

Adult Diabetes Self Management

EDUCATION HANDBOOK



**To speak to an educator for additional information call:
(520) 324-3526, (520) 324-1265 or (520) 324-1819**

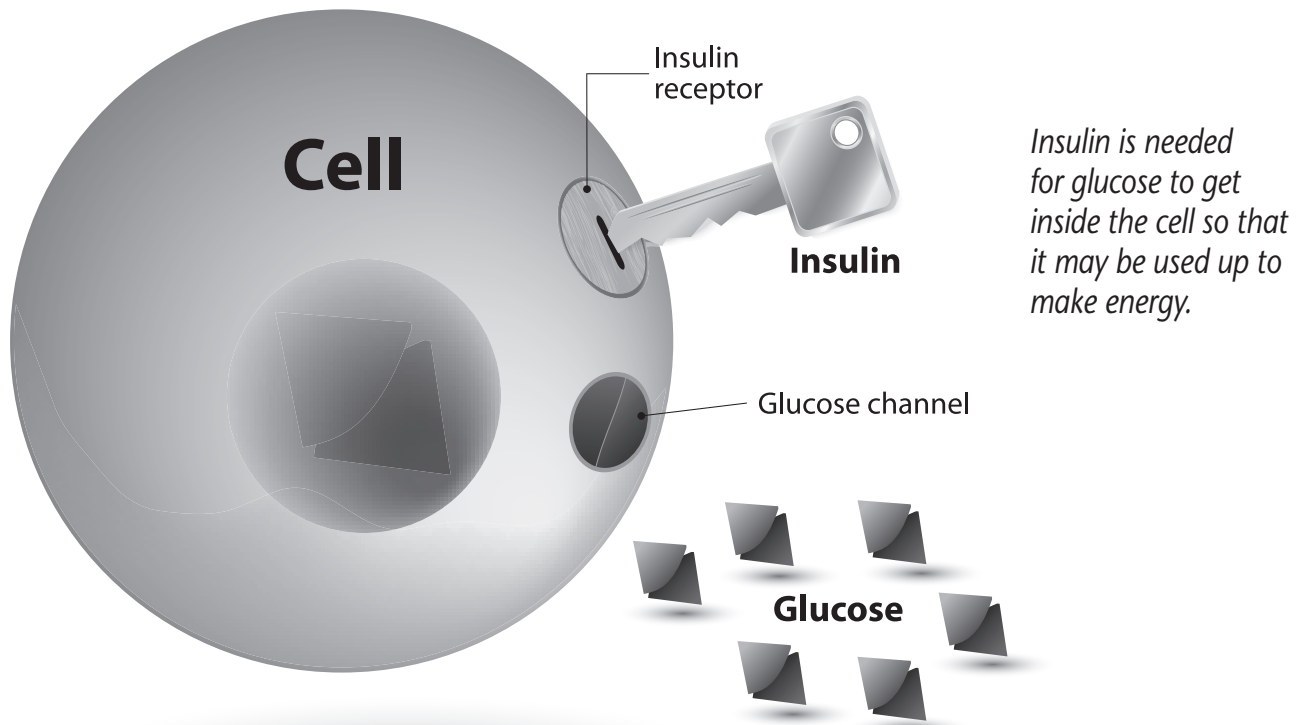
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What is Diabetes

Diabetes mellitus is a chronic, progressive, lifelong condition that affects your body's ability to use glucose (sugar) found in food for energy. Sugar travels in the blood to all of your body's cells. Insulin helps sugar move from your blood into your cells.

IMPORTANCE OF INSULIN



Type 1 Diabetes

The body makes no insulin, so people with Type 1 Diabetes must take insulin every day. Type 1 Diabetes often occurs in children and young adults but it can also occur in older adults.

Type 2 Diabetes

The body is resistant to the insulin it makes and eventually does not make enough insulin. This type of diabetes usually happens in people who are older, overweight, or with a family history of diabetes. However, it can also occur in children and young adults.

Gestational Diabetes

The body develops high blood sugar during pregnancy. Blood sugar levels may return to normal after the baby is born. Gestational diabetes increases the risk of getting Type 2 diabetes later in life.

Managing Hyperglycemia

High Blood Sugar

Symptoms of Diabetes

- Very Thirsty
- Blurred Vision
- Unexplained Weight Loss
- Feeling Very Tired or Weak
- Urinating Frequently
- Cramping Muscles

Signs of High Blood Glucose (Hyperglycemia)

- Urinating Frequently
- Ketones (Type 1)
- Very Thirsty
- Tired, Weak
- Blurred Vision
- Muscle Cramps/Aches
- Dizziness
- Headache
- Trouble Breathing
- Nausea or Vomiting

Treatment for Hyperglycemia

1. Test blood sugar often. Check every 2 hours if blood sugar is higher than 240 mg/dL Or test for ketones if you have Type 1 Diabetes and you are sick.
2. Drink at least one (8 oz) glass of liquid without sugar each hour
3. Continue to follow your meal plan as closely as possible
4. Continue to take your diabetes medication (oral or insulin)
5. Call your doctor if your blood sugar remains higher than 240 mg/dL or if you have ketones

Ketone Testing for People with Type 1 Diabetes

1. Your doctor will write a prescription for ketone strips if you need to test your ketones or you may buy them over the counter
2. Testing for ketones should be done whenever your blood glucose is greater than 240 mg/dL or when you are sick. Blood or urine may be used to test ketones
3. Urine: To check for urine ketones, dip the ketone strip in your urine or urinate on the strip. Wait the specified amount of time and compare the color change to the chart on the container to determine the presence or level of ketones
4. Blood: To check for ketones, you will need to use a meter that has a feature that checks for ketones. Follow the testing instructions that come with the meter
5. If you have moderate or large ketones, call your doctor
6. Be sure to store all strips in the original container in a cool place. Do not use strips past the expiration date



Managing Diabetes Safely During Sick Days

Illness may raise blood sugar. Being sick can make blood sugars hard to control. Even common problems, like a cold, vomiting, or a fever can cause serious health problems. With planning and close contact with your diabetes care team, you can keep things under control.

Here are some things you can do to manage your diabetes while sick:

1. Monitor your blood sugar
 - a. Check it at least every 2-4 hours.
 - b. If you have Type 1 Diabetes and your blood sugar is greater than 240 mg/dL check for ketones.
 - c. Call your Physician if your blood sugar is higher than 240 twice in 24 hours or if you detect ketones.
2. Diabetes Medication
 - a. Continue to take your oral Diabetes Medication as ordered by your Physician.
 - b. **Do Not Stop Taking Your Medication.** If you take insulin or any other injectable medication, talk to your Physician for further advise.
 - c. Call your Physician before taking over the counter medications to check if they might raise or lower your blood sugar (for example: aspirin, cough syrup or decongestants)
3. Drink non-caffeine, sugar free liquids every hour if you are able.
4. Try to eat foods containing carbohydrates.
Here are some suggestions:

■ Fruit juice	■ Fruit yogurt	■ Regular soda	■ Regular ice cream	■ Jell-O
■ Sports drinks	■ Popsicle	■ Saltines	■ Cream soup	

Call your physician or health clinic for help if you:

1. Have trouble breathing.
2. Vomit more than once and are unable to keep food down for more than 6 hours (repeated vomiting may require a visit to the emergency room for IV fluids).
3. Have diarrhea more than 5 times or for longer than 6 hours.
4. Lose 5 pounds or more during the time that you are sick.
5. Have a temperature over 101°.
6. Have 2 or more blood sugar readings in a row that are greater than 240 mg/dL or lower than 60.
7. Have fruity breath and your urine or blood shows positive ketones.

If you feel sleepy or can't think clearly – have someone call your Physician or take you to the Emergency Room.

Keep a record of: what you eat, blood sugar levels and ketone readings

Managing Hypoglycemia

Low Blood Sugar

Hypoglycemia may result from one or more of the following:

1. Taking too much diabetes medication
2. Delay or skipping a meal
3. Not eating enough
4. Exercising harder or more than usual
5. Drinking alcohol without eating



Signs of Low Blood Sugar (Hypoglycemia)

- | | | | | |
|--------------------------------------|---|---|---|--------------------------------------|
| <input type="checkbox"/> Sweaty | <input type="checkbox"/> Grouchy | <input type="checkbox"/> Shaky | <input type="checkbox"/> Headache | <input type="checkbox"/> Very hungry |
| <input type="checkbox"/> Lightheaded | <input type="checkbox"/> Nervous | <input type="checkbox"/> Numb lips or fingers | <input type="checkbox"/> Heart pounding | <input type="checkbox"/> Sleepy |
| <input type="checkbox"/> Weakness | <input type="checkbox"/> Confused or not thinking clearly | | | |

Treatment for Hypoglycemia: Follow the "RULE OF 15"

Step 1: Check your blood sugar. If it is below 70 mg/dL, eat or drink 15 grams of fast acting carbohydrate.

FOR EXAMPLE: 3-4 glucose tablets, 4 oz juice, 4 oz regular soda, or 7-8 jelly beans, 5 lifesavers

Step 2: Wait 15 minutes—this is very important! It takes 15 minutes to raise your blood sugar, no matter how much carbohydrate you use to treat the low blood sugar.

Step 3: Check your blood sugar again, if your blood sugar level is still low (<70) then repeat steps 1–3.

Call your doctor if you do not feel better after 30 minutes or if your blood sugar stays low

Call your doctor if this happens more than once a week

Step 4: Once your blood sugar is 70 or greater, eat a snack (15 gms of carbohydrate with protein) or light meal. (Blood sugar levels tend to drop about one hour after treatment.)

TREAT – BUT DO NOT OVERTREAT! *Treat your blood sugar not how you feel.*

Prevention: To prevent low blood sugar, ask yourself the following questions:

1. Has my diabetes medication changed?
2. Has my meal plan changed? Am I eating regular meals and snacks?
3. Have I been more active than usual?
4. Did I drink alcoholic beverages on an empty stomach?

Managing Your Blood Sugar

Why Should I Check My Blood Sugar?

Checking your blood sugar is an important part of managing diabetes. It will tell you how well your diabetes care plan is working and if your blood sugar is in the target range

How Do I Check My Blood Sugar?

1. You can check your own blood sugar by using a meter. Your diabetes care team can help you learn how to use your meter or follow the directions that come with your meter
2. Keep all unused strips in the original bottle with the cap on tight
3. Do not use test strips or lancets more than once
4. Your meter has a battery, be sure to change it as indicated because a malfunctioning battery will give you inaccurate results
5. Do not leave your meter or strips in your car especially in very hot or cold climates
6. Do not share your meter or lancets
7. Record all your test results in your logbook



What Should My Blood Sugar Level be?

Before meals: 80-130 mg/dL

Two hours after meals: less than 180 mg/dL

Bedtime: 110-150 mg/dL

When Should I Check My Blood Sugar?

You and your physician will decide when and how often you should check your blood sugar

When to Check...Why You Should Check

1. Always check your blood sugar before taking your insulin or diabetes medication
2. When you wake up to check if your blood sugar is staying under control while you sleep
3. Before meals: To check what your blood sugar is before you eat
4. Two hours after meals: To check how the food you eat affects your blood sugar
5. Before physical activity: To be sure it's safe for you to exercise
6. After physical activity: To see how it exercise affects your blood sugar

What Should I Do With the Results?

1. Record them on a log book or spread sheet. Take them to you next doctor's appointment
2. Look for patterns in your numbers
3. Your results will help you and your health care team make decisions about your treatment plan

Helpful Hints: Check Your Blood Sugar More Often If:



1. Your diabetes plan is changing
2. You are exercising or are more physically active than usual
3. You think you are having low or high blood sugar
4. During periods of stress, illness or if you are just not feeling well
5. You are pregnant or plan to become pregnant

Managing Your Blood Sugar

Hemoglobin A1C

The A1C test gives you a picture of your average blood glucose (blood sugar) control for the past 2-3 months. The results give you a good idea of how well your diabetes treatment plan is working.

- 1. The A1C test should be done 2-4 times a year, depending on how well your blood sugar is controlled.
- 2. These are some ways the A1C test can help you manage your diabetes:
 - a. Confirm self-testing results or blood test results by the doctor.
 - b. Show you how healthy choices can make a difference in diabetes control.

American Diabetes Association (ADA) Recommended A1C Levels		
The Goal for people with Diabetes		
A1C of less than 7% ■ A1C = 2–3 month average of your daily blood sugar levels		
CONTROL LEVELS	A1C %	YOUR AVERAGE BLOOD SUGAR
Seriously Elevated Levels 	13%	326 mg/dL
	12%	298 mg/dL
	11%	269 mg/dL
Elevated Levels	10%	240 mg/dL
	9%	212 mg/dL
Monitor Closely	8%	183 mg/dL
In Control 	7%	154 mg/dL
	6%	140 mg/dL
Non-diabetic Levels 5.0-5.6	5%	126 mg/dL

Oral Diabetes Medications Guidelines

Oral diabetes medications are prescribed to help control blood sugar levels. They are not insulin. Oral diabetes medications should be taken exactly as they are prescribed.


All medications have side effects including diabetes medications. Tell your doctor if any of the following symptoms are severe or do not go away.

- | | | | |
|-------------------|-------------|----------------|------------------------------------|
| ■ Nausea | ■ Hives | ■ Vomiting | ■ Skin rash |
| ■ Low blood sugar | ■ Dizziness | ■ Stomach ache | ■ Feeling weak, shaky or irritable |

Some diabetes medications can cause your blood sugar to go too low. If any of the above symptoms occur, stop what you are doing and test your blood sugar. To treat low blood sugar, follow the **"Rule Of 15"**

Drug Interactions

1. Some diabetes medications may interact with other medications you are taking.
2. When you receive a new prescription, tell your doctor and pharmacist about the other medications you are currently taking. Be aware of the possible drug interactions with your new prescription.
3. Tell your doctor and pharmacist of any over the counter drugs or herbal supplements you are taking or are thinking about taking.
4. Alcohol and some medication may affect the way your oral diabetes medication works. Talk with your doctor or pharmacist.
5. If you have several doctors, be sure they all know about your diabetes and medications.



If you are pregnant or breast feeding and taking oral diabetes medication see your doctor for an alternate means of controlling your blood sugar.

Oral Diabetes Medications

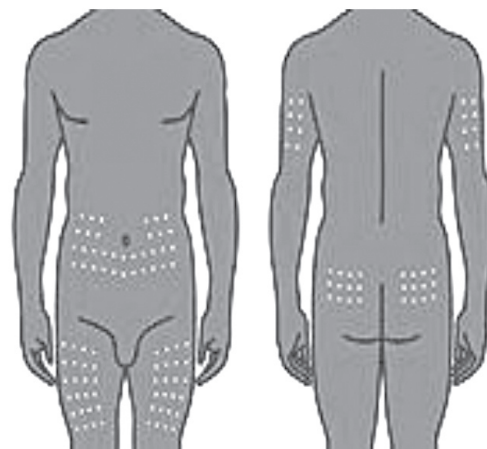
DRUG NAME	HOW IT WORKS	SIDE EFFECTS
Metformin (Fortamet, Glucophage, Glucophage XR, Glumetza, Riomet)	Decreases the amount of glucose or sugar your liver “overproduces” when you have diabetes	<ul style="list-style-type: none"> Upset stomach, nausea, and or diarrhea Metallic taste in mouth Do Not take if you have kidney damage or heart failure
Glimepiride (Amaryl)	Stimulates the pancreas to produce more insulin consistently	<ul style="list-style-type: none"> Low blood sugar Upset stomach Skin rash or itching Weight gain
Glipizide (Glucotrol & GlucotrolXL)		
Glyburide (DiaBeta, Glynase PresTab, Micronase)		
Alogliptin (Nesina)	Delays stomach emptying and increases insulin secretion	<ul style="list-style-type: none"> These drugs do not cause weight gain. May cause low blood sugar when taken with insulin or sulfonylureas such as glipizide or glyburide
Linagliptin (Tradjenta)		
Saxagliptin (Onglyza)		
Sitagliptin (Januvia)		
Canagliflozin (Invokana)	Boosts how much glucose leaves your body in urine by blocking your kidneys from reabsorbing glucose	<ul style="list-style-type: none"> Vaginal yeast infections Urinary tract infections Dizziness, fainting It may cause diabetic ketoacidosis (DKA)
Dapagliflozin (Farxiga)		
Empagliflozin (Jardiance)		
Pioglitazone (Actos)	Helps insulin work better in muscle and fat. It lowers the amount of sugar the liver releases and makes fat cells more sensitive to insulin’s effects. It may take several weeks for these drugs to lower blood sugar	<ul style="list-style-type: none"> Higher than normal levels of liver enzymes Liver Failure Respiratory infection Headache Fluid retention
Rosiglitazone (Avandia)		

Insulin Guidelines

Your doctor may prescribe insulin injections to help control your blood glucose. Insulin may be used alone or in combination with pills. Follow your doctors instructions carefully when taking insulin or any medication .

Injection Sites

1. The abdomen except for a 2 inch circle around the belly button
2. Move the site of each injection. Inject at least 1½ inches away from the last injection site. By rotating your injection sites, you will make your injections easier, safer, and more comfortable. If the same injection site is used over and over again, you may develop hardened areas under the skin that keep the insulin from being absorbed properly.
3. The top and outer thighs, avoid injecting too close to the bony area above the knee.
4. The back of upper arms where there is fatty tissue.
5. Keep a record of which injection sites you have used.
6. The abdomen absorbs insulin the fastest, followed by the arms, thighs, and buttocks.



Expiration Date

All insulin bottles and pens have an expiration date. Do not use the insulin after the expiration date.

1. When opening a new bottle or pen for the first time, use a permanent marker to write the date on the bottle or pen.
2. Insulin bottles and pens have differing expiration dates. Be sure to check the expiration date on your insulin. Some are good for 14, 28, 30 or 42 days, once opened.

Appearance of Insulin

If your insulin looks discolored, lumpy or sticks to the sides of the bottle or pen, Do Not Use It!

REMINDER: NPH and mixture insulin are normally cloudy. All other insulins are normally clear.

Storage Insulin Bottles

1. You may keep opened bottles at room temperature for 28 days after removing from the refrigerator
2. Discard opened vials after one month.
3. Refrigerate unopened vials. The expiration date applies to unopened, refrigerated insulin.

Insulin Pens

1. For some pens and other dosing devices, the storage life is less. Read the label.
2. Do NOT refrigerate insulin pens once in use.

Dispose of the Syringe and Needle

1. Use a hard non-clear plastic empty (ex. old laundry detergent container) or commercial “sharps” container. When the container is full, replace the lid, tape securely and write “Do Not Crush, Do Not Recycle”.
2. Drop the entire syringe and needle into your container for used “sharps” equipment. When the container is full, put the lid or cover on it and throw it away with the trash.
3. Do NOT put this container in the recycling bin. Some communities have specific disposal laws. Check with your local health department for specific disposal instructions in your community.



Injecting Insulin With a Syringe

1. Wash your hands with soap and water.
2. Test your blood glucose and record results in the log book.
3. If you are using a cloudy insulin, roll the bottle (do not shake) between your hands to mix.
4. Wipe the top of the bottle with alcohol and set it down.
5. Use a new disposable, one time use syringe with each administration.
6. Draw the plunger out (pulling air into the syringe) to the mark that measures the dose of the insulin you will be taking.
7. Insert the needle into the top of the bottle.
8. Push the plunger into the bottle and inject the air from the syringe into bottle.
9. Leave needle in the bottle and turn the bottle upside down.
10. Draw up your dose (units) of insulin by slowly pulling back on plunger.
11. Remove any air bubbles. Air bubbles in the syringe will not harm you if they are injected, but they can reduce the amount of insulin in the syringe. To remove air bubbles, tap the syringe so the air bubbles rise to the top and push up on the plunger to remove the air bubbles. Recheck the dose and add more insulin to the syringe if necessary.
12. Remove the needle from the insulin bottle. Carefully replace the cap on the needle.
13. You are now ready to give the insulin.
14. Choose an injection site for your insulin shot.
15. Do not inject near joints, the groin area, belly button, the middle of the abdomen, or on scars.
16. Clean the injection site (about 2 inches of your skin) gently with alcohol.
17. Give the injection at a 90 degree angle (straight in).
18. Hold the needle in place for 5 seconds (count to 5) before removing.
19. Pull the needle straight out.
20. Safely dispose of the needle into your sharps container.



Injecting With a Pen

1. Wash your hands with soap and water.
2. Test your blood glucose and record results in the log book.
3. If you are using cloudy insulin, turn the pen upside down and right side up several times or roll the pen between your hands, to mix it. Do not shake vigorously.
4. Take the cap off the pen.
5. Clean the rubber stopper of the cartridge with an alcohol swab.
6. Remove the paper tab from disposable, one-time-use needle. Always use a fresh, sterile needle.
7. Screw needle onto the pen.
8. Remove outer plastic needle cap and inner needle cover.
9. Prime the needle by dialing 2 units or per manufacturer's instructions. Hold pen upright and push plunger on end of the pen to push insulin through the needle. You should see a few drops of insulin at the tip of the needle. If you do not, repeat this step until you do.
10. Dial in dose of insulin you need.
11. Clean area of skin where you will give the injection.
12. Push the needle straight in, using a palm grip, keeping the thumb up.
13. Push plunger on end of the pen with thumb to inject the insulin.
14. Count to 10 slowly before taking the needle out of the skin. Do not rub skin.
15. Replace the outer plastic needle cover, unscrew and remove the capped needle.
16. Discard used needle in your sharps container.
17. Place the outer pen cap on the pen for storage. The pen should not be stored with a needle attached. (Insulin may leak out, or air may leak in, if stored with the needle on).
18. Do NOT refrigerate insulin pens once in use.



Insulin and Non Insulin Injectables

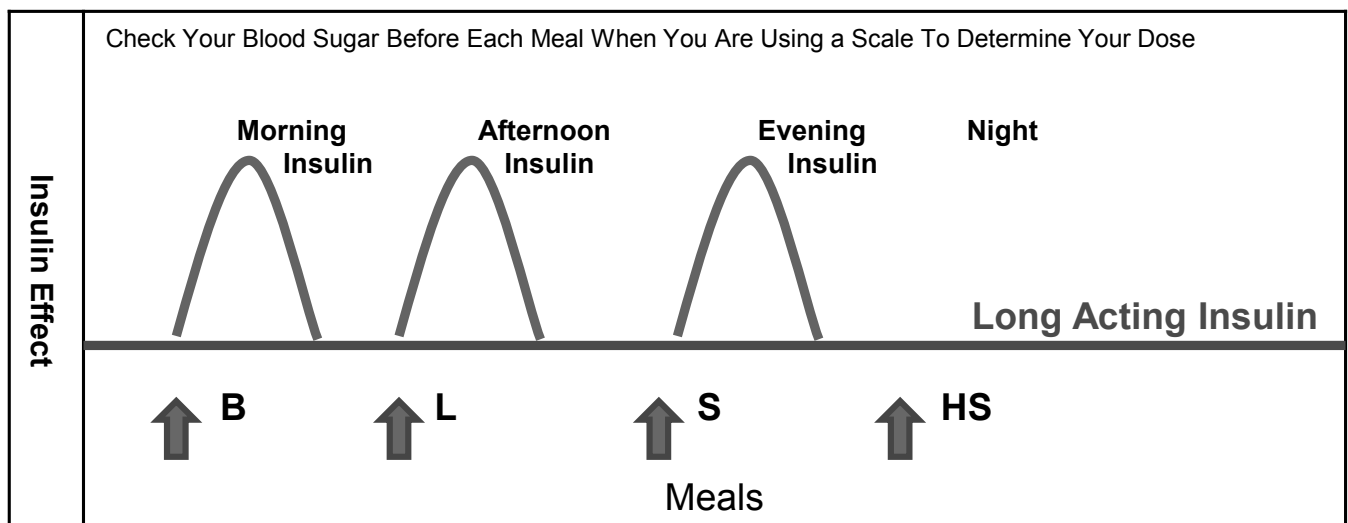
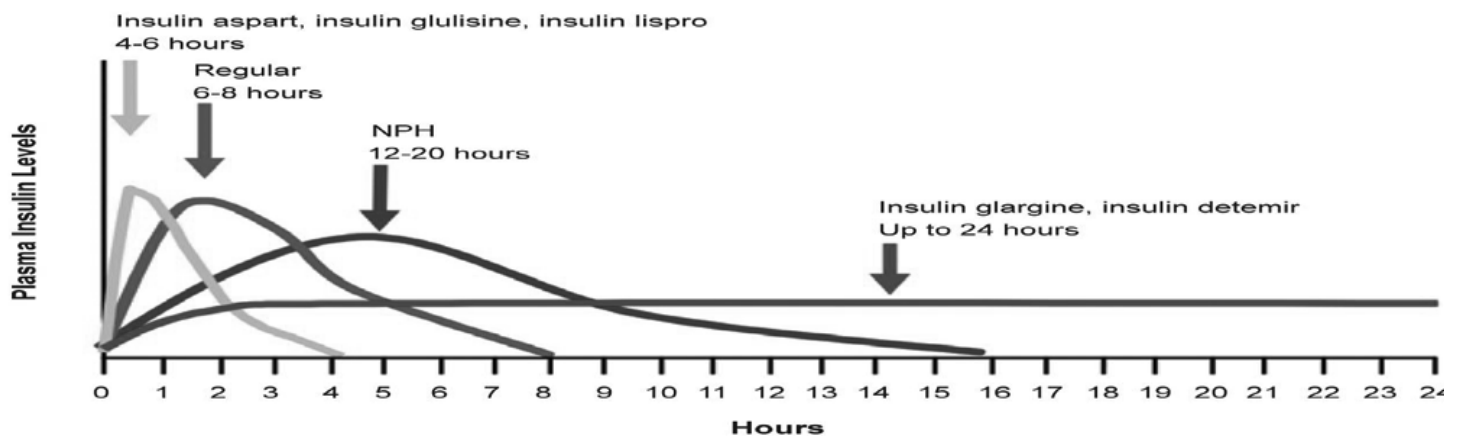
TYPE OF INSULIN		ONSET	PEAK	DURATION	APPEARANCE	CONTAINER
Rapid-acting Inhaled						
Regular human insulin (Afrezza)		15-20 min.	30-90 min.	3-6 hrs.	powder	Cartridge
Rapid-acting						
Humalog/Lispro		<15 min.	30-90 min.	3-6 hrs.	clear	Kwik Pen
NovoLog/Aspart						Flex Pen
Apidra/Glulisine						Solo Star
Short-acting						
Regular (Novolin R/Humulin R)		30-60 min.	2-4 hr.	6-8 hrs.	clear	Vial only
Intermediate-acting						
NPH (Novolin N/Humulin N)		1-3 hr.	6-10 hr.	10-16 hrs.	cloudy	Kwik Pen
Long-acting						
Detemir U-100 (Levemir)		1-3 hrs.	No Peaks	6-24 hr.	clear	Flex Touch
Glargine U-100 (Lantus)		2-3 hrs.		20-24 hrs.		Solo Star
Glargine U-100 (Basaglar)		1-3 hrs.		20-24 hrs.		Kwik Pen
Glargine U-300 (Toujeo)		6 hrs.		30 hrs.		Solo Star
Degludec U-100/U-200 (Tresiba)		1-3 hrs.		<42		Flex Touch
Humulin R U-500 (Concentrated)		Talk to your doctor about how this medication works.				Kwik Pen
Premixed insulins						
Intermediate & Short	Humulin 70/30	30-60 min.	Dual Peaks	10-16 hrs.	cloudy	Kwik Pen
	Humulin 50/50					Vial only
Intermediate & Rapid	Novolog 70/30	5-15 min.				Flex Pen
	Humalog 70/30					Flex Pen
	Novolog 75/25					Vial only
	Novolog 50/50					Vial only
	Humalog 75/25					Kwik Pen
	Humalog 50/50					Kwik Pen
	Ryzodeg 70/30			42 hrs		Flex Touch

**There are additional types of insulin available if yours is not listed please contact your doctor for more information.*

Insulin and Non Insulin Injectables continued on next page

Insulin and Non Insulin Injectables continued

TYPE OF INSULIN	ONSET	PEAK	DURATION	APPEARANCE	CONTAINER
Non Insulin Injectables					
Liraglutide (Victoza)	0.6-1.8 mg	Daily	Nausea, vomiting, weight loss, injection site reaction. Report signs of acute pancreatitis (severe stomach pain, vomiting). Renally excreted Thyroid C-Cell tumor warning for liraglutide, exenatide XR, albiglutide and dulaglutide (avoid if family history of thyroid cancer, notify MD of hoarseness, throat lump).		Pen Injector
Dulaglutide (Trulicity)	0.75 & 1.5 mg	Once weekly			
Albiglutide (Tanzeum)	30-50 mg	Once a week			
Lixisenatide (Adlyxin)	10-20 mcg	Daily			
Exenatide (Byetta)	5-10 mcg	Twice a day			
Exenatide XR (Bydureon)	2 mg	Once a week			



Diabetes Medication Tips

Four Important Tips about Medication

1. It is very important to follow your diabetes medication regimen. Do not miss any doses of your medication. Contact your doctor to discuss specific instructions in case you miss a dose.
2. Keep a record of all medicines and doses with you. Include non-prescription medicines, herbs, vitamins, minerals and dietary supplements. Share this list with all your health care providers, and if possible, take all your medicine bottles to your visits.
3. Try to use only one pharmacy so the pharmacist has a record of all your medicines (to reduce risk of duplicating medicines and harmful drug interactions).
4. Learn about your medicines. Know the purpose of each medicine, and familiarize yourself with possible side effects. Know how to take each medication; including the best time to take it and what to do if you miss a dose. Make sure you are storing your medicines correctly. Only take your medicines as prescribed. If you are taking a medicine differently, inform your doctor.

Traveling with Diabetes Supplies

1. Contact your airline carrier for specific guidelines for traveling with insulin and syringes or visit www.tsa.gov for update travel security information.
2. Always wear your medical identification bracelet or necklace indicating you have diabetes.
3. Keep prescriptions in their original container clearly marked with your name, the name of the medication, the physician's name and the date.
4. Pack medication in a clear bag separate from other carry-on items.
5. Keep some medication, your meter, a carbohydrate/protein snack and glucose tablets with you at all times in case your luggage is lost.



Managing Your Diabetes With Healthy Food Choices

Your don't have to completely change your diet to eat healthier

1. Fill ½ of your plate with Non Starchy Vegetables

These vegetables are high in fiber, nutrients and water and lower in carbohydrates than starchy vegetables. Good choices include broccoli, carrots, cauliflower, green pepper and asparagus.

2. Fill ¼ of your plate with Protein

Healthy protein choices include lean meat, chicken, turkey and fish. Tofu, nuts, eggs, cheese and peanut butter can also be a good source of protein. *Protein peaks in the blood as sugar in 2-4 hours and 50% converts to sugar.*

3. Fill ¼ of your plate with Starches and Grains

This group is one of your main sources of carbohydrates. It includes foods like bread, rice, pasta, cereal and oatmeal. It also includes starchy vegetables like potatoes, sweet potatoes, corn, beans and peas.

Choose whole-grain versions when possible, and aim for natural rather than processed forms.

Carbohydrates peak in the blood as sugar in 30 minutes to 1 hour and 90-100% converts to glucose.

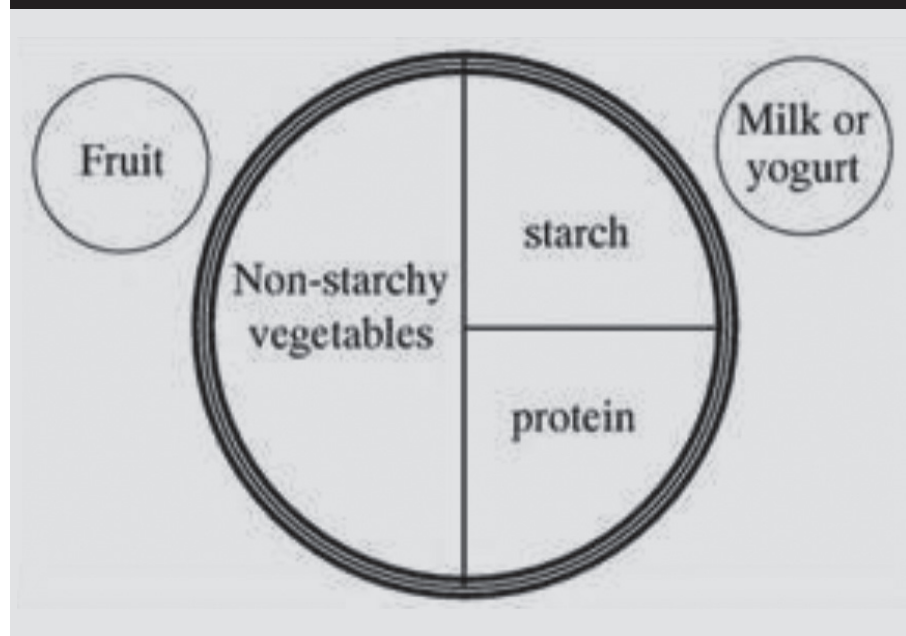
4. Sources of Fat are butter, margarine, salad dressing, mayonnaise, nuts, sour cream and cream cheese.

Fat peaks in the blood as sugar in 9-10 hours and 10% converts to glucose.

5. Add 1 serving of fruit

6. Choose 1 serving of dairy

The Plate Method



Things you should know

1. Use a 9 inch plate. Use a 6 inch plate if you want to lose weight
2. For breakfast only use ½ the plate. For lunch and dinner use the whole plate
3. Eat a variety of foods from all the food groups
4. Eat meals at the same time each day and do not skip meals
5. Eat about the same amount of carbohydrate food each day
6. Serving size is very important

Managing Your Diabetes By Knowing Your Portions and Reading The Nutritional Facts

Portion Control

How much is a normal portion? A great way to estimate on portion size is to visualize some every day objects.

- 3 oz of meat = size of a deck of cards
- 3 oz grilled fish = a size of your checkbook
- 1 oz cheese = size of 4 dice or the length of 2 fingers
- 1 tbsp peanut butter = tip of your thumb
- 1 cup of fruit = size of a baseball
- 1 medium apple or orange = size of a tennis ball
- 1 medium potato = size of a computer mouse
- 1 average bagel = size of a hockey puck
- ½ tsp = tip of your index finger
- 1 tbsp = tip of your thumb



1 teaspoon

Use this for oil and butter



1 tablespoon

Peanut butter



1 ounce

of cheese



3 ounce

To measure
your meats



1/2 cup

Equivalent to size of
computer mouse.
Use for rice or pasta



1 cup

For cooked
vegetables

This label was produced by the **Modest Nutrition** team
and should be used for educational purpose only.

Food Labels

Important information is listed on food labels. When you are counting carbohydrates, the 3 most importance numbers on a food label are:

Serving Size, Total Carbohydrates and Fiber

Nutrition Facts	
8 servings per container	
Serving size	2/3 cup (55g)
Amount per 2/3 cup	
Calories	230
% DV*	
12%	Total Fat 8g
5%	Saturated Fat 1g
	Trans Fat 0g
0%	Cholesterol 0mg
7%	Sodium 160mg
12%	Total Carbs 37g
14%	Dietary Fiber 4g
	Sugars 1g
	Added Sugars 0g
	Protein 3g
10%	Vitamin D 2mcg
20%	Calcium 260mg
45%	Iron 8mg
5%	Potassium 235mg
* Footnote on Daily Values (DV) and calories reference to be inserted here.	

Carbohydrate Counting

Carbohydrate Counting: Carbohydrate counting is a way to plan meals, snacks and manage your diabetes. All carbohydrates affect your blood sugar. Each one of these foods in the serving size listed contains about 15 grams of carbohydrate.

Breakfast: 2-3 Carb Choice ■ **Lunch and Dinner:** 3-4 Carb Choices ■ **Snacks If needed:** 1-2 Carb Choices
Include lean protein with each meal. Also Include fruit and non starchy vegetables with lunch and dinner

Starch/Bread/Grains/Pasta		15 Grams Carbohydrate, 80 Calories Per Serving	
Bread 1 oz slice-whole wheat, rye, white ½ bun or roll, 1 small dinner roll 6" corn or flour tortilla ½ small bagel, ½ english muffin 6-8" pita bread 4" pancake or waffle Crackers/Snacks 20 chips - tortilla, potato 3 cups popped popcorn, plain 4-6 crackers ¾ oz pretzels		Cereal/beans/grains/pasta ½ cup cooked cereal (oatmeal, cream of wheat) ½ cup cooked or canned beans 1/3 cup cooked rice (all kinds) ¾ cup dry cereal 1/3 cup cooked pasta Starchy Vegetable 1 cup squash (winter, acorn, butternut, pumpkin) 1 small (3 oz) potato (baked, boiled, steamed) ½ cup corn, green peas, yam, sweet potato ½ cup mashed potato	
Fruit & Fruit Juices		15 Grams Carbohydrate, 60 Calories Per Serving	
Fruit 1 small apple, orange, nectarine, or pear, 2 small tangerines or plums ½ medium banana, ½ large grape fruit ½ cup canned fruit (in juice or water), unsweetened applesauce 1 cup cubed melon, berries 3 prunes, 12-15 cherries or grapes, 4 medium apricots Fruit Juice ½ cup apple, grapefruit, pineapple, orange juice 1/3 cup cranberry, grape, prune juice			
Milk & Yogurt		12 Grams Carbohydrate Per Serving	
Fat Free/ Low Fat 90 calories per serving 1 cup fat free or 1% milk 1 cup plain nonfat yogurt/light 1/3 cup dry nonfat milk	Reduced Fat 120 calories per serving 1 cup 2% milk ¾ cup plain low fat yogurt 1 cup soy milk	Whole 150 calories per serving 1 cup whole milk ½ cup evaporated milk ¾ cup whole plain yogurt	
Dessert		15 gram carbohydrate per serving, variable calories	
2 inch square brownie, cake, or cupcake ½ medium plain cake donut ½ cup sugar free pudding, ice cream, light ice cream, regular gelatin 1 tbsp syrup, honey or table sugar 2 sandwich cookies with cream filing or 3" cookie 1 fruit juice bar			

Non-Carbohydrate Foods

Non-Starchy Vegetables (Less than 3 servings per meal or snack do not need to be counted)		5 grams carbohydrate, 25 calories per serving	
Vegetable (1 cup raw, ½ cup cooked, ½ cup juiced)			
Artichoke Asparagus Bean Sprouts Beets Broccoli Brussels sprouts	Cabbage Carrots Cauliflower Cucumber Green Beans Jicama	Lettuce/Greens Mushrooms Onions Pea Pods Peppers Radishes	Spinach Tomatoes Turnips Zucchini Sauerkraut Tomato/Vegetable juice
Meat & Protein		0 grains carbohydrates	
Lean Meat & Protein		55 calories per oz	
Beef (round steak, ground, sirloin, flank steak, tenderloin, t-bone, roast) Pork (ham, tenderloin, loin chop, Canadian bacon*) Poultry without skin (chicken, turkey, domestic duck or goose, Cornish hen) Fish (Cod, flounder, halibut, perch, salmon, sardines, trout, tuna) Shellfish (Crab, lobster, claims, oysters, scallops) Eggs (3 egg whites, ½ egg substitutes) Cheese (any that have 3 grams or less of fat per 1 oz serving, cottage cheese, parmesan)			
Medium Fat Meat & Protein		75 calories per oz	
Beef (Ground beef, corned beef, short ribs, steak & prime grades trimmed of fat) Pork (top loin, chop, cutlet) Poultry and Fish (ground turkey and chicken with skin, fried chicken or fish) Cheese (any 5 grams or less fat per oz, ricotta, mozzarella) Eggs (limit yolks to 3 per week) Tofu (½ cup)			
High Fat Meats & Protein		100 calories per oz	
Pork (spare ribs, ground, pork sausage) Other (bologna, salami, knockwurst, bratwurst, hot dogs*) Cheese (all regular cheese such as cheddar, Monterey jack, Swiss, American*)			
Fat		0 Grams carbohydrate, 45 calories per serving	
Monounsaturated 1/8 medium avocado 1 tsp oil (canola, olive, peanut) 2 tsp peanut butter, pesto sauce 1 tbsp nuts 8-10 olives	Polyunsaturated 1 tsp soft margarine 1 tsp oil (corn, safflower, soy) 1 tsp regular mayonnaise 1 tbsp seeds (pumpkin, sunflower) 1 tbsp salad dressing*	Saturated 1 tsp butter or shortening 2 tbsp cream (sour, half & half) 1 tsp chicken, beef fat, lard 2 tbsp whipped cream 1 tbsp cream cheese	

*Contains more than 400 mg sodium per serving

Exercise Tips

Increased activity and exercise is important to help keep your blood glucose under control. Moving muscles creates a demand for fuel (blood sugar or glucose) in the body. This causes your body to pull sugar out of the blood stream to feed your cells, this process lowers your blood sugar.

1. Make a list of fun activities.

You have lots of options, and you don't have to go to a gym. Think about something you've always wanted to try or something you enjoyed in the past. Anything that raises your heart rate counts.

2. Get your doctor's OK.

Let them know what you want to do. They can make sure you're ready for exercise. They will also check to see if you need to change your meals, insulin or diabetes medicines. Your doctor can also let you know if the time of day you exercise matters.

3. Check your blood sugar.

Ask your doctor if you should check it before exercise. If you plan to work out for more than an hour, check your blood sugar levels regularly during your workout, so you'll know if you need a snack. Check your blood sugar after every workout, so that you can adjust if needed.

4. Carry carbohydrates.

Keep a small carbohydrate snack on hand in case your blood sugar gets low.

5. Ease into it.

If you're not active now, start with 5-10 minutes of exercise at a time. Gradually work up to 30 minutes a day.

6. Strength train at least twice a week.

It can improve blood sugar control. You can lift weights or work with resistance bands, or you can do moves like push-ups, lunges, and squats, which use your own body weight.

7. Make it a habit.

Exercise, eat, and take your medicines at the same time each day to prevent low blood sugar.

8. Go public.

Work out with someone who knows you have diabetes and knows what to do if your blood sugar gets too low. It's more fun, too. Also wear a medical identification tag that says you have diabetes, just in case.

9. Be good to your feet.

Wear athletic shoes and socks that are in good shape and are the right type for your activity. Check and clean your feet daily. Let your doctor know if you notice any new foot problems.

10. Hydrate.

Drink water before, during, and after exercise.

11. Stop if something suddenly hurts.

If your muscles are mildly sore, that's normal. Sudden pain isn't. You're not likely to get injured unless you do too much, too soon.

12. Figure out where to take your insulin shot.

If you're going to be exercising, such as walking or doing any kind of lifting, it is not recommended to take your shot in your leg or arm. Exercising those areas quickens the amount of time it takes for the insulin to get into your blood stream. This can cause your blood sugar to drop suddenly during or right after you exercise.

Exercise Guidelines: "150 minutes of exercise per week (minimum of 30 minutes at least 5 times per week) at the equivalence of brisk walking."

Foot Care for People With Diabetes

The feet are at risk for problems in people with diabetes. That is because of 2 key risk factors. They are: poor circulation of blood to the feet (called “peripheral vascular disease”) and loss of feeling in the feet (from “peripheral neuropathy”). These lead to a high rate of foot problems for people with diabetes. Amputations can be a feared result. Today we know more about how to prevent them. There are also new wound care methods and equipment. So, you can avoid amputations in most cases.

Your feet can get injured from:

1. Something that breaks your skin (such as a cut)
2. A penetrating wound (such as stepping on a tack)
3. Walking barefoot on a hot surface (such as burned feet)
4. Constant pressure in one spot (such as from a tight shoe)
5. Repeated stress or infection

Here are tips that can help you avoid injuries:

1. Bathe your feet daily. Wash carefully with warm water and soap; rinse and dry thoroughly. Make sure you dry completely between the toes.
2. Be careful as you trim your toenails. File straight across.
3. Do not use products for corn or callus removal; be sure never to try to trim calluses yourself.
4. Moisturize feet that are dry. If the skin on your feet is dry, a moisturizing cream will help. But you should apply it sparingly. Never apply it between the toes.
5. Inspect your feet daily. Be on the lookout for cuts, blisters, red spots, warm or hot spots, calluses, corns, ingrown toenails, change in skin color, or any other abnormalities.
6. Never go barefoot; always wear shoes to protect your feet.
7. Do not use hot water bottles or heating pads on your feet or legs. Before taking a bath, test the water temperature with your elbow to be sure it is not too hot.
8. Take your shoes and socks off every time you visit the doctor so your feet can be checked.
9. Make sure your shoes fit right. Shoes that are too tight can cause blisters, corns, and calluses; shoes that are too loose can also cause ulcers or blisters as they rub against the foot. Make sure your socks aren't rubbing either.
10. It is not recommended to soak your feet in any product; it may cause dryness or cracks.

Examine your feet every day, call your doctor for an appointment if there is anything of concern:

1. A new sore
2. An irritated spot that is not getting better
3. A break in the skin

If there is a concern, then you should see your doctor or health care professional.

My Diabetes Management Plan

You may use the charts below to help you better understand your diabetes. Ask your health care provider to review your goals and targets with you. Discuss the results and set up an action plan of things you can do to stay healthy and learn more about diabetes. Write down the dates when you have the tests or exams done and enter the results where appropriate.

MEASUREMENTS	DATE AND RESULTS		
A1C (every 3-6 months) Goal: less than 7% or _____			
Blood Pressure (every visit) Goal: less than 140/90 or _____			
Blood Glucose Records (review every visit)			
Cholesterol, LDL (once a year) Goal: less than 100 or _____			
Microalbumin (once a year) Goal: less than 30 or _____			
Weight (every visit) Goal: _____			
EXAMS AND VACCINATIONS	DATE		
Eye Exam (dilated: once a year)			
Foot exam (every PCP visit) once a year w/Podiatrist as needed)			
Dental Exam (twice a year)			
Flu shot (once a year)			
Pneumonia Vaccine			
Stress Test/EKG			

The following are topics that are important to learn about and understand. Place a check mark next to them when you know what to do and have a plan for the following:

- | | | |
|--|--|---|
| <input type="checkbox"/> Meal planning | <input type="checkbox"/> Sick day care | <input type="checkbox"/> Weight loss |
| <input type="checkbox"/> Physical activity | <input type="checkbox"/> Foot care | <input type="checkbox"/> Blood glucose monitoring |
| <input type="checkbox"/> Stress management | <input type="checkbox"/> Additional diabetes education | <input type="checkbox"/> Low blood glucose treatment and prevention |

Tucson Medical Center

Diabetes Education Resources

Outpatient Education Group Classes

Requires a Physician referral and is covered by most insurance plans. Physician referrals must be faxed to (520) 324-6162.

Ten total hours with a Registered Nurse and a Registered Dietitian, both are Certified Diabetes Educators (CDE)

Tuesdays 4-6:30 pm

Saturdays 9-11:30 am

Each week the same subject is taught for both classes

1:1 Sessions

Physician referred and by appointment

Gestational Diabetes

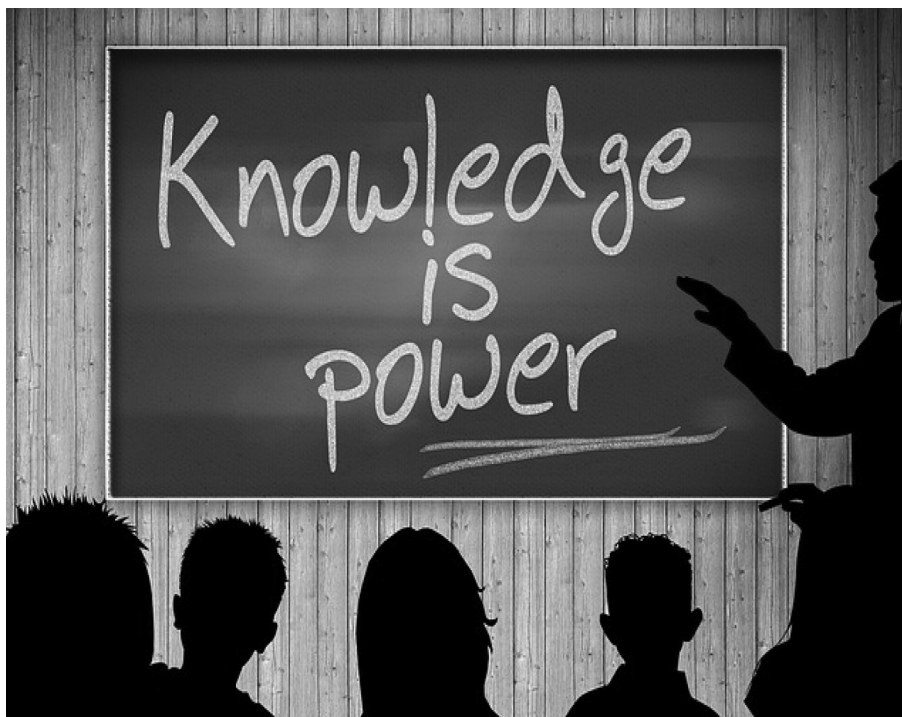
Intensive Insulin Therapy

Advanced Pump Training

Nutrition counseling

Type 1 and Type 2

Patients must call (520) 324-2075 for an appointment



Journey for Control

For uninsured patients or patients diagnosed with pre-diabetes or diabetes

Wednesday 1-3 pm

A series of 4 classes monthly

Facilitated by a RN-Certified Diabetes Educator (CDE)

To register please call (520) 324-1960

Diabetes Education & Support Group Sessions

Facilitated by a Certified Diabetes Educator (CDE)

Session include 30 minutes of skills & 30 minutes of discussion

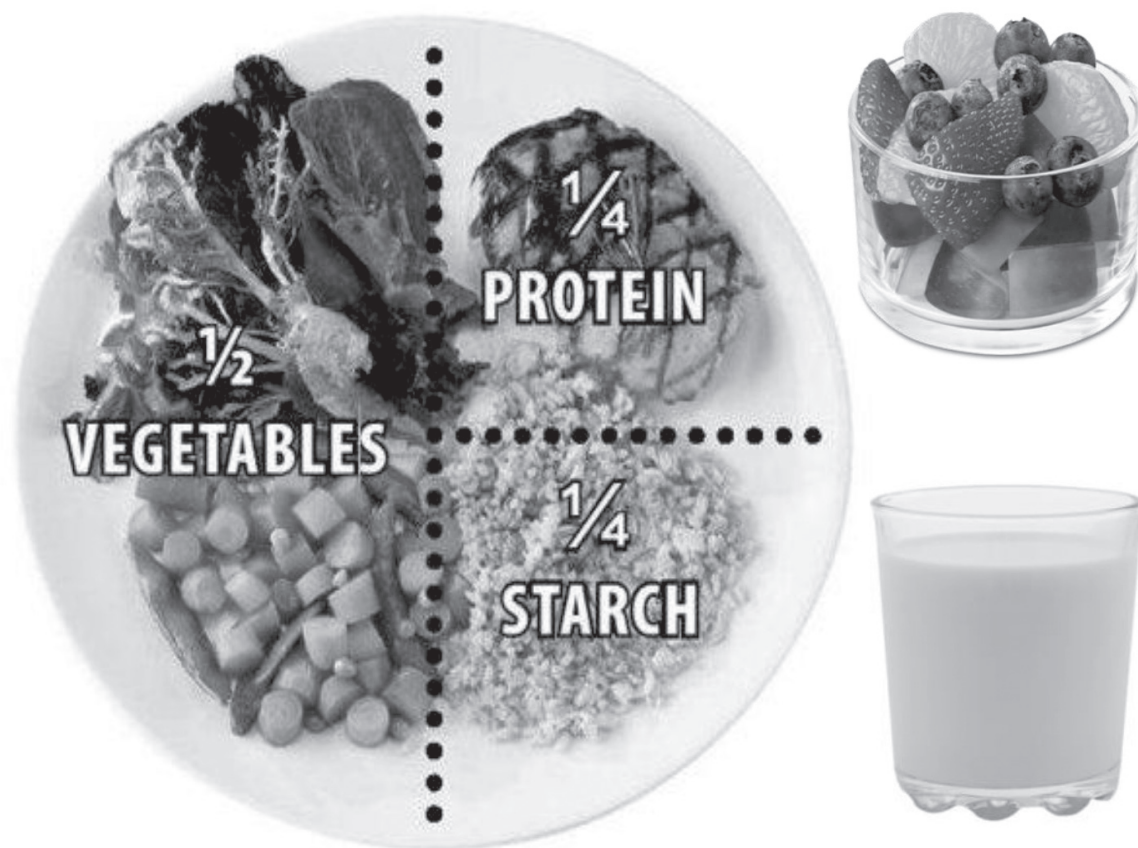
No registration required 4-5 pm

Call (520) 324-1960 for specific dates and topics

The Plate Method

Imagine dividing your plate into 3 sections:

1. $\frac{1}{4}$ of the plate should be about 3 oz of lean meat, chicken, or fish.
2. $\frac{1}{4}$ of the plate should be starch / grains (such as potato, rice, pasta, corn).
3. $\frac{1}{2}$ of the plate should be vegetables (non-starchy vegetables such as broccoli, cauliflower, zucchini, asparagus, green beans, etc).
4. Beverages such as milk and juice are carbohydrates. Keep serving sizes to 1 cup of milk or $\frac{1}{2}$ cup of juice. (Fresh whole fruit is better than drinking the juice).
5. Use a 9 inch plate.



References

American Diabetes Association www.diabetes.org

Joslin Diabetes Web Center site and store www.joslin.org

American Association of Diabetes Educators: www.diabeteseducator.org

Up to Date: www.uptodate.com