

To Our Health...

Information for Improving Our Health / Prepared by Jill Peterson, RN, BSN, Nurse Consultant

WHAT IS DIABETES?

Diabetes is a disease that keeps your body from turning the food you eat into energy. When food is digested, it's changed to glucose (a type of sugar). The glucose leaves the stomach and enters the bloodstream. This makes the blood sugar (or blood glucose) go up. Blood carries the glucose to the body's cells. But before glucose can enter the cells to be used as energy, a hormone called insulin is needed. Insulin is made by the beta cells in the pancreas. The insulin travels through the bloodstream to the cells. There it serves as a key, unlocking the cells so glucose can enter. Once inside the cells, the glucose can be used as fuel to give the body energy. Because the glucose has left the bloodstream and entered the cells, the body's blood sugar level goes back down. When you have diabetes there is a deficiency of insulin. Sugar stays in the blood instead of going into the cells of the body and you can't get energy from the food you eat.

TYPES OF DIABETES

Type 1 diabetes

- accounts for only about 10% of all diabetes
- is usually diagnosed before age 30
- starts with a genetic predisposition, then some trigger (illness, stress, allergic reaction) causes the ultimate destruction of the beta cells in the pancreas
- there is an absence of insulin
- abrupt onset of symptoms: increased thirst, increased urination, increased hunger, sudden weight loss, sudden onset of fatigue

DIABETES

is a common, serious, and costly disease that poses a major public health problem. One source said that 25% of the Medicare budget is spent on diabetes and its complications. I know by the increased numbers of glucometers being ordered for our persons served that diabetes is on the increase at Region V Services. In this newsletter I'd like to increase your awareness and understanding of diabetes to help yourself and the people you care about.

- treatment includes diet control, exercise, glucose monitoring, and insulin injections
- Type 2 diabetes
- accounts for 90% of all diabetes
- is usually diagnosed after age 30, but can occur at any age. Unheard of in the past, we now are seeing children develop type 2 diabetes.
- persons typically have a family history of diabetes, are overweight, and have high blood pressure
- there is a deficiency of insulin, not enough insulin or the insulin present is not effective

- symptoms build up slowly over a period of time: increased thirst and urination, tired, slow healing cuts and sores, blurred vision, problems with sexual function, numbness or tingling of hands and feet
- diabetes is often present for an average of 6 1/2 years before its diagnosed so person may already have complications
- treatment includes diet control, exercise, glucose monitoring, and in some cases, oral medication and/or insulin injections
- Gestational diabetes
- stress of pregnancy causes diabetes

- large birthweight babies > 10 pounds
- after delivery, mother reverts to nondiabetic state
- increased risk of developing type 2 diabetes as ages, especially if overweight
- treatment includes diet control, exercise, glucose monitoring, and possibly insulin injections

Other

- diabetes is a result of a treatment or a disorder
- Regardless of the type of diabetes, all have in common too much sugar in the bloodstream.*

DIAGNOSIS IS MADE BY CHECKING BLOOD SUGAR LEVELS:

A normal blood sugar level is 60-110. Diabetes would be of concern if:

1. A random blood sugar level is over 200 and person has symptoms (increased thirst and urination, fatigue, etc.)
2. A fasting blood sugar level is over 126
3. 2 hours after eating (post-prandial) blood sugar level is over 200

Testing is then repeated on another date before diabetes is diagnosed.

BALANCE YOUR BLOOD SUGAR

The goal of diabetes is to keep the blood sugar in

balance. Too much sugar in the blood is called hyperglycemia. These are levels that stay higher than 140. It can be caused by eating too much food, not getting enough exercise, or not taking the correct dose of diabetes medication. Stress and illness also will raise one's blood sugar.

Hyperglycemia may cause no symptoms or symptoms may include:

- blurry vision
- increased thirst
- need to urinate often
- dry, itchy skin
- drowsiness
- decreased healing

What can you do?

Test blood sugar. That way you'll know what it is and can better tell when it is returning to normal

- Drink non-caloric fluids (water, diet soda, herbal tea)
- Take a walk - do not exercise if blood sugar is > 300 (or > 250 if fasting)
- Call physician for advice if blood sugar remains over 200 for several tests or for 2 days

Too little sugar in the blood is called hypoglycemia.

Levels less than 60-70 will cause symptoms. It may occur suddenly if you take too much insulin or diabetes medicine, skip or delay a meal, or exercise more than usual. Alcohol can also lower blood sugar.

Symptoms of hypoglycemia:

- shaky
- fast heartbeat
- cold, clammy skin or sweating
- irritable
- hungry
- headache

(continued)

What can you do?

1. Drink 1/2 cup fruit juice or non-diet soda, or 1 cup of milk. Or chew 3-5 life-savers or 2-3 teaspoons sugar or honey.
2. Wait 15 minutes then retest blood sugar.

If level is still too low repeat steps 1 and 2. If the level isn't better after that, get medical help. Once level improves, eat. If the next meal is within the hour, eat that meal now. If the meal is more than an hour away, eat a snack, such as 1/2 a peanut butter or meat sandwich and a glass of milk.

UNCONTROLLED DIABETES CAN LEAD TO LONG TERM COMPLICATIONS

If the blood sugar remains high over a long period of time, it causes irritation that narrows and hardens blood vessels affecting many systems. This damage to vessels increases the risk of high blood pressure, stroke, heart, and kidney disease. Diabetes is the leading cause of blindness. The damage to the nerves and circulation of hands and feet, can cause numbness, tingling, poor healing and in some cases amputation. Keeping blood sugar in control is critical in preventing complications. Testing blood sugar with a glucometer is the first step in getting this control. Blood sugar testing can help you understand how food, exercise, and diabetic medication affects glucose levels. It also lets you know if a level is too high or too low, so it can be treated appropriately.

TREATMENT is based on balancing food, physical activity, and diabetes medication.

Nutrition is one of the most challenging aspects of diabetes care. You make a difference in blood sugar through food choices. The foods that have the greatest effect on blood

sugar are carbohydrates. Carbohydrates are grains, starchy vegetables, fruits, and milk. A healthy diet contains 50 -60% carbohydrates. Protein and fat must be considered because of the calories they contribute but they have a minimal effect on blood sugar. A meal plan based on carbohydrate counting, allows a person a certain number of carbohydrates per meal and snack.

Typically a woman may get 3-4 carbs/meal and 1-2/snack, a man 4-5/meal and 1-2/snack. A serving of carbohydrates equals 15 grams.

See list at right. > A dietician can help develop a meal plan that gives guidelines for the types and amounts of food to eat that will keep the blood sugar in control. Typically after being diagnosed with diabetes a person is encouraged to follow a meal plan to help them lose weight. Weight loss has the greatest impact on bringing blood sugar levels down.

Exercise not only relieves stress, reduces weight, improves blood flow, but it also lowers blood sugar. It draws on the body's supply of glucose stored in the muscles and liver and also peps up insulin so it works harder and goes to work faster.

Insulin injections are necessary for persons with type 1 diabetes to live. As many as 57% of persons with type 2 diabetes may ultimately need

insulin injections. Again, insulin is the "key" that allow the food we eat to enter the cell and be used for energy. Insulin can't be taken orally because the stomach acids would destroy it. It is injected under the skin (subcutaneous) to insure that it is absorbed slowly by the body. There are many types of insulin. Some work

longer or faster than others. How often insulin is given and the types of insulin used is prescribed by a physician. Drawing up and administering insulin is an "additional activity" for medication aides and requires training.

Type 2 diabetes may be controlled by diet and exercise alone, but for the majority of people, treatment will also require medications. Oral diabetes medication is not insulin. Categories of oral medication include those that make the pancreas work harder and make more insulin (glyburide, micronase, diabetia), meds that make one's existing insulin work better and reduce insulin resistance (glucophage, actos),

and those that slow down the breakdown and absorption of the sugars one eats (glyset). Due to the different actions of medications, it's not unusual for a person to take a combination of these antidiabetes medications. Also because of these different actions, it's important to give these medications at the correct time. Some require

they be taken before the meal, with the largest meal of the day, or with the first bite. Medication information sheets will help you determine the timing of the medication.

ARE YOU AT RISK?

- Risk factors include:
- a family history of diabetes
 - being African American, Native American, Latinos, and Pacific Islanders
 - being overweight
 - having high blood pressure and high cholesterol
 - being physically inactive
- But the good news is that diabetes can be prevented. Progression to type 2 diabetes can be prevented by lifestyle changes, mainly weight loss and becoming physically active. And for those with diabetes, keeping blood sugar in control is the best way to prevent long term complications and help one live a healthy and active life.

MODIFIABLE RISK FACTORS

- Keep blood sugar in a normal range. Ideal goals for most persons with diabetes: before meals 80 -120 at bedtime 100 -140
- Reduce blood pressure - below 130/80
- Lower cholesterol
- Stop smoking
- Reduce obesity

Would you like additional information about diabetes or a diabetes cookbook? Contact me at Central Office (471-6400). Be healthy. Jill

Sources include: Nebraska Department of Health and Human Services, American Association of Diabetes Educators, and the American Diabetes Association.

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- KEY POINTS TO HEALTHY EATING**
whether diabetic or not include:
- eat a variety of foods
 - eat meals at regular times
 - don't skip meals
 - eat about the same amount every day
 - spread carbohydrates evenly throughout the day
 - use less added fat
 - eat high fiber foods
 - choose smaller portions if you want to lose weight

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- CARBOHYDRATE CHOICES**
(based on 15 grams/serving)
- 1 slice of bread or tortilla
 - 3/4 cup dry cereal
 - 1/2 cup cooked pasta
 - 3 cups popped popcorn
 - 1 medium fresh fruit
 - 1/2 cup of fruit juice
 - 1/4 cup dried fruit
 - 1 fruit roll-up
 - 1 cup skim or 1% milk
 - 1 cup non-fat yogurt
 - 1/2 cup ice cream



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