



## Understanding: Diabetes

November is National Diabetes Month and at AuBURN Pharmacy we take diabetes care very seriously. Undoubtedly you know someone affected by diabetes; there are nearly 30 million people with diabetes in the United States. And while it is a very common condition it is often misunderstood. This misunderstanding often translates into poor self management by those dealing with diabetes. While this article certainly is not going to be long enough to fully explain diabetes I would like to briefly explain what diabetes is, dispel a couple common myths and give a few helpful tips to help everyone better understand diabetes.

**What is diabetes?** Diabetes is a condition in which your body cannot metabolize sugar correctly. There are two types of diabetes, type 1 and type 2. While they both lead to high blood sugars they are caused in different ways. Type 1 diabetes is considered an autoimmune disorder where the body's own immune system destroys the cells in the pancreas that create insulin, the hormone required to metabolize blood sugar. Without insulin blood sugar rises very quickly and can cause major health problems in a short period of time. Type 1 diabetes used to be called "juvenile diabetes" or "insulin dependent diabetes" but those names have fallen out of favor. The only treatment for type 1 diabetes is insulin. It usually develops as a child but more and more adults are being diagnosed with type 1 diabetes. There is currently no cure or means to prevent type 1 diabetes. Type 2 diabetes arises from insulin resistance. This means that your pancreas may produce, or even over produce, adequate amounts of insulin but your body cannot utilize it effectively. Eventually the pancreas begins to wear out and blood sugars begin to rise. If left undiagnosed and untreated, elevated blood sugars will begin to cause complications. Unlike type 1 diabetes, type 2 diabetes can be prevented and even reversed if diagnosed early.

**Myth: diabetics can't eat sugar.** The term "sugar" is misleading. Let's use the word "carbohydrate" or "carb." Not only can people with diabetes eat carbohydrates, but rather, carbohydrates are a necessary part of all diabetic friendly diets. Carbs fuel the body and are necessary for energy production. While carbohydrates are indeed the nutrient that most affects blood sugar, not all carbohydrates are created equal. The goal for people with diabetes should be to include good carbohydrates into their diet. Good carbohydrates come from whole fruits, vegetables and whole grains. The carbohydrates that need to be avoided to keep blood sugars under control are those that provide little nutrition like sugary desserts, sugary beverages and refined breads and pastas. While those bad carbs can lead to high blood sugars, even small portions for special occasions are allowable. After all, diabetes isn't a good enough reason not to celebrate life's special moments.

**Myth: being overweight causes diabetes.** While being overweight or obese is indeed a risk factor for developing diabetes, it is not the cause. Family history, race, age, gender and lifestyle all play a role in the development of diabetes. Being overweight alone does not cause diabetes. As a matter of fact, overweight or obese people who carry their weight below their waist are significantly less likely to develop diabetes than those who carry their weight above their waist! Fat tissue aids in insulin resistance and abdominal fat causes more insulin resistance than lower body fat. The fact is diabetes is genetic. It follows family lines but other factors may increase the chances of developing diabetes.

Controlling diabetes is a struggle. Those with diabetes know what I mean. Everything affects diabetes!! There is literally nothing you do throughout your day that doesn't have some effect on your diabetes. Level of activity, diet, stress, sleep, infection: it all plays a role. Managing diabetes is always a work in progress. Even those that are really good at it have those instances that leave them scratching their heads, wondering what they did wrong. Ups and downs are part of the game. Limiting the ups and downs is the key to successful diabetes management. That leads me to the most important concept for those with diabetes to understand: Your healthcare providers can only show you the way, you must walk it. In other words, successful diabetes management is done by the one with the diabetes. It's called self-management. Diabetes, unlike other conditions cannot simply be managed with routine doctors' visits. Why? Because everything affects diabetes. Your doctor, pharmacist, dietician, or diabetic educator cannot join you every minute of every day to manage your diabetes. They can only give you the tools to manage your own condition.

Some diabetes management concepts are easy to understand, others are difficult. One of the most important, but most difficult areas to get a handle on is stress. Humans are engineered for stress but in small doses, not the chronic stressors that we deal with today. Financial stress, family stress, work stress: sometimes you can be stressed before you even wake up in the morning. That kind of stress can take a toll on you and can make diabetes very difficult to manage. Physiologically your body responds to stress by producing a hormone called cortisol. Cortisol makes your blood sugar rise so you can have more energy to respond to whatever stress you have.

If that stress never leaves then your body could constantly produce cortisol making it very difficult to manage your blood sugar. If that blood sugar doesn't get utilized for energy it gets stored as abdominal fat. Have you ever heard the term "stress fat?" That's what that means. Additionally, if your body is constantly producing cortisol in response to stress then it is not producing other hormones essential to your health like estrogens, progesterone and testosterone which can lead to a number of other health issues. So managing stress is very important, but it's easier said than done. Come up with healthy ways to deal with your stressors. That could be something simple like meditation or massage. Some stressors are not so easy to deal with. Family stressors or financial stressors may require professional counseling. If your family is not involved with your diabetes management, get them involved. Managing diabetes is much easier when you have loved ones helping you.

Some management concepts are much easier to understand, like exercise and diet should be the cornerstone to any management plan. Medications are important as well but should not be relied on as a sole means to manage blood sugar. Think of diabetes management as a three-legged stool. The legs of the stool are diet, exercise and medications. All three are legs equally important for the stool to function. Let's take a more detailed look at each leg of the management stool.

Exercise helps reduce blood sugar by forcing sugar into the muscle cells where it can be burned for energy. A healthy exercise plan starts with 30 minutes of moderate exercise at least five days each week. If 30 minutes is too difficult when you first start then it can be broken into multiple sessions throughout the day: two 15 minute sessions or three 10 minute sessions work just as well. And exercise regimens don't have to include a gym membership or intense weight lifting. Start with walking. Studies have shown that 150 minutes of walking each week can reduce the chances of developing diabetes or diabetes complications by over 70 percent. Lastly, if you do begin an exercise regimen, make sure your doctor knows about it. They may have you monitor your blood sugar more frequently or change doses of your medications.

Diabetic friendly diets are rich in vegetables, lean meats and whole grains, and as stated before, still contain carbohydrates. Don't get caught up in the low carb diet fad! Some of those diets allow for only 20 grams of carbs per day while an American Diabetes Association approved diet includes 180 grams per day. Diabetic diets are based around three well balanced meals each day. We all know the saying, "breakfast is the most important meal of the day." Well, it's true. A good diet starts with a protein rich breakfast to energize your body and boost your metabolism for the day. Keep portions in mind when preparing your meals. After all, even healthy food in too large of quantities can be bad for you. Try the plate method to keep portions under control. Using a nine inch plate, 50 percent should contain non-starchy vegetables, 25 percent should contain lean protein and the other 25 percent should contain starchy vegetables or breads. Non-starchy vegetables include broccoli, carrots, spinach salad, brussel sprouts, summer squash and many, many others. Lean meats include chicken, turkey and fish. Don't fry anything! That adds lots of unnecessary calories. Lastly, your 25 percent starch could be half of a baked sweet potato or whole wheat dinner roll. Eating healthy can still be delicious. If you can't think of appealing recipes on your own turn to the internet or diabetes organizations such as the American Diabetes Association. Their monthly magazine is full of incredible meal options. Successful diabetes management is simple when it comes to your medications. Just take them as directed by your doctors! We call it being adherent to your medications. Again, that can be easier said than done. Lots of barriers can get in the way of getting or taking your medications as your doctor prescribes. One of the most common barriers is cost. If your medications are too expensive to afford, check with your pharmacist about savings programs through the drug manufacturers. If that isn't an option, talk with your doctor and pharmacist about cheaper alternatives. Another barrier to being adherent to your medications is convenience. Some medications must be taken multiple times per day so it can be easy to forget to take them. Utilizing medication boxes or technology can help. Medication boxes marked with each day of the week and different times of each day are a tried and true means of staying adherent. Applications for smart phones can also be used to remind you when you are due to take your meds. Another major barrier to staying adherent is forgetfulness. We all get busy and forget to phone in our refills from time to time. Check with your pharmacy to see if they can automatically refill your medications and alert you when they are ready for pick-up. The key to overcoming any barrier is to make sure your doctor and pharmacist are aware of them so they can help find a solution.

Managing diabetes can be a challenge to say the least. Trying to manage something you don't understand is nearly impossible. If you have diabetes, or if someone you love has diabetes, you need to understand diabetes. Hopefully I have given you a little insight into what diabetes is and what successful management entails. If you would like to learn more about diabetes, contact your AuBurn Diabetes Solutions team to learn about free diabetes education classes or accredited diabetes self-management education (DSME). AuBurn Pharmacy knows diabetes, and so can you.