigan Medicine and for which Michigan Medicine does not assume responsibility. It does not replace medical advice from your health care provider because your experience may differ from that of the typical patient. Talk to your health care provider if you have any questions about this document, your condition or your treatment plan.


Patient Education by Michigan Medicine is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Public License. Last Revised 11/2019