

# DIABETES PATIENT EDUCATION

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## What is Diabetes?

It is a condition in which the level of glucose in the blood, called blood sugar, is too high. Normally, the body gets its energy from blood sugar, which comes from food. With diabetes the body is not able to use blood sugar properly. As a result, blood sugar builds up in the blood.

## There are Two Major Types of Diabetes:

**Type 1 Diabetes:** The pancreas (a gland behind the stomach) makes little or no insulin. Insulin acts like a key to help cells use blood sugar. People with type 1 need daily insulin shots, along with healthy eating and exercise, to stay healthy.

**Type 2 Diabetes:** The pancreas makes some insulin, but either it is not enough or the cells did not use it correctly. Some people with type 2 can control their blood sugar level with healthy eating and exercise. Others will need insulin and/or other diabetic medications, along with healthy eating and exercise.

Insulin helps cells use blood sugar. When the body does not make enough insulin, or the cells do not use it correctly, diabetes develops.

There is a third kind of diabetes called **Gestational Diabetes**. It affects pregnant women only, and it usually ends after the baby is born. Many women with gestational diabetes go on to develop type 2 diabetes later in life.

I have Type\_\_\_\_\_Diabetes

## WARNING SIGNS

**The Metabolic Syndrome:** This is a group of disorders that increase your risk of developing diabetes and other diseases. It includes high blood pressure, obesity and high cholesterol. Researchers believe insulin resistance - when your body's cells can't use insulin properly - to be a major cause.

**Pre-Diabetes:** When your blood sugar levels are high - but not yet in the diabetic range - you have pre-diabetes. Losing weight, eating healthy and getting enough physical activity can help prevent you from developing diabetes.

## How Diabetes Can Affect the Body

Diabetes affects the whole body. Let's discuss how it affects the pancreas. The pancreas is a large gland behind the stomach. Within the pancreas are cells that release insulin and help deliver it at the right amount at the right time to keep blood sugar levels normal.

Sugar is needed by your body for energy. Sugar can come from sugar itself or other things that you may not realize, such as carbohydrates (which is in bread, pasta, and rice)

Insulin lowers blood sugar levels by helping sugar move from inside your blood to inside your cells, so it can be used for energy.

Another hormone called glucagon tells the liver to release stored sugar if your blood sugar gets too low or if you have not eaten for many hours, such as overnight.

## In People with Diabetes:

- Those cells that release and deliver insulin may stop working. Many people with type 2 diabetes may only have half of the normal cell function by the time their diabetes is actually diagnosed.
- Also, with type 2 diabetes, the insulin that is made by the pancreas may not be being used properly by those important cells in the body, or the liver may be releasing too much sugar.

Having diabetes may increase your risk for other health problems. Over time, high blood sugar levels (also called hyperglycemia) can harm many parts of the body, such as the eyes, kidneys, feet, skin and nerves. You can do a lot to prevent these problems or slow them down.

## **Causes of Diabetes**

No one is sure what causes diabetes. Research has shown that some people may be at higher risk. Risk factors include:

- a history of diabetes in the family
- being overweight
- having high cholesterol or high blood pressure
- being inactive
- being over age 45
- being of African, Asian, Hispanic, Native American or Pacific Islander heritage
- exposure to certain viruses that damage the pancreas
- having used certain antipsychotic drugs
- a history of gestational diabetes or having delivered a baby weighing over 9 lbs.

### My Risk Factors Include:

#### **AGE AND DIABETES**

People of any age can get type 1 or type 2 diabetes. Type 1 usually appears in children and young adults, while type 2 usually appears in adults. However, type 2 diabetes is increasing among children and adolescents.

## **Common Signs of Diabetes**

- frequent urination
- increased thirst
- extreme tiredness
- weight loss (in spite of increased appetite)
- blurred vision
- slow healing, infections or wounds
- pain, numbness or tingling in the feet
- stomach pain
- vomiting
- rapid, shallow breathing
- sexual problems (impotence in men, decrease in vaginal fluids in women)

Symptoms can appear suddenly or over time. It's unlikely that anyone would have all of these symptoms. It is possible to have type 2 diabetes with no symptoms.



## What Makes your Blood Sugar go Up and Down?

- Eating or drinking carbohydrates (bread, pastas, rice) raises your blood sugar
- Exercise usually lowers your blood sugar, but, for some people, your number may be higher right after exercise
- Insulin lowers blood sugar
- Glucagon raises blood sugar
- Illness usually raises blood sugar and may cause ketones
- Emotions such as anger, excitement, etc. usually raise blood sugar
- Hormones such as glucagon, cortisol and adrenaline raise blood sugars; this action is opposite of that to insulin

## **Diabetes Requires Daily Care**

## Taking good care of yourself is very important!

Uncontrolled diabetes can lead to serious health problems, including:

- heart disease and blood vessel disease
- stroke (brain attack) -eye problems and blindness
- kidney disease
- nerve damage
- increased risk of infection.

Self-care can help prevent these problems!

## Self-Care

### **Blood sugar monitoring**

Keeping your blood sugar level within a certain range is the best way to stay healthy. A simple blood selftest can tell you your blood sugar level. Some insurances may help or totally cover the cost of a glucometer. Check with yours.

I have a glucometer Yes or No

The more you test yourself, the more you will learn about how your body responds to food, exercise and medication.

I know I	now to che	eck my own	blood sugar, or	I have a caregiver	who can check m	ıy blood sugar
Yes	or	No				

I am told to check my blood sugar\_\_\_\_\_times a day, at these times:\_\_\_\_

## **Testing is Easy**

Most systems involve pricking your finger with a spring-operated lancet (a small, metal blade) to get a drop of blood. Some glucose monitors allow you to test other areas, such as forearm or palm. This blood is then analyzed by a special meter.

Testing methods and equipment may vary. Your healthcare provider will help you decide which method to use. Follow the instructions for your testing system. Note: Medicare and other health insurance plans may help pay for equipment and supplies.

## Keeping a true record of your blood sugar level is key

Keeping a chart can help you and your healthcare provider manage your diabetes. Your chart should include:

- date, time and test result
- blood sugar target range set by your healthcare provider
- meals and snacks Record everything you eat so you can see how those foods affect your blood sugar.

Other notes related to blood sugar control:

- exercise and activity
- medication issues (reminders, changes or questions)
- illness
- weight changes
- stressful events
- ketones

### Follow these steps to obtain a blood sample:

- 1. Wash and dry your hands.
- 2. Let your arm hang for 30 seconds. This allows blood to flow to your fingertips.
- 3. Rest your hand on a flat surface, palm up.
- 4. Prick the side of your fingertip with the lancet.
- 5. Gently massage the fingertip, above the prick point, until a large drop of blood appears.
- 6. Follow the manufacturer's instructions carefully for applying the blood sample to the sensor or test strip and completing the test. The timing of test differs from one kit to the next.
- 7. Safely throw away the lancet in a tightly closed container.
- 8. Write down your results.



## A1C Testing

This test measures how well you control blood sugar levels over time. It can also help your healthcare provider see how well your treatment is working.

In addition to an A1C percentage, results may also be given as an estimated average glucose (eAG) level. In both cases, lower results indicate lower average blood sugar levels over the past 2-3 months.

A1C testing is generally recommended every 3-6 months. Your healthcare provider will help you set goals for your A1C and eAG levels.

Current A1C:\_\_\_\_\_% Current eAG:\_\_\_\_\_mg/dl

A1C goal:\_\_\_\_\_% eAG goal:\_\_\_\_\_mg/dl

## Hyperglycemia

This occurs when blood sugar is too high. Over time, it can lead to serious health problems. It can also quickly lead to a dangerous problem called ketoacidosis.

## CAUSES:

- not enough medication
- sickness (such as the flu, infections or diarrhea)
- too much food
- too little exercise

## SYMPTOMS:

- extreme/strong thirst
- frequent urination
- tiredness
- blurred vision
- dry skin
- If you feel hyperglycemic, test your blood sugar.
- If it is above 240mg/dl, test your urine for ketones. (See page 10).
- You should also call your healthcare provider.
- Also drink plenty of water and follow instructions given by your healthcare provider.

## Symptoms of High Blood Sugar (Hyperglycemia)

Causes: Too much food, too little insulin or diabetes pills, illness, or stress. Onset: Often starts slowly.



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#### **Monitor Your Urine for Ketones**

Ketones are acids that can build up in your blood under certain circumstances. Testing ketones can help prevent a serious condition called Diabetic Ketoacidosis (DKA). Ketoacidosis mainly affects people with type 1 diabetes. It can occur when your blood sugar level is high for too long. This is a rare but serious condition that requires a trip to the hospital.

**Contact your doctor right away** if you feel symptoms of DKA - moderate to large ketones in your urine, nausea, vomiting, deep breathing, stomach or chest pain, sweet or fruity-smelling breath, dry mouth or strong thirst, a need to urinate frequently, lethargy (acting very tired) or confusion.

#### **How Ketone Testing Works**

Ketone tests are like blood sugar tests. The changing color of a strip or tablet will tell you the level of ketones in your urine. Ketone testing kits are available. Follow the kit's instructions carefully.

#### When to Test for Ketones

Test immediately if:

- you are sick (call MD if ketones are found)
- your blood sugar level is above 240 mg/dl
- you are under severe stress
- you have symptoms of ketoacidosis
- Note: do not exercise if there are ketones in your urine



## Hypoglycemia

This occurs when blood sugar is too low.

## CAUSES:

- too much medicine
- too much alcohol
- too little food, or skipping or delaying a meal
- too much exercise without extra food
- losing a lot of weight

### SYMPTOMS:

- shakiness
- staggering
- sweatiness
- headache
- hunger
- drowsiness
- irritability
- blurred vision

### TREATMENT

### <u>Step 1</u>:

Eat or drink one of these:

- glucose tablets or gel, as indicated on the package
- 1/2 cup (4oz) of juice or regular soft drink (not diet)
- 1 Tbsp. honey or sugar
- 8 oz nonfat or 1% milk
- 2 Tbsp. raisins

### Step 2:

After 15 minutes, test your blood sugar again. If it is still low, repeat step 1.

### Step 3:

After another 15 minutes, test your blood sugar again. If it is still low, repeat step 1. Call your healthcare provider if you have questions.

### <u>Step 4:</u>

Once your blood glucose returns to normal, and if your next planned snack or meal is more than an hour or two away, eat a small snack. A "low" blood sugar for me is:\_\_\_\_\_

- dizziness
- slurred speech
- weakness
- numbness or tingling
- chills and cold sweats
- fast heartbeat
- anxiousness

## Symptoms of Low Blood Sugar (Hypoglycemia)



For more information, call the Novo Nordisk Tip Line at 1-800-260-3730 or visit us online at **ChangingDiabetes-us.com**.

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## **Important Note About Hypoglycemia**

Hypoglycemia occurs at different levels in different people. <u>Train a loved one or neighbor</u> to recognize symptoms and how to give care.

Some people lose the ability to recognize early warning signs of hypoglycemia. If you suspect that you have this problem, talk to your healthcare provider about how to protect yourself. For example, more frequent or continuous blood sugar monitoring may be needed. Also, ask about medications you take and whether they may mask symptoms of hypoglycemia.

## If you pass out, cannot swallow, act confused or uncooperative, or have a seizure - quick action (such as glucagon shot) is needed.

## **Be Prepared for Emergencies**

Always wear a diabetes ID bracelet or necklace. It should include your name and a phone number to call for help. Always carry a high-sugar snack that can raise your blood sugar level quickly. Hard candy or glucose tablets work well.

## **Glucagon can be used for Emergencies**

Severe hypoglycemia can cause you to pass out, even enter a coma. Glucagon quickly raises your blood sugar level. If your healthcare provider prescribes a glucagon kit, be prepared for emergency use. Have a person you choose to help you practice by giving you your insulin shots a few times.

## **Follow These Instructions in an Emergency:**

# If your helper does not know how to give a glucagon shot (or there is not one available), call 911 immediately!

To give a glucagon shot:

- 1. Place the victim on his/her side.
- 2. Follow the glucagon kit's instructions for mixing and preparing a shot.
- 3. Inject the glucagon following the steps for injecting insulin.
- 4. As soon as the victim is awake and able to swallow, give him or her a quick-acting source of sugar.
- 5. Follow this with a healthy snack, such as cheese and crackers or a sandwich.
- 6. If the victim does not respond to the shot, call 911 immediately.

## **Diabetes Medications**

People with type 1 diabetes need insulin every day, usually in the form of shots. Many people with type 2 diabetes need insulin and/or other diabetes medications. If you take insulin, it is very important for you to:

## Follow a Routine:

- Take only the dose that your healthcare provider has prescribed
- Time your insulin carefully: follow your healthcare provider's instructions exactly for when to take insulin
- Never skip a dose unless your healthcare provider tells you it's okay

## For shots, Follow Universal Precautions:

- Dispose of needles safely in a tightly closed "poke-proof" container. Ask your healthcare provider how to dispose of this container when it's full.
- If you take insulin, always check the expiration date before you use it. Never use any insulin that looks lumpy or sticks to the bottle.

## **Understand the Basics of Insulin**

Insulin brings your blood sugar down. You may take insulin before eating and/or at other times, depending on which type(s) you use. The main kinds of insulin are:

- rapid-acting
- short-acting, or "regular"
- intermediate-acting
- long-acting
- a mixture of different insulins: for example, a 50/50, 70/30 or 75/25 mix of intermediate and short-acting insulins

Insulin is available in bottles for use with a syringe or in "pens." Insulin pens may be either disposable or refillable. An insulin pump, placed beneath the skin, is another option.

## **Understand Other Medications, too**

There are many other kinds of medications used mainly to help treat type 2 diabetes. Most are taken as a pill, but some are injected as shots. These medications are not insulin. However, they are helpful in lowering your blood sugar. They work in different ways. For example, some help your body regulate and/or use insulin.

## Some pills help the body release more insulin.

These pills (meglitinides and sulfonylureas) help the beta cells in the pancreas release insulin, resulting in a lowering of blood sugar. This helps keep blood sugar levels in the target range. These pills can be taken one or two times a day or before meals.

## Some pills reduce the amount of sugar the liver releases.

These pills (biguanides) can also help improve the body's ability to use insulin. They are usually taken two times a day with food.

## Some pills help insulin work better in muscle and fat.

These pills (thiazolidinediones, or TZDs for short) improve the body's response to the insulin that it already makes. This means that more sugar leaves the blood and enters the muscles and fat cells, where it belongs. This helps lower blood sugar levels. These pills are taken once or twice a day.

## Some pills slow the breakdown of food into sugar.

These pills (alpha-glucosidase inhibitors) help keep blood sugar from rising too high after a meal. They are taken at the start of each meal.

**Some pills prevent the breakdown of GLP-1.** The body's natural GLP- 1 helps to lower blood sugar levels. But, it is broken down very quickly. By blocking the breakdown of GLP-1, these pills (DPP-4 inhibitors) allow GLP-1 to remain active in the body longer, lowering blood sugar levels only when they are too high.

These pills are usually taken once a day, with or without food.

You may have to take more than one kind to control your diabetes. My Diabetic Medications are:



## **Giving Yourself an Insulin Shot**

Some people are concerned that an insulin shot will hurt. Don't worry!

The needle is thin and short, and you inject yourself in fatty tissue where you'll feel it less. Always follow your healthcare provider's instructions.



## **Choosing a Site to Give Your Shot**

## You can choose where to give yourself a shot. It's important to rotate the sites of your shots, either in a single area of your body or in different areas.

**Abdomen:** Absorbs insulin quickly. Do not inject within 2 inches of the navel.

Arms: Absorbs insulin more slowly than abdomen.

## Thighs and buttocks: Absorbs insulin slowest of all Injecting insulin

- 1. Clean the skin at the shot site with an alcohol swab or soap and water. Let it dry.
- 2. Pinch up a fold of skin.
- 3. Hold the needle like a pencil or dart.
- 4. Going straight in, push the needle all the way into the skin.
- 5. Push the plunger all the way down. This injects the full dose of insulin.
- 6. Keep the needle in the skin for 5 seconds.
- 7. Pull the needle straight out.
- 8. Press on the shot site with a clean finger, dry cotton ball, or gauze for a few seconds. Do not rub.
- 9. Safely dispose of the needle, according to instructions.

## Storing Insulin

Be sure to read and follow any storage instructions that come with your insulin. In general, opened bottles can be stored in the refrigerator or at room temperature (away from direct sunlight) for about 1 month. Unopened bottles should be refrigerated, but never frozen. Always remember to check the expiration date.

## Using a Insulin Pen

If your healthcare provider recommends an insulin pen, have him or her show you how to use it. In general, you:

- Insert a new needle onto the end of the pen.
- Turn the dial to select the prescribed insulin dose.
- Follow steps 1-4 in the instructions on previous page.
- Click and hold a button on the end of the pen to deliver the insulin.
- Remove the needle and dispose of it properly.

Follow all instructions carefully, including those for storing and reloading the pen (if it is reusable).

## **Disposing of Sharps**

Never flush sharps down the toilet. Most communities do not allow you to put sharps in your home or community garbage or recycling, even if they are in a sealed container. Sharps carry blood-borne germs that cause disease. In many places it is against the law to throw away sharps in household garbage cans. It is recommended that you use only approved sharps containers in the home setting. It is not safe to use empty 2 liter soda containers or detergent containers because needles can poke through the thin plastic.

## **Preparing an Insulin Shot**

1. Wash your hands.

2. If you use cloudy intermediate-acting insulin, roll the bottle between your hands at least 20 times. Don't shake the bottle.

3. Wipe the bottle top with an alcohol swab. Let it dry.

4. Hold the syringe pointing up. Slowly draw air into the syringe until the tip of the plunger marks the amount of insulin you will be taking.

5. Set the bottle on a steady surface. Push the needle through the rubber stopper. Inject the air in the syringe into the bottle.

6. Turn the bottle and needle upside down. Hold the bottle with one hand, and draw the correct amount of insulin into the syringe.

7. Keep the bottle and needle upside down. If you see any air bubbles in the syringe, inject the insulin back into the bottle. Redraw the insulin until the correct dose is in the syringe with no air bubbles.

8. Once more, see if you have the right dose.

9. Pull the needle out of the bottle.

10. If you have to put the syringe down, rest it on the cap so it doesn't touch anything.



## If your Healthcare Provider Instructs you to Mix Insulin from Two Bottles:

A. Write down the amount of each kind of insulin you need.

B. Wash your hands, roll the bottle(s), and swab both bottle tops with alcohol, as in steps 1-3.

C. Draw air into the syringe equal to the amount of the intermediate or long-acting insulin you need.

Inject the air into the bottle of intermediate or long-acting insulin. Do not draw the insulin yet. (See steps 4-5). Remove the needle from the bottle.

D. Now draw air into the syringe equal to the amount of short-acting insulin you need. Inject the air into the short-acting bottle as above, but do not remove the needle from the bottle.

E. Turn the bottle of short-acting insulin upside down, and draw the correct amount of insulin from the bottle. (Follow steps 6-7.) Remove the needle from the bottle.

F. Insert the needle into the bottle of intermediate or long-acting insulin. Withdraw the correct amount as in step E, but do not inject insulin back into the bottle. If bubbles appear, tap the syringe until they go up to the needle. You should now have the correct mixture in your syringe.

G. Double-check the total dosage. If it's too much, discard the insulin in the syringe and start over.

Note: You can buy some combinations of insulin premixed. Check with your doctor and pharmacy.

## **Side Effects of Diabetes Medications**

## Side effects of diabetes pills

Diabetes pills have different side effects. Side effects of some diabetes pills include diarrhea and gas. But these side effects may improve if the pills are taken with food. Another side effect of diabetes pills may be low blood sugar. Ask your healthcare provider what side effects might occur when you take diabetes pills and what you can do to manage them.

- Some side effects happen only when you start taking new pills. Then they go away.
- Some side effects happen only once in a while. You may get used to them. Or your healthcare provider will help you learn how to manage them.

### Side effects of non-insulin injectable medicines

As often happens with many medicines, some people may have side effects when starting non-insulin injectable medicines. The most common side effects are nausea and diarrhea. These side effects usually go away over time as your body gets used to the medicine.

### Side effects of insulin

Although insulin is a hormone that the body makes naturally, injecting it may cause some side effects. Here are two to be aware of:

- Redness, swelling, or itching at the place where you inject. If this reaction happens, let your healthcare provider know. Changing to a different kind of insulin may solve the problem.
- Low blood sugar. You may get low blood sugar if you take too much insulin, don't eat enough, or are more active than usual.

## **Meal Planning**

Eating raises your blood sugar. By learning how different foods affect you blood sugar level, you can plan healthy and enjoyable meals.

## Following healthy eating guidelines

Healthy eating can lead to healthy results - stable blood sugar, a strong heart, weight control and more.

## Follow these general guidelines:

- Eat a variety of healthy foods
- Limit saturated and trans fat, and cholesterol
- Choose whole grains, vegetables and fruits over processed carbohydrates
- Limit added sugars
- Monitor sodium (salt) intake

### Develop a healthy eating pattern

It is not a strict menu. A good plan is one that:

- fits your food preferences and lifestyle
- you can follow consistently
- gives you the nutrition you need for good health
- helps you manage your blood glucose, cholesterol and blood pressure

We can help you develop a plan and possibly get a consult from a nutritionist.

### Get a steady supply of foods during the day

A steady supply of carbohydrates is especially important. Try to eat on a regular schedule. Eat about the same amount of food at the same time every day. Try not to skip meals or snacks.

## **Keeping Fit**

Exercise usually lowers your blood sugar, but sometimes it has the opposite effect. You can avoid problems by balancing exercise with meal planning and medication.

### Maintain a healthy weight

Talk to your healthcare provider about what is healthy weight for you. If you're overweight, he or she may refer you to a dietitian or nutritionist for more advice on losing weight. Losing weight can help you control your blood sugar better and reduce your risk for developing long-term problems related to diabetes. You can also ask your healthcare provider about "intensive lifestyle intervention." These programs offer regular counseling and other services to help you stay on track as you eat healthier, exercise more, etc.

## **Common Questions about Diabetes and Nutrition**

## How much should I be eating?

This varies from person to person, depending on your age, gender and how active you are. They key is to eat wisely, keeping your blood sugar level within a healthy range. If you need to lose weight, try cutting back your portion sizes at each meal. Don't try to lose weight quickly. 1lb per week is usually fine.

### Can I eat sugar?

Yes, in small amounts. But, sugary foods and drinks, such as soda, have little nutritional value. When you eat or drink them, count them as part of your meal plan.

## Do I have to cut out any foods?

People with diabetes can continue to eat most foods. You may have to eat certain foods less often or in smaller portions. Also, ask your healthcare provider about reducing or eliminating caffeine.

### What about eating out?

There's no reason to stop. But, keep these tips in mind:

- Choose foods that are baked, broiled, grilled, poached or steamed, not fried.
- Eat the portions you normally would according to your meal plan. Don't feel you have to finish everything.
- Get sauces, salad dressings and gravy on the side instead of on your food. Eat less of them.
- If you are cutting down on fat or sodium, ask that no butter or salt be added to your meal.

### Be careful with alcohol

Never drink alcohol on an empty stomach as it can lower your blood sugar level dangerously. Talk to your healthcare provider about alcohol. If you take insulin or another diabetes medication, you will need to be extra careful. Whatever your eating plan, you may need to check your blood sugar level before and after meals or as advised by your healthcare provider. This will show how your plan is affecting your diabetes.

## The Plate Method is one option for creating a Healthy Eating Plan.



# It focuses on eating a healthy variety of foods and controlling portion sizes. No food is off-limits.

## The Basics

The plate method starts with a 9" plate. It calls for you to:

- fill 1/2 of the plate with non-starchy vegetables
- fill 1/4 of the plate with protein
- fill 1/4 of the plate with grains or other starchy foods. These foods should fill the plate no more than 1" high.
- You can also add 1 serving of fruit and/or 1 serving of dairy

Exact portions may vary, based on your day's meal plan and your calorie requirements and blood sugar levels.

# Circle the foods you like in the following lists to help you with meal planning.

### Non-starchy vegetables

These are full of vitamins, minerals and fiber. They are also low in calories and carbohydrates.

Good choices include:

-asparagus	-broccoli	-carrots	-cauliflower	-celery
-chilies	-eggplant	-green beans	-jalapeños	-jicama
-lettuce	-mushrooms	-nopales	-onions	-peppers
-spinach	-kale	-other greens	-tomatoes	-zucchini
-squash				

Fresh, frozen and canned are all fine. Just look for versions without added sugar, fat or salt.

## Protein

Protein helps the body build and repair tissue. Foods high in protein include meat, poultry, fish, meat substitutes and cheese. Most are low in carbohydrates.

Good choices include:

-beans and lentils	-catfish	-turkey			
-lean cuts of beef, such as chuck, round and sirloin					
-low-fat cheese	-chicken	-cod			
-eggs	-haddock	-hummus			
-lamb	-oysters	-salmon			
-shrimp	-tofu	-tuna			

## **Starchy Foods/Grains**

These are a major source of carbohydrates, which produce most of your blood sugar. They also provide fiber and certain vitamins and minerals.

Examples include:

-brown rice	-calabaza	-cereal	-chayote squash
-corn	-green peas	-oatmeal	-pasta
-plantain	-potatoes (white and sweet)		-quinoa
-tortillas	-уисса	-yams	

Aim to make at least half of your grains whole grains.

## Fruit

Fruit is another main source of carbohydrates. It's also a good source of fiber, vitamins and minerals. In general, a serving of fruit equals:

- 1 small piece of whole fruit
- 2 Tbsp. dried fruit
- 1/2 cup frozen or canned fruit (no sugar added)
- 3/4-1 cup berries or melon

### Examples include:

-apples	-bananas	-kiwi	-fruit cocktail (sugar free)
-honeydew	-peaches	-pears	
-raisins	-strawberries		

## Dairy

Dairy products are an important source of calcium and protein. In general, 1 serving of dairy equals: -1 cup milk

-6 oz. yogurt

Good choices include:

-low-fat or fat-free milk -plain non-fat yogurt -unflavored fortified soy milk Note: cheese is considered a protein when using the plate method.

To complete your meal, add a low-calorie drink such as water, coffee, or unsweetened tea.



### **Carbohydrate Counting**

Counting carbs is another option for meal planning. Carbohydrate is the nutrient that most affects your blood sugar. Carbohydrate counting helps you control blood sugar by eating the right amounts for meals and snacks. Ask your healthcare provider or dietitian how many carbohydrates you need each day.

### How do you count carbohydrates?

You can keep track of the carbohydrates in the food you eat using:

- serving or "carb choices," each of which has about the same amount (15 grams) of carbohydrate
- grams per serving, which is more exact and can give you more flexibility

## Your meal plan should be right for you

It's a good idea to eat about the same amount of carbohydrate at the same time each day. That doesn't mean everyone will have the same plan.

Work with your healthcare provider, dietitian or nutritionist to create a plan that:

- fits your schedule and activities
- allows you the flexibility you need and includes foods you like to eat

### You'll need to measure first

Keep on hand:

- measuring cups and spoons
- a food scale that weighs in ounces or grams

Practice measuring different portions. Remember that grams of carbohydrates are not the same as total weight in grams.

### You can learn to estimate

Having a meal plan doesn't mean measuring everything you eat forever. After a few weeks, you will learn to estimate portions.

Here are some tips:

- Use the same size cups, bowls and plates to make it easier to estimate visually
- Compare amounts to everyday things- for example; a 3 ounce serving of meat is about the size of a deck of playing cards
- Practice measuring about once a week to make sure your portions don't "grow"

## There are many tools available to help

The Nutrition Facts label on packaged food tells you how many grams of carbohydrate are in each of its servings. You can also look up carbohydrate amounts online at <u>http://tracker.diabetes.org/explore</u> If you count carb choices, ask your dietitian, nutritionist, or nurse about carb choice lists.

## You may learn advanced carbohydrate counting

This is to give you tighter control of blood sugar. Advanced carbohydrate counting usually integrates insulin use, nutrition and exercise. You can work closely with your diabetes healthcare team to learn this method.

### Shop wisely

Read the Nutrition Facts label on food containers. It can help you make healthy food choices. Be sure to ask your dietitian, nutritionist, or healthcare provider if you need help understanding food labels.

### Note the serving size

Most information on the Nutrition Facts label is for 1 serving.

The label will tell you the size of that serving and how many servings in the package.

Serving sizes may differ from those used in your meal plan. You may need to compare carefully.



## Check the sodium (salt) and fat content

Too much sodium can raise your blood pressure.

Choose and prepare foods with a Daily Value of 5% or less sodium ("low sodium").

Excess sodium can make your body retain fluid, especially if you have diabetes complications such as heart or kidney disease.

Both saturated and trans fat can raise your cholesterol level and lead to heart disease and should be limited.

### Know what special claims mean

- <u>Low-fat:</u> No more than 3 grams (g) of fat/serving (for single foods), or no more than 30% of calories from fat (for main meals)
- Fat-free: Less than 0.5g of fat/serving
- Low in saturated fat: 1g or less/serving, and not more than 15% of calories from saturated fat
- Low cholesterol: 20mg or less/serving, and 2gm or less of saturated fat/serving
- Low sodium: 140mg or less/serving
- <u>Sodium-free/Salt-free</u>: Less than 5mg/serving
- <u>"Reduced" or "less"</u>: At least 25% lower in a nutrient than the regular, nonreduced version
- Low-calorie: 40 calories or less/serving
- <u>Calorie free</u>: Less than 5 calories/serving
- Light/Lite: 1/3 fewer calories or 50% less fat/serving than the food it's compared to
- Light/low in sodium: Half the usual sodium or less
- <u>Sugar-free</u>: Less than 0.5g of sugar/serving
- <u>Dietetic</u>: This term has no specific meaning. Read the label for content information
- <u>High-fiber</u>: 5g or more/serving
- <u>No added sugars</u>: This means no extra sugar was added during processing, but the food may still be high in carbohydrates

## **Charting Meals**

Meal Planner for 2300 Calorie Diabetic Di Fasting Blood Sugar (around 8:00)	M:	T:	W:	R:	E	S:	S:
Breakfast (around 8:30)	M time:	T time:	W time:	R time:	F time:	S time:	S time:
Food Group			1	Type and Amount of Food		1	
2 Bread or Starch (30 g)				_			_
1 Fat (5 g)							
1 Milk OR 1 Meat (7 g) and Bread (15 g)	-						
Free Food							
2-hr Test Results:							
AM Snack (around 11:00)	M time:	T time:	W time:	R time:	F time:	S time:	S time:
Food Group 1 Bread or Starch (15 g)				Type and Amount of Food		1	
							_
1 Meat (7 g)	2						_
1 Fruit (15 g)							_
Free Food							
Lunch (around 1:30)	M time:	T time:	W time:	R time:	F time:	S time:	S time:
Food Group				Type and Amount of Food		1	
3 Meat (21 g)							
2 Bread or Starch (30 g)							
1 Starch Veggie (15 g)							
1 Fruit (15 g)							
1 Fat (5 g)							
Free Food							
2-hr Test Results:					10.000.00		
PM Snack (around 4:30)	M time:	T time:	W time:	R time:	F time:	S time:	S time:
Food Group			1	Type and Amount of Food		1	
2 Bread or Starch (30 g)							_
1 Milk							
1 Fruit (15 g)							
Free Food							
					-		
Dinner (around 7:00) Food Group	M time:	T time:	W time:	R time: Type and Amount of Food	F time:	S time:	S time:
3 Meat (21 g)						1	
3 Bread or Starch (45 g)							
1 Starch Veggie (15 g)							_
1 Fruit (15 g)	1		-				
1 Fat (5 g)							
Free Food							
2-hr Test Results:							
Bedtime Snack (around 11:00)	M time:	T time:	W time:	R time:	F time:	S time:	S time:
Food Group				Type and Amount of Food			
1 Bread or Starch (15 g)							_
1 Milk	1.					_	_
Free Food			1			1	

15g carbs = 1 bread or starch/starch veggie 7g carb, 7g protein = 1 milk 7g protein = 1 meat 15g carbs = 1 fruit 5g fat = 1 fat

## **Exercise - A Little goes a Long Way**

Learn how to balance: when you eat, when you're active, and when you take insulin or other medications.

### Get a checkup before starting

Because you have diabetes, you need to plan your exercise carefully. Have your healthcare provider check your: -heart and circulation -blood sugar -blood pressure -eyes -blood lipids or fats, especially cholesterol -feet (make sure you have the proper shoes for any exercise you do)

## Exercise brings benefits - now and in the future

These include:		
-lower blood sugar	-lower cholesterol	-better sensitivity to insulin
-more energy and strength	-an emotional pick-me-up	
-weight control	-reduced risk of heart, circulat	ion and blood pressure problems

By exercising, some people have been able to lower their dosages of diabetes medication or get off diabetes medication completely.

## Exercise doesn't have to be hard

If you aren't used to exercising, you should start slowly.

Try:

-walking -standing or stretching -doing yard work

-using the stairs

-parking farther from where you want to go, and walking the rest of the way

Try to avoid long periods of just sitting. Get up and move around about every half hour.

- Always stop exercising if you are in pain or have breathing problems
- Be sure to have food or snacks containing carbohydrates available during and after exercise to use as needed
- Remember to start slowly
- Find a partner or join a class with people at your fitness level
- Never exercise if your blood sugar is below 100 mg/dl or above 240mg/dl with ketones



### What to do on sick days

When you are sick, your blood sugar level can go up. Before you get sick, talk to your healthcare provider about a sick-day plan.

## **Call Lane Home Health if:**

- you have been sick or had a fever for 2 or more days and you are not getting better
- you are vomiting or have had diarrhea for more than 6 hours
- you are showing moderate to large amounts of ketones in your urine
- you take insulin and your blood sugar level is 240mg/dl even though you have taken the extra insulin your sick-day plan calls for
- you take other diabetes medications and your blood sugar level is 240mg/dl or higher before meals and stays high for over 24 hours
- you have symptoms that might be signs of diabetic ketoacidosis, dehydration, or another serious condition
- you are not sure what to do to take care of yourself

# Never take over-the-counter cold or stomach medications without your healthcare providers OK. Many can affect your blood sugar level.

## Take good care of yourself

- Stick with your regular meal plan, if possible
- If you are on your regular meal plan, drink plenty of calorie-free, caffeine-free liquids to stay hydrated (unless otherwise advised by your healthcare provider
- If you are having stomach problems, try a soft foods/liquid diet
- Take your normal dose of insulin
- Take your normal dose of other diabetic medications
- Test your blood sugar and ketones every 3-4 hours and record the results
- Report high blood sugar levels to Lane Home Health
- Ask someone to check on you from time to time

## You may need a soft foods/liquid diet

Each of these servings of these foods will allow you to get enough carbohydrates (about 15 g per serving):

-1/2 cup fruit juice	-3/4 cup ginger ale	-6 saltines
-1/2 cup hot cereal	-1/2 cup ice cream	-3 tsp. honey
-1 slice toast	-1 cup soup/broth	

Prevention is the best medicine! Ask your healthcare provider about available vaccines, such as those for the flu, pneumonia, and hepatitis B. Diseases like these can be serious for people with diabetes, but vaccines can help protect you.

## **Take Care of Your Feet**

People with diabetes are at higher risk for foot problems.

Ask your nurse and family members to inspect your feet frequently.

Be sure to have a professional foot exam, including nerve and circulation tests, at least once a year. In between those exams, you can prevent many foot problems by caring for your feet daily and by keeping your blood sugar in a healthy range.

### Signs of foot problems

-numbness or tingling -puffiness or discoloration

-pain in feet or legs -dried or cracked skin -cuts or scratches that don't heal

## Call Lane Home Health right away if you have any of these things or other issues. Left untreated, foot problems can lead to serious complications - even amputation.

## Foot care instructions

- Wash your feet every day-don't soak. Use warm water and mild soap. <u>Never use hot water</u>.
- Test water temperature with your elbow or wrist.
- Dry feet and in between toes well.
- Check your feet closely every day. Look for scratches, cracks, unusual spots, hot spots, redness, or dry skin. <u>Use a mirror to help you see all parts of your feet</u>.
- Wear comfortable leather or canvas shoes.
- Empty your shoes before putting them on.
- Wear clean socks or stockings. Change them daily.
- Dust your feet lightly with baby powder if they sweat easily.
- Use a moisturizer, but don't put lotion between your toes.
- Have someone help you if you can't see or reach your feet easily.
- It's especially important to get help trimming your toenails.



#### More foot care tips

- Never go barefoot, even at home
- Do not soak your feet
- Never wear tight-fitting stockings, socks, or garters
- Do not apply any kind of heat to your feet
- Do not walk on cuts or sores
- Never use strong medicines on your feet, such as corn or wart removers
- Get treatment right away for corns or calluses
- Never do "home surgery" on your feet using scissors, razor blades, sandpaper, or other tools that cut or irritate the skin
- Do not sit cross-legged

#### **Treatment of cuts and scratches**

For people with diabetes, cuts and scratches can become serious problems if left untreated. You should:

- Treat a cut or scratch right away
- Wash it with warm water and soap, do not soak
- Put on a mild antiseptic
- Cover with a dry, sterile dressing sticky coverings such as adhesive bandages
- Do not apply heat
- Stay off your feet as much as possible

## Call Lane Home Health if the area does not improve in 24 hours. Always notify us of any new or changed skin conditions/wounds.



## Making a Plan to Quit if you Smoke

Smoking greatly increases your risk for complications of diabetes. Smoking weakens the circulation to your feet and makes it harder for wounds to heal. Let us know if you would like more information on how to quit smoking!!

## **Resources for Smoking Cessation:**

**Commit to Quit:** This smoking and tobacco cessation program is provided by Cardiovascular Institute of the South in Zachary and Baton Rouge. If you or someone you love smokes or uses tobacco and wants to quit, Commit to Quit can help kick the habit. Call (877) 288-0011 or visit <u>cardio.com/quitsmoking</u>

Smokefree.gov Phone: 1-800-784-8669 Web Address: <u>www.smokefree.gov</u>

Quit.com Helpguide.org - <u>https://www.helpguide.org/articles/addictions/how-to-quit-smoking.htm</u>l



## You can Travel with Diabetes

Consider getting a carrying case just for your diabetes supplies.

## **Diabetes IDs**

Have these forms of diabetes identification:

- a card in your purse or wallet
- a medical ID necklace or bracelet

Both IDs should say you have diabetes. <u>They should also list an emergency phone contact.</u> If traveling overseas, get a letter from your healthcare provider stating you have diabetes.

### **General advice**

- Get a checkup and any shots you may need at least one month before leaving
- Carry prescriptions for all medications and syringe
- If you will be more physically active on your trip, ask your healthcare provider if you should change your eating plan and medications
- Pack comfortable, broken-in shoes and well-padded socks
- Ask your healthcare provider how to get medical help in the place you're traveling to
- If you're crossing time zones, talk to your healthcare provider about changing the timing of your meals and medications
- To order a "diabetic" meal, call the airline or check its website for the steps you need to follow

### Special packing instructions

Always keep with you:

- All the medications for your trip, clearly identified
- Snacks such as cheese, peanut butter, crackers and fruit
- Hard candies or glucose tablets for low blood sugar emergencies
- Testing kits for blood sugar and ketones
- Glucagon kits
- Syringes for the entire trip (including cleaning supplies)
- A "poke-proof" container for disposing of syringes
- Include some extra medications, syringes, and a testing kit
- If flying, keep everything in a carry-on bag and let the screener at the airport know you have diabetes and are carrying your supplies with you



## **Your Feelings are Important**

It helps many people with diabetes to talk about how they feel. At one time or another, most people with diabetes feel:

## **Disbelief or denial**

Having a chronic condition can be overwhelming. For a while, many people with diabetes tell themselves that the diagnosis is wrong.

### Anger

Facing up to your diabetes can make you angry. You may ask, "What did I do to deserve this?"

#### Fear

It's scary to hear that some people with diabetes, maybe even you, have developed more serious health problems. Making lifestyle changes can be difficult, too.

### Guilt

Some people mistakenly believe they have caused their diabetes to develop.

## Remember - diabetes is a manageable condition. You can lead a happy, healthy life with diabetes!

## **Self-Care is the Key**

Everyone has low days, and people with diabetes are no different.

But, sticking with a treatment plan that's comfortable for you can help you feel better physically and emotionally.

If your feelings are getting in the way of your self-care, tell us right away. We can help.



## **Living Well with Diabetes**

By following your healthcare provider's advice and the tips in this handbook, you can lead an active and healthy life!

Here are a few reminders:

- Test your blood sugar and have your A1C level tested regularly, as advised by your healthcare provider
- Follow a healthy meal plan and stay in touch with a healthcare provider who knows about diet and diabetes
- Get regular exercise but start slowly and follow your healthcare provider's advice
- Quit smoking to decrease your risk for complications
- Take your medication on time
- Keep good records so you and your healthcare provider can manage your condition
- Keep your spirits up by talking with friends and family and staying active

## **Additional Resources**

## **American Association of Diabetes Educators**

www.diabeteseducator.org

American Diabetes Association 1-800-342-2383 www.diabetes.org

National Diabetes Information Clearinghouse 1-800-860-8747 www.niddk.nih.gov/health-information/diabetes

American Cancer Society 1-800-227-2345 www.cancer.org

This organization helps educate people about the dangers of smoking. Every November, it sponsors the Great American Smokeout.

MedicAlert Foundation 1-888-633-4298 www.medicalert.org

MedicAlert Foundation offers an emergency medical information service, including an ID bracelet or pendant that list your medical condition, member ID number to an emergency response center.

Daily Blood Sugar Log Book						
Date & Time	Before Breakfast	Before Lunch	Before Dinner	Evening	Other	



Lane Home Health | 225-658-4150