Northwestern Medicine®

Diabetes Education Teaching Tool

Flipchart and Patient Education Handouts

Information adopted from:
American Diabetes Association(ADA)
https://www.diabetes.org
Krames Patient Education Handouts

Table of Contents

1. Understanding Diabetes
    a. Understanding Pre-Diabetes
    b. Understanding Type 1 Diabetes
    c. Understanding Type 2 Diabetes
2. Healthy Eating
3. Physical Activity
4. Self Monitoring Blood Glucose
5. Monitoring Hemoglobin A1c Testing
6. Medications
7. Understanding Hypoglycemia
8. Understanding Hyperglycemia
9. Next Steps to Success

Understanding Diabetes

What is diabetes?

- A disease that affects the way your **body turns sugar into energy**.

How does the body turn sugar into energy?

- Food contains **carbohydrates, proteins, and fats**.
- When we eat, carbohydrates and some of the proteins turn into sugar or **glucose**.
- Glucose enters the blood → **Insulin** carries the glucose to the body's cells → Cells turn glucose into energy.

What happens when you have diabetes?

- Your body either **does not make** enough insulin or **is not using** insulin very well.
- Glucose stays in your blood instead of being used by the cells for fuel, so:
  - The body does not have fuel for energy to function properly.
  - Extra glucose in your blood can cause damage to your body.

What type of diabetes do I have?

Pre Diabetes | Type 1 Diabetes | Type 2 Diabetes

Northwestern Medicine®

Understanding Pre-Diabetes

What is Pre-diabetes?

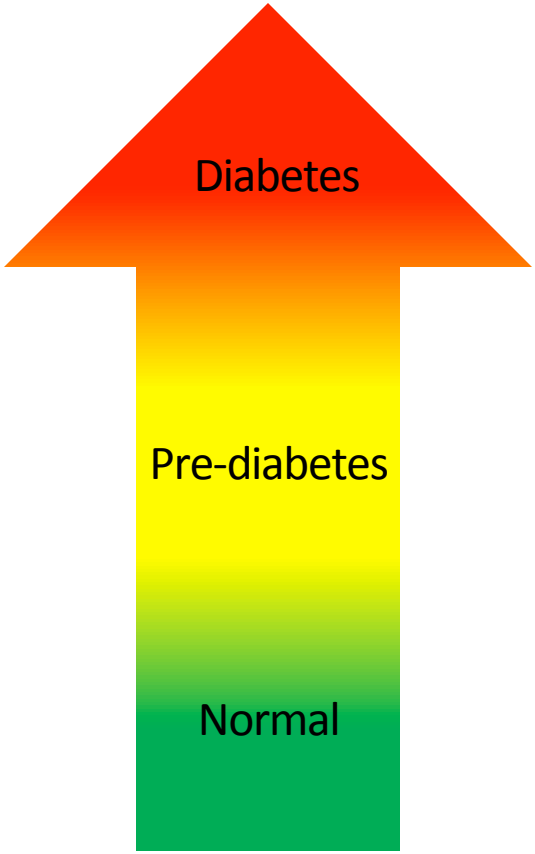
- A condition that happens before Type 2 Diabetes
- Blood glucose levels are **higher than normal,** but not yet high enough to be diagnosed as diabetes

What are the dangers?

- Pre-diabetes puts you at a higher risk for developing
  - Type 2 diabetes
  - Cardiovascular disease

What can I do?

- You can make **healthy lifestyle changes** to postpone or avoid Type 2 diabetes by:
  - Healthy eating
  - Increasing daily activity



Blood Glucose Levels

Understanding Type 1 Diabetes

What is Type 1 Diabetes?

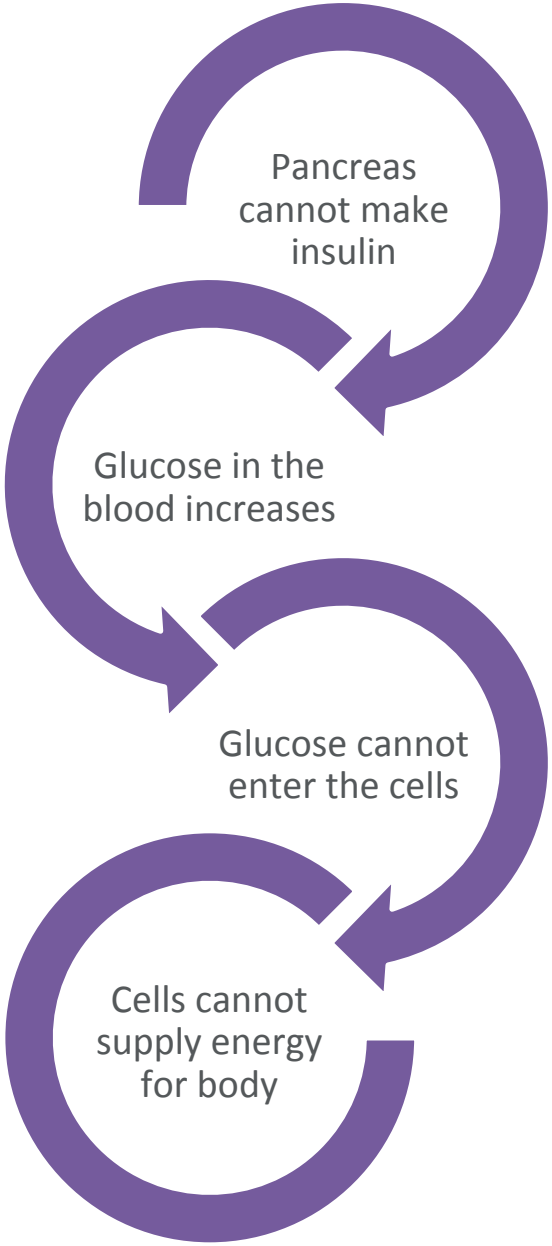
- Pancreas cannot make insulin to transport glucose into the cells for energy

What are the dangers?

- Blood levels of glucose (digested sugar and starches) increases
- Glucose cannot enter the cells without insulin
- Muscles and body organs cannot get glucose for energy

How is it treated?

- Insulin medication
- Monitor blood glucose levels
- Healthy food choices and activity



Northwestern Medicine®

Understanding Type 2 Diabetes

What is Type 2 Diabetes?

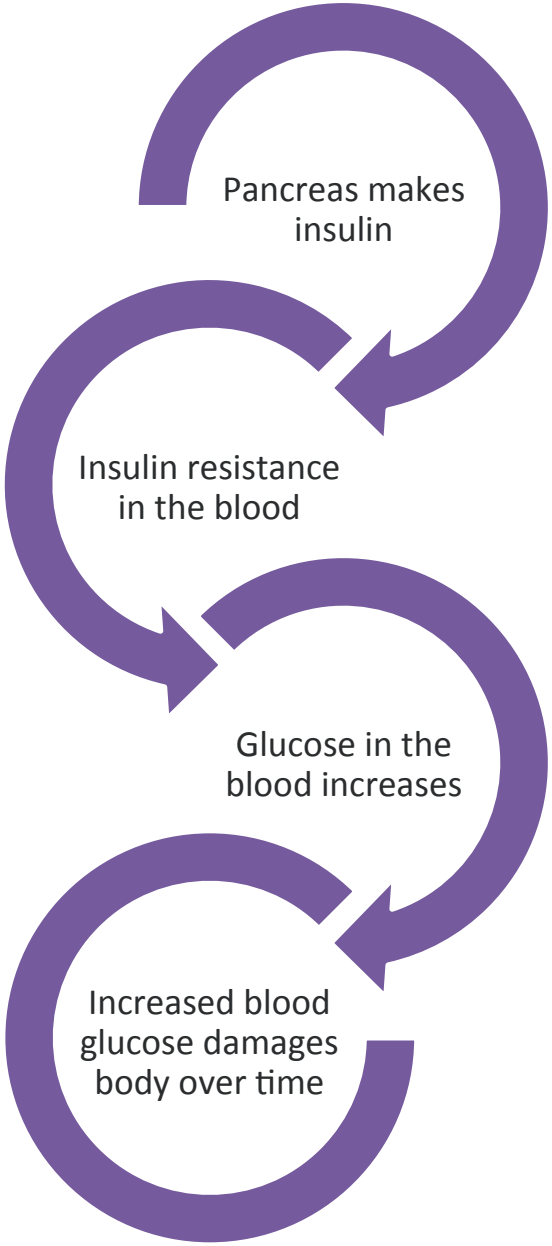
- Most common form of diabetes
- Body does not use insulin properly
  - Insulin resistance

What are the dangers?

- Blood levels of glucose (digested sugar and starches) increases
- High blood glucose levels damage the body over time

How is it treated?

- Monitor blood glucose levels
- Healthy food choices and activity
- Medication



Northwestern Medicine®

Healthy Eating: What Can I Eat?

- **What can I eat (or drink)?**
  - Living with diabetes does not have to mean feeling deprived.
  - We will help you learn to balance your meals and make the healthiest food choices with a wide variety of delicious meals and snacks.
- **What foods have the biggest impact on my blood sugar?**

Starches

Fruits

Dairy

This does not mean you cannot eat these foods, because there are nutritional benefits to each. Just remember- **MODERATION** is the key.

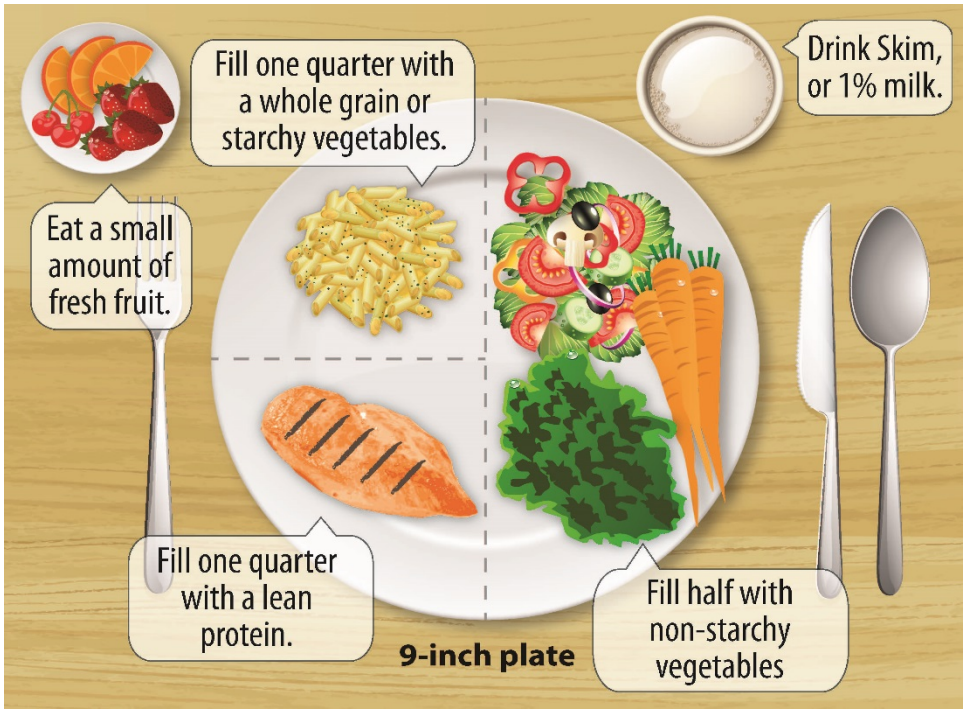
- You will meet with a registered dietitian who will help you develop a personalized meal plan to address all of your healthcare needs.
- **HOMEWORK:** Before meeting with the dietitian, keep track of what you eat by logging your meals.

Northwestern Medicine®

Healthy Eating

Diabetes Plate Method

- 9-inch plate for portion control
- Food does not go over the rim of the plate
- Fill your plate as your meal plan allows



2018 Diabetes Food Plate, Centers for Disease Control and Prevention (CDC)

Foods to choose:

½ plate = Non-starchy vegetables

Examples: broccoli, cabbage, carrots, cauliflower, green beans, salad, and zucchini.

¼ plate = Grains/starchy vegetables

Examples: brown rice, bulgur, green peas, sweet potatoes, and whole wheat bread. Beans, which are both starchy and a good source of protein and fiber, fits here, as well.

¼ plate = Lean protein

Examples: fish, chicken, eggs, lean beef or pork, and soy products(tofu).

Fruit and/or dairy on the side

Add a serving of fruit, such as a small apple, or a serving of low-fat dairy, such as nonfat yogurt.

Physical Activity is Important

Why is physical activity so important?

- Key part of managing diabetes along with proper meal planning, taking medications as prescribed, and stress management

What happens when I am more active and exercise?

- Your body cells work better:
  - Become more sensitive to insulin
  - Can remove glucose from the blood during exercise without needing insulin
- Lowers your blood glucose levels
  - Improve your A1C levels
  - May result in you being able to take fewer diabetes medications
- Improves your overall well being:
  - Helps lowering blood pressure and cholesterol

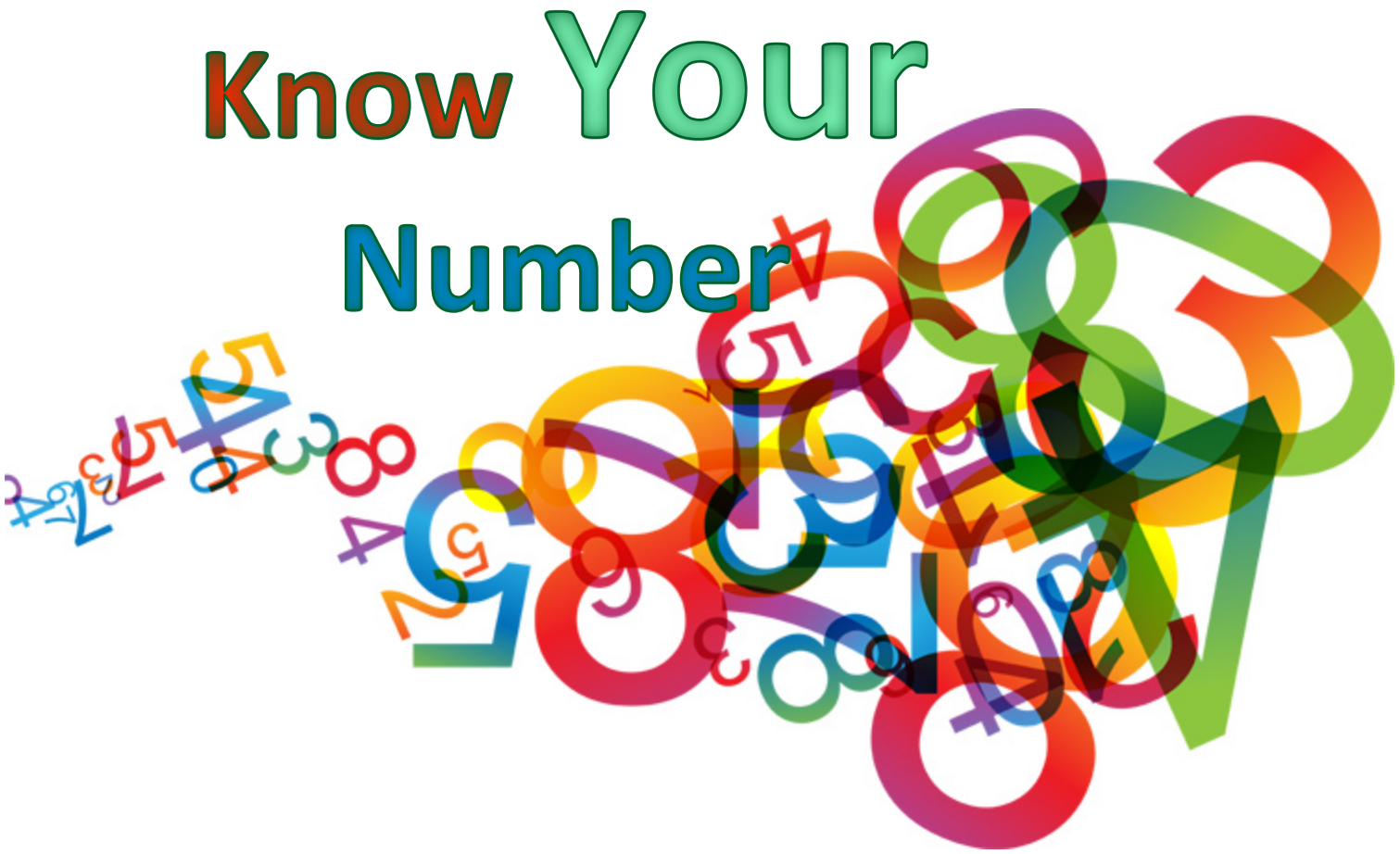
Physical Activity is Important

Examples of incorporating physical activity in daily routine:

1. Park at the far end of the shopping center lot and walk to the store.
2. Get off the train or bus one or two stops early.
3. Take a longer route when walking to the store.
4. Do a lap or two around the perimeter of the store before shopping.
5. If you are at the airport and waiting for a flight, walk through the terminal.
6. When on a road trip, stop often to stretch and walk.
7. Consider using a Fit Bit™ or Fit Bit-like device to track your steps, 10,000 steps per day is a good goal to achieve.

Self Monitoring Blood Glucose

Blood glucose goals: ADA guidelines suggest 80 – 180 mg/dL



Northwestern Medicine®

Monitoring: Hemoglobin A1C Testing

A1C – What is it?

- The A1C test measures your average blood glucose for the past 2 to 3 months. The advantage of this test is that you do not have to fast or drink anything.
- Diabetes is diagnosed at an **A1C of greater than** or equal to **6.5%**

Understanding A1C results:

- **Normal:** less than 5.7%
- **Pre-diabetes:** 5.7% to 6.4%
- **Diabetes:** 6.5% or higher
- **What was my result**?

Medications

You will be provided with a list of the **NEW** diabetes medications that your physician has ordered today.

Things you should know:

- Name of my new medication?
- What dose do I take?
- When do I take it?
- What are the special instructions?
- What is my new medication?

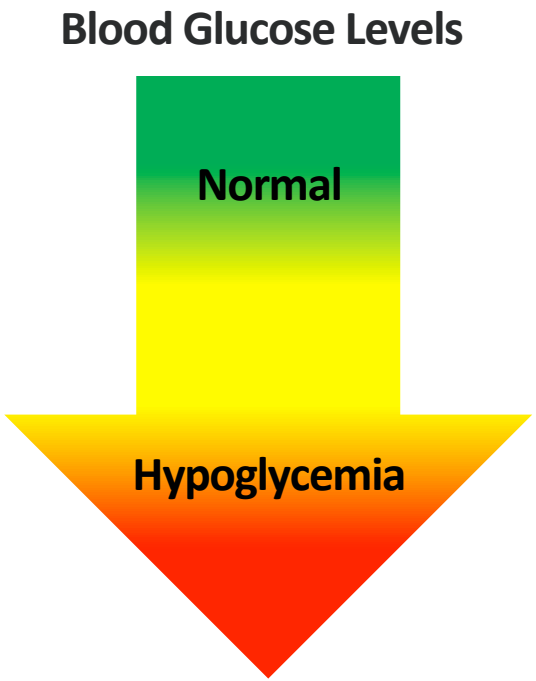
Understanding Hypoglycemia (Low Blood Sugar)

What is hypoglycemia?

- Blood glucose (blood sugar) levels that are **too low**, usually less than **70 mg/dl.**
  - Ask your healthcare provider about what is "low" for you.

What causes hypoglycemia?

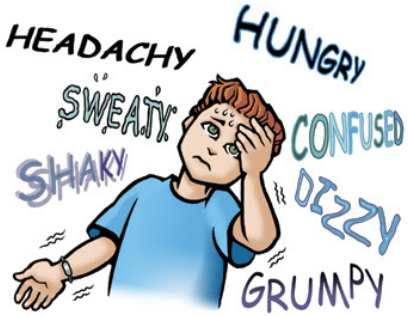
- Blood glucose that drops too fast
- Strenuous exercise without replacing calories.
- Too much diabetic medication.
- Not eating for a long time.
- Some illnesses



What are the Symptoms of Hypoglycemia (Low Blood Sugar)

- **Shakiness**
- Nervousness or anxiety
- **Sweating, chills and clamminess**
- **Irritability or impatience**
- Confusion, including delirium
- **Rapid/fast heartbeat**
- Lightheadedness or dizziness
- Hunger and nausea
- Sleepiness

- **Blurred/impaired vision**
- Tingling or numbness in the lips or tongue
- Headaches
- Weakness or fatigue
- Anger, stubbornness, or sadness
- Lack of coordination
- Nightmares or crying out during sleep
- Seizures
- Unconsciousness



If You Feel Your Blood Sugar May Be Low…

1. Check your blood sugar level.
2. Consume 15-20 grams of glucose or simple carbohydrates.
3. Recheck your blood glucose after 15 minutes.
4. If hypoglycemia continues, repeat.
5. Once blood glucose returns to normal, eat a small snack if your next planned meal is more than an hour or two away.

15 grams of simple carbohydrates commonly used (choose one):

- Glucose tablets (follow package instructions)
- Gel tube (follow package instructions)
- 2 tablespoons of raisins
- 4 ounces (1/2 cup) of juice or regular soda (not diet)
- 1 tablespoon sugar, honey, or corn syrup
- 8 ounces of nonfat or 1% milk
- Hard candies, jellybeans, or gumdrops (Single serving size on package insert)

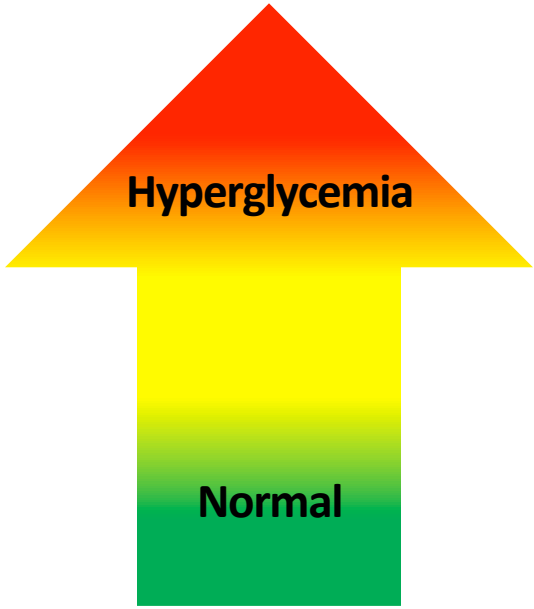
Understanding Hyperglycemia (High Blood Sugar)

What is Hyperglycemia?

- Blood glucose (blood sugar) levels that are **too high.**
  - Ask your healthcare provider about what is “high” for you.

What causes hyperglycemia?

- Too little insulin in your body (Type 1 Diabetes)
- Your body does not use insulin properly (Type 2 Diabetes)
- Other reasons:
  - Eating too many calories
  - Too little activity
  - Stress from an illness such as a cold or flu
  - Personal stress (family, job, conflicts)
  - “Dawn Phenomenon”- a surge of hormones that happens in the very early morning (4 to 5am)



Blood Glucose Levels

Understanding Hyperglycemia (High Blood Sugar)

What are the long-term complications if high blood sugar levels go untreated?

- Blindness
- Limb amputation
- Kidney damage
- Nerve damage
- Heart disease/stroke
- Etc.

NOTE:

If you are experiencing abdominal pain, nausea, vomiting and/or diarrhea, please contact your healthcare provider for advice.

What Are My Next Steps To Success?

NM Comprehensive Diabetes Education Program

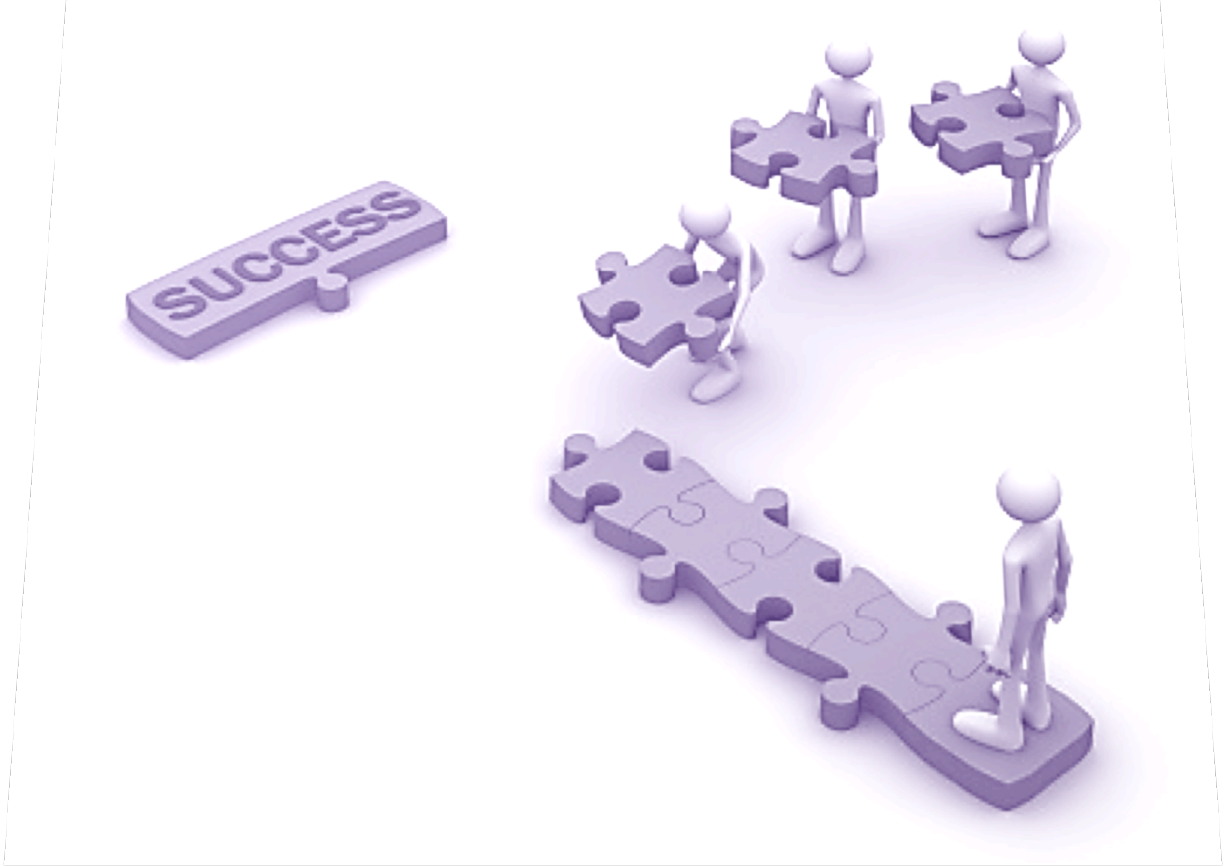
Diabetes Self-Management Training

- Your doctor will refer you to this training program.
- The program includes:

1. **Diabetes Nurse Educator Session –** a one-hour individual meeting to discuss and plan your personal needs and goals. Follow-up as needed.
2. **Registered Dietitian Appointment –** a meeting to develop a meal plan that will address your medical needs as well as your personal tastes.
3. **Group classes --**
   - Two, 4-hour workshops
   - Topics that will help you learn how to control your diabetes

American Diabetes Association®

Diabetes is a Journey:
We are with you every step of the way!



Northwestern Medicine®