

## **Diabetes Update**

**Satellite Conference and Live Webcast  
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Video Communications and Distance Learning Division

## **Faculty**

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### **What Is Diabetes Mellitus?**

- **Diabetes is a condition that keeps your body from turning the food you eat into energy**

### **What Happens When You Eat**

- **The carbohydrate food you eat breaks down into the smallest form possible which is glucose or sugar**
- **That sugar enters your blood stream and the sugar level there starts to rise**
- **As the sugar level rises, your brain signals the pancreas to make insulin**

### **What Happens When You Eat**

- **Insulin's job is to open up the body's cells to allow the sugar to go inside where it can be turned into energy**
- **The level of sugar in the blood stream falls as the sugar is allowed to go into the cells**
- **Our bodies are designed to keep the level of sugar in the blood in a very tight range**

### **What Happens When You Eat and You Have Diabetes**

- **Carbohydrate food turns into sugar during the digestive process**
  - **However, the pancreas makes little or no insulin OR the insulin one makes is not working the way it should**
  - **Either way, the sugar cannot enter the body's cells**

### **What Happens When You Eat and You Have Diabetes**

- Sugar builds up in the blood stream, creating abnormally high levels which damages the body over time

### **Risk Factors for Type 2 Diabetes**

- Family history of diabetes
- Overweight
- Specific Ethnic Groups (American Indian, African American, Hispanic/Latino, Asian American, Pacific Islander)
- Had diabetes during pregnancy

### **Risk Factors for Type 2 Diabetes**

- Gave birth to a baby weighing over 9 pounds
- Have high blood pressure or high cholesterol
- Sedentary lifestyle
- Over 40 years of age

### **Type 1 Diabetes**

- Makes NO insulin
- Must take insulin shots to live
- Less than 10% of the people with diabetes
- Usually occurs at a young age but can happen at any age

### **Type 2 Diabetes**

- Body still makes some insulin but is unable to correctly use it
- Accounts for over 90% of those with diabetes
- Usually begins in adulthood but can occur in children and teens
- Treatment can include diet, exercise, pills and/or insulin

### **Prevalence of Diabetes**

- 24 million people in the U.S. have diabetes
- 1/3 of that number are not yet diagnosed
- 54 million people in the U.S. have “pre-diabetes” which means with no intervention in their health, they will have diabetes soon

### **Symptoms of High Blood Sugar (Hyperglycemia)**

- Unusual tiredness or fatigue
- Increased thirst or hunger
- Frequent urination
- Blurred vision
- Dizziness
- Slow healing cuts and sores
- Dry mouth or skin

### **Symptoms of High Blood Sugar (Hyperglycemia)**

- Numbness or tingling of hands or feet
- Frequent infections
  - UTI, vaginal, skin, etc.
- Problems with sexual function

### **Low Blood Sugar (Hypoglycemia)**

- Low blood sugar (sugar below 70 mg/dl) can occur when you take insulin or certain other diabetes medications
- It is usually easy to treat but must be treated quickly to prevent serious problems
- If untreated, it can lead to seizures or passing out

### **Symptoms of Low Blood Sugar**

- Weakness, dizziness, light-headed feeling
- Hunger
- Trembling and nervousness
- Headache
- Cold, clammy, moist skin
- Double vision
- Fatigue

### **Symptoms of Low Blood Sugar**

- Uncoordinated movements
- Ill-tempered
- Fast heart beat
- Unexpected behavior changes
- Confusion, unable to think clearly
- Seizure

### **Prevention of Low Blood Sugar**

- Eat your meals on time
- Don't skip snacks or meals
- Carry a snack with you when traveling
- Know how your diabetes medication works

## **Prevention of Low Blood Sugar**

- Learn to adjust your food intake for exercise
- Educate family members or friends
- Record low blood sugar and discuss with health care team to detect possible patterns

## **Treatment of Low Blood Sugars**

- If you feel symptoms, test your blood sugar
- If blood sugar below 70mg/dl, treat with 15 grams of fast acting carb
  - 3-4 glucose tabs
  - 1/2 cup of any regular juice
  - 1/2 cup of regular soda
  - 3 hard candies (not sugar-free)
  - 1 cup fat free milk

## **Treatment of Low Blood Sugars**

- Wait 15 minutes and test again to be sure blood sugar is rising
  - If not, repeat the treatment

## **Possible Long Term Complications**

- Eye problems (retinopathy)
- Kidney disease (nephropathy)
- Nerve damage (neuropathy)
- Frequent infections
- Increased rate of heart attack and stroke

## **Eye Problems**

- High sugars over time can cause the very small blood vessels in the eye to become fragile and rupture resulting in decreased vision
- Get a dilated eye exam annually
- Eye problems can be treated successfully if caught early enough

## **Kidney Problems**

- High blood sugars can damage the small blood vessels in the kidney
- This usually has no early symptoms
- The kidneys are not able to filter all the waste products from the blood
- Complete kidney failure may result in dialysis

### **Kidney Problems**

- **Get a micro albumin and serum creatinine screen yearly**
- **Keep your blood sugar and your blood pressure well controlled**

### **Nerve Damage**

- **High sugars can cause the nerve cells to swell and scar**
- **In time, they lose the ability to send signals through the body correctly**
- **Can cause pain and burning sensation or cold and numbness feelings**

### **Infections**

- **High sugars can reduce the body's ability to fight off many kinds of infections**
- **Bacteria grow rapidly and flourish in a high sugar environment**
- **Take care of small wounds promptly**
- **Consider getting a yearly flu shot and be updated on your pneumonia vaccine**

### **Heart Attack and Stroke**

- **High sugars can damage the blood vessels that lead to the heart and brain**
- **In time, blood vessels may become blocked and blood flow restricted causing a heart attack or stroke**
  - **Maintain good blood sugars**
  - **Control your cholesterol and blood pressure**
  - **Do not use tobacco**

### **Precautions**

- **Always perform good foot care**
- **If able, scroll through the blood sugar meter to note recent blood sugar control**
- **Ask if they are taking their diabetes medicines**

### **What to Report to the Nurse**

- **Wounds that are not improving in 24 hours**
- **Wounds that are showing signs of infection**
- **Signs and symptoms of dehydration**
- **Illness that is not improving**
- **Trends of high or low blood sugars**