

JAIL BULLETIN

NUMBER 102

OCTOBER 1993

The Jail Bulletin is a monthly feature of the Crime Commission Update. The Bulletin may be used as a supplement to your jail in-service training program if officers study the material and complete the attached "open book" quiz. The Bulletin and quiz may be reproduced for use by your staff. We welcome any jail training material you would like to contribute to the Bulletin.

INMATES WITH DIABETES

Approximately 5% of Americans have diabetes in varying degrees of severity. Because it is such a common condition, jail officers will have to deal with the special problems of inmates with diabetes. The following information is provided to help officers understand diabetes and the needs of inmates with diabetes.

WHAT IS DIABETES?

Diabetes is the inability of the body to properly convert sugar from food into energy. Its hallmark is high levels of sugar (glucose) in the blood and urine. Although most people with diabetes are born with a genetic tendency to develop the disease, other causes also play a role.

When sugar is absorbed from the digestive tract, it is carried by the blood to the liver and to various cells throughout the body. Normally, with the help of insulin (a hormone made in the pancreas), the cells use sugar for energy or store it for later use.

In people with diabetes, however, insulin is either lacking (absent or reduced) or is not effective. In either case, the cells are unable to make use of the sugar which collects in the blood and eventually in the urine. Treatments for diabetes are designed to keep blood sugar levels in the near-normal range, thereby minimizing the risk of complications such as heart disease.

stroke, kidney disease, blindness and amputations.

THERE ARE TWO TYPES OF DIABETES

These two classifications of diabetes describe how much, if any, usable insulin an individual's body produces.

Type I - Insulin Dependent Diabetes Mellitus (IDDM) - This type of diabetes occurs because the pancreas produces no usable insulin. Treatment of Type I Diabetes requires injections to supply the needed insulin, as well as careful meal planning and exercise. Type I Diabetes is usually found in children and adults under 30, and for that reason is often referred to as Juvenile-Onset Diabetes. Estimates are that one out of every 2,500 children has Type I Diabetes.

Type II - Non-Insulin Dependent Diabetes Mellitus (NIDDM) - This type is more common than Type I, affecting about 80% of the people who have diabetes, the pancreas does produce insulin, but not enough of it, or the body is unable to use the insulin that is produced. Type II Diabetes can often be controlled with meal planning and exercise alone, sometimes along with oral medications or insulin injection. Because it usually occurs in older people, it is also referred to as Adult-Onset Diabetes.

What Are The Symptoms

THE WARNING SIGNS: The following symptoms are typical. However, some people with non-insulin-dependent diabetes have symptoms so mild that they go unnoticed.

- o Insulin-dependent - (usually occur suddenly)
 - Frequent urination
 - Excessive thirst
 - Extreme hunger
 - Dramatic weight loss
 - Irritability
 - Weakness and fatigue
 - Nausea and vomiting

- o Non-insulin-dependent - (usually occur less suddenly)
 - Any of the insulin-dependent symptoms
 - Recurring or hard-to-heal skin, gum, or bladder infections
 - Drowsiness
 - Blurred vision

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- Tingling or numbness in hands or feet
- Itching

What Causes Diabetes?

The causes of diabetes are still a mystery. But researchers believe that the tendency for diabetes is present at birth.

In insulin-dependent diabetes, any of several different viral infections and a process called autoimmunity are believed to trigger diabetes. In the autoimmune process the body's defense system attacks its own cells: in insulin-dependent diabetes, the insulin-producing "beta" cells in the pancreas. Note: Although viruses may help to cause some cases of insulin-dependent diabetes, diabetes itself is not catching.

In people prone to non-insulin-dependent diabetes, being overweight can cause diabetes, because excess fat prevents insulin from being used properly.

How is Diabetes Treated?

So far, insulin-dependent diabetes cannot be prevented, although researchers are working on many promising approaches. Non-insulin-dependent diabetes can often be prevented by maintaining normal body weight and keeping physically fit throughout life.

A major aim of treatment is to control blood-sugar levels, which means keeping them in the normal range. Research suggests that tight control can help prevent or delay long-term diabetic complications.

Insulin-dependent diabetes is treated with daily insulin injections, regular exercise, and a balanced meal plan that limits sugar. A meal plan will be tailored to a person's individual needs and is likely to include three meals and two or three snacks a day. A person with diabetes will generally have to eat these meals and snacks at set times each day to properly balance insulin, which is also given at fixed times. (Insulin lowers blood sugar, and food raises it. To control diabetes, these effects must be balanced.)

Non-insulin-dependent diabetes is treated with an individualized diet plan. If a person is overweight, they will need to slim down. Treatment also includes restricting sugar and following an exercise plan. These steps should improve the body's ability to use its insulin. If diet and exercise alone do not control blood sugar, prescribed pills or insulin may be needed. However, they do not take the place of diet and exercise.

Testing: A Crucial Tool

Two types of tests are used to monitor blood-sugar levels: blood tests and urine tests. Blood tests, done by pricking the finger for a drop of blood, are recommended by most doctors because they give the exact amount of blood

sugar at any given moment. Urine-test readings are a crude indication of blood sugar, and are much less direct and much less precise. People with insulin-dependent diabetes are often advised to test sugar levels two to four times a day, before and after meals. People with non-insulin-dependent diabetes may be able to test less often.

Tests that measure ketones in the urine are also important. Ketones are fatty acids that collect in the blood and urine when the body uses fat (instead of glucose) for energy. Ketones in the urine are a sign that diabetes is poorly controlled and that prompt attention is needed. Individuals with diabetes should test for ketones when they are ill or under great stress, the times when diabetes is likely to go out of control.

Another important test, done by a doctor every three to six months, is a "glycohemoglobin" test. This measure the average blood-sugar level over the past 30 to 60 days.

What Happens When Things Go Wrong

Hypoglycemia, low blood sugar, is sometimes called an insulin reaction or insulin shock. It can occur suddenly in people using insulin if too little food is eaten, if a meal is delayed, or if extra exercise is done. It is less common in people whose diabetes is treated with pills but can occur. Low blood sugar must be treated quickly, with sugar or sugary foods because, untreated, hypoglycemia can lead to unconsciousness.

The typical symptoms include feeling cold, clammy, nervous, shaky, weak, or very hungry. Some people become pale, get headaches, or act strangely. If a person become unconscious, glucagon, a hormone (available by prescription) that raises blood sugar, can be injected.

Hyperglycemia, or high blood sugar, occurs when too much food is eaten or not enough insulin is taken. Illness and emotional stress can also cause high blood sugar. The warning signs are large amounts of sugar in the urine and blood. The person may also urinate often, be very thirsty, and feel nauseated. Treat high blood sugar with the help of a doctor.

Ketoacidosis, or diabetic coma, may accompany high blood sugar. It develops when insulin and blood sugar are so out of balance that ketones accumulate in the blood. High levels of ketones are poisonous. Fortunately, ketoacidosis, which develops over several hours or days, can usually be avoided if diabetes is brought under control at the first signs of high blood sugar or ketones in the urine. (Call a doctor for instruction) In addition to high blood and urine-sugar tests and high ketone levels, the symptoms include dry mouth, great thirst, loss of appetite, excessive urination, dry and flushed skin, labored breathing, fruity-smelling breath, and possibly vomiting, abdominal pain, and unconsciousness. Ketoacidosis is most likely to occur in people with insulin-dependent diabetes.

Anyone with diabetes should wear a medical I.D. necklace or bracelet stating the type of treatment they use, in case of emergencies.

HIGH BLOOD SUGAR - HYPERGLYCEMIA (Slow Onset)

- WATCH FOR:
- Increased thirst and urination
 - Large amounts of sugar in the blood or urine
 - Ketones in urine
 - Weakness, abdominal pains, generalized aches
 - Heavy, labored breathing
 - Loss of appetite, nausea and vomiting
- WHAT TO DO:
- Call doctor immediately
 - give patient fluids without sugar if able to swallow
 - Test blood or urine frequently for sugar
 - Test urine for ketones
- CAUSES:
- Too little insulin
 - Failure to follow diet
 - Infection, fever
 - Emotional stress

LOW BLOOD SUGAR - HYPOGLYCEMIA (Rapid Onset)

- WATCH FOR:
- Excessive sweating, faintness
 - Headache
 - Pounding of heart, trembling, impaired vision
 - Hunger
 - Not able to awaken
 - Irritability
 - Personality change
- WHAT TO DO:
- Call doctor
 - Take glucose tablets, or food containing sugar (orange juice, sugar-sweetened soft drink) or milk
 - do not give insulin
 - Do not give anything by mouth if patient is not conscious
- CAUSES;
- Too much insulin
 - Not eating enough food
 - Unusual amount of exercise
 - Delayed meal

The Inmate With Diabetes

Most inmates with diabetes are able to manage quite well jail if the proper diet, exercise and opportunity for insulin administration (if necessary) and testing is provided.

A person in a diabetic coma may be brought to jail by an officer who believes he or she is drunk. **NEVER** accept custody of an arrestee who is unconscious. Perform medical screening on all new inmates and refer them to medical personnel if it appears they have any symptoms that might indicate diabetic problems or if they indicate they have diabetes.

The information in this issue of the Jail Bulletin was provided by the Nebraska Affiliate of the American Diabetes Association and the Nebraska State Department of Health. Call or write them for further information.

American Diabetes Association
Nebraska Affiliate, Inc.
Health
2730 South 114 Street
Omaha, Nebraska 68144

or

Nebraska Diabetes Program
Nebraska State Department of

301 Centennial Mall South
Lincoln, Nebraska 68509

(402)333-5556

(402)471-3984 or 471-0194

QUIZ

Nebraska Jail Standards require that jail staff receive eighteen (18) hours of inservice training each year. The Jail Bulletin may be used to supplement inservice training if an officer studies the bulletin, completes the quiz, and this process is documented by the jail administrator for review during annual jail inspections.

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SUBJECT: Inmates with Diabetes

NAME _____

DATE _____

1. Diabetes is the inability of the body to properly convert _____ from food into energy.
2. Non-Insulin Dependent Diabetes Mellitus affects about _____% of people who have diabetes.
3. Ketones are _____ that collect in the blood.
4. Weakness, abdominal pains, heavy labored breathing, loss of appetite, nausea and vomiting may indicate:
_____ High Blood Sugar _____ Low Blood Sugar
5. Irritability, personality change, hunger, trembling, headache, excessive sweating or faintness may indicate:
_____ High Blood Sugar _____ Low Blood Sugar
6. Insulin dependent diabetes is treated with
 - a. _____
 - b. _____
 - c. _____

CREDIT: 1/2 hour credit for jail inservice training requirement

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2. Non-Insulin Dependent Diabetes Mellitus affects about 80 % of people who have diabetes.
3. Ketones are FATTY ACIDS that collect in the blood.
4. Weakness, abdominal pains, heavy labored breathing, loss of appetite, nausea and vomiting may indicate:
 X High Blood Sugar Low Blood Sugar
5. Irritability, personality change, hunger, trembling, headache, excessive sweating or faintness may indicate:
 High Blood Sugar X Low Blood Sugar
6. Insulin dependent diabetes is treated with
 - a. INSULIN INJECTIONS
 - b. EXERCISE
 - c. BALANCED MEAL THAT LIMITS SUGAR

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ANSWER SHEET SHOULD BE RETAINED BY JAIL ADMINISTRATOR.