

Diabetes Update: Foot Care and Nutrition

**Satellite Conference and Live Webcast
Wednesday, April 26, 2006
2:00 - 4:00 p.m. (Central Time)**

Produced by the Alabama Department of Public Health
Video Communications and Distance Learning Division

Faculty

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Program Objectives

- Discuss the general disease process of diabetes.
- Recognize symptoms of low and high blood sugar.
- Assess and provide care for skin and feet of diabetic patient.

Program Objectives

- Explain the role of a healthy eating plan in diabetes management.
- Assist clients with healthy food selections in meal planning.
- Recognize the carbohydrate foods and the appropriate serving sizes.

What is Diabetes?

- Diabetes is a chronic disorder in which the body cannot properly use glucose (blood sugar) which comes from the food we eat, primarily carbohydrates.
- Either, the body is unable to produce enough insulin, or the body is unable to use the insulin it produces.

What is Diabetes?

- Insulin is produced by the pancreas and is necessary for the glucose to be used by the cells.
- Symptoms: frequent urination, thirst, hunger, fatigue (feeling tired), blurred vision, tingling in toes or fingers and slow healing wounds.

Two Basic Types of Diabetes

- **Type 1 (formerly called insulin dependent or juvenile diabetes)**
 - Only 10% diabetic population
 - Pancreas produces little or no insulin
 - Patient must have daily insulin
 - Cause may be unknown

Two Basic Types of Diabetes

- **Type 2 (formerly called non-insulin dependent or adult onset)**
 - 90% diabetic population
 - Cells do not use insulin properly (insulin resistance)
 - May be controlled by diet and exercise initially
 - Patient may need oral medications
 - May eventually need insulin

Risk Factors for Type 2

- Obesity or being overweight
- Family history of diabetes
- Hypertension (high blood pressure)
- History of gestational diabetes or having a baby weighing more than nine pounds
- Being "apple-shaped" (waist circumference more than 36 in women and 40 in men)

Risk Factors for Type 2

- Sedentary lifestyle
- Race - African American, Native American, Hispanic, Asian, Pacific Islanders
- Age (over 40; increases with advanced age)

Complications of Diabetes (both type 1 and type 2)

- **Vascular disease (artery damage)**
 - microvascular (smaller arteries) disease leads to nephropathy (kidney failure) and retinopathy (diabetic eye disease; can cause blindness)
 - macrovascular (larger arteries) disease leads to heart attacks, strokes, and possible amputations of feet and legs.

Complications of Diabetes (both type 1 and type 2)

- **Neuropathy (nerve damage)**
 - leads to numb and/or painful feet
 - can affect any part of the nervous system

Problems of Control

- Hyperglycemia (high blood sugar)
- Hypoglycemia (low blood sugar)

Assessment

- **General**
 - level of consciousness can be affected by many factors (Is patient behaving as he/she normally does?)
 - mobility (How well can patient get around?)
 - visual capacity (How well can patient see?)
 - psychological status (Does patient seem depressed, angry or frightened?)
 - environment (Are there any noticeable hazards?)

Diabetes Related Status Symptoms of High Blood Sugar (Hyperglycemia)

- Skin dry, flushed
- Mouth dry
- Thirsty
- Urinating frequently
- Sleepy, lethargic
- Action: Ask patient if he/she has checked blood sugar. If above 200, report to nurse. Ask patient if he/she has taken the appropriate medication.

Diabetes Related Status Symptoms of Low Blood Sugar

- Skin clammy, pale
- Shaky, nervous
- Hungry, panicky
- Confused
- Unconscious

Diabetes Related Status Symptoms of Low Blood Sugar

- Action: Ask patient to check blood sugar. If blood sugar is less than 100 or if patient is unable to check blood sugar and patient thinks it is low with symptoms, give snack 15 grams of carbohydrate (one carbohydrate serving).
- Example: 1/2 cup juice, 1/2 cup soda (not diet), cup milk
- Report unusual findings to nurse.

General Skin Care

- Skin of diabetic patient is drier and more fragile.
- **Assessment:**
 - Check carefully for any signs of breakdown - breaks in skin or reddened areas.
 - Check for signs of fungus infections - rashes, scaling or reddened patches in folds or creases.

General Skin Care

- **Assessment**
 - Check for signs of boils or abscesses, especially in creases.
 - Report abnormalities to nurse.

General Skin Care

- **Do**
 - Bathe with mild soap and pat dry.
 - Apply lubricant (mild lotion without alcohol or fragrance).
 - Encourage increased activity.

General Skin Care

- **Don't**
 - Don't use powder.
 - Don't use heating pads.

Oral Care

- **Periodontal (gum) disease is sixth complication of diabetes. The mouth may be drier and "sweeter". The mouth of the diabetic patient is more susceptible to infections, both bacterial and fungus (candida/yeast/thrush). Infections are more difficult to control if blood glucose is high; infections cause rise in blood glucose.**

Oral Care

- **Assessment**
 - Check for bleeding and/or reddened areas.
 - Check for signs of yeast infection.
 - Check for loose teeth.

Oral Care

- **Do**
 - Brush teeth or clean dentures twice daily (soft brush).
 - Floss teeth once daily.
 - Clean mouth with mild mouthwash twice daily.
 - Report abnormally findings.

Oral Care

- Don't
 - Don't use harsh chemicals.
 - Don't use objects that can injure mouth (toothpicks).

Oral Care

- Patient should have professional attention every six months.

Foot Care

- Amputations of feet and legs are fifteen times greater in patients with diabetes. One-half may be prevented.

Foot Care

- Causes:
 - Circulation is decreased in lower extremities.
 - Patient may have vascular (artery) disease.
 - Patient may be inactive.
 - Blood glucose levels above normal contribute to increased infection.
 - Patient may have numbness due to nerve damage (neuropathy).

Foot Care

- Assessment:
 - Check color; look for reddened, darkened, or pale skin.
 - Check for breakdown or reddened areas (pre-breakdown).
 - Check for breaks in skin (punctures, cracks or fissures).
 - Check temperature (report change whether warm to touch or unusually cool to touch).

Foot Care

- Care: Do
 - Bathe daily with mild soap.
 - Pat dry.
 - Lubricate (lotion should be alcohol and fragrance free).
 - Shape toenails with emery board.
 - Protect feet.
 - Instruct patient and/or caregiver to inspect feet daily.

Foot Care

- Care: Do
 - Encourage patient to be as active as possible; move at least every hour.
 - Advise patient to elevate feet when seated.
 - Strongly advise against smoking.
 - Teach patient to check inside shoes before putting them on.
 - Report any abnormal findings immediately.

Foot Care

- Care: Don't
 - Don't soak feet (soaking is drying).
 - Don't use lotion between toes (moisture contributes to fungal infections such as athlete's foot.)
 - Don't use heating pad or hot water bottle.
 - Don't use harsh chemicals such as corn preparations.
- Report any abnormal findings immediately.

Foot Care

- Patient: Don't:
 - Go barefoot.
 - Smoke.
 - Wear anything binding (garter, socks with elastic).
 - Trim corns or ingrown toenails
 - Pull hangnails.
 - Wear shoes that don't fit properly.
- Summary: Diabetes affects different areas of patient's health. Special care is very important for feet and skin.

Case Study

50 year old white female (co-worker) with long standing diabetes; type 2 - uncontrolled for several years; was reluctant to switch to insulin for control; long history of smoking; has neuropathy. Worked in storm shelter during Ivan evacuation. Developed blister on right foot but did not feel pain. Within 48 hours, blister became infected and patient was in hospital on IV antibiotics. Quit smoking and got blood sugar under tight control. Approximately one year later, stuck piece of glass in left foot. (Glass was in her shoe without patient's knowledge.) Again, within 48 hours was in hospital on IV antibiotics.





- "Responsibility: A detachable burden easily shifted to the shoulders of God, Fate, Fortune, Luck or one' neighbor. In the day of Astrology it was customary to unload it upon a star."

– Abrose Bierce

- "We are all in this together...by ourselves."

– Lilly Tomlin

Meal Planning for Diabetes

Molly B. Pettyjohn, MS, RD, LD

Importance of Good Meal Planning

- It can affect your blood glucose levels (sugar levels).
- May improve blood pressure and cholesterol levels.
- It can result in a healthier way of eating for you and the entire family reducing risks.
- You may lose weight.
- You may save money on food.

The First Step is Healthy Eating!

- Special or diet foods are not needed.
- Eat a variety of foods each day.
- Use less sugar, salt and fat.
- Eat foods high in fiber like fruits and vegetables, whole grains and beans.

Foods that Affect Blood Sugar

- Carbohydrates do the most!



Carbohydrate Foods

- **Starches:** bread, cereal, rice, pasta, crackers, popcorn, grits, oatmeal.
- **Starchy vegetables:** lima beans, corn, peas, potatoes, baked beans.
- **Vegetables:** tomato, okra, squash, onion, bell pepper, broccoli, cauliflower, green beans, lettuce, carrots, cabbage, cucumber.

Carbohydrate Foods

- **Fruit:** juice, orange, strawberry, pear, peach, banana, raisins, pineapple, apricots, plums, watermelon.
- **Milk:** skim, low fat, and whole milk, dry milk, yogurt.
- **Other carbohydrates:** sugar, honey, syrup, candies.

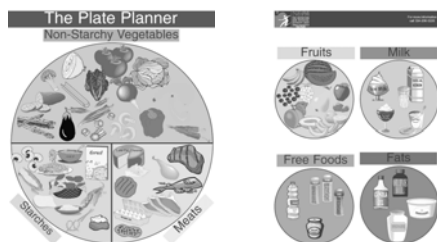
Carbohydrates In Your Diet

- We need carbohydrates as part of a healthy eating plan.
- First, remember that
 - A serving of a carbohydrate food = 1 carbohydrate = 15 grams carbohydrate whether it is a fruit, vegetable, milk or starch.

- That means...
 - A serving of fruit = 1 carbohydrate
 - A serving of starch = 1 carbohydrate
 - A serving of milk = 1 carbohydrate
 - A serving of a starchy vegetable = 1 carbohydrate
- Non-starchy vegetables are slightly different.
 - 3 servings of vegetables = 1 carbohydrate
 - do not count unless eating large amounts

What is a Serving?

- Think about Plate Planner, an easy way to remember serving sizes.



Specific Serving Sizes

- **Fruit**
 - 1 small piece of fruit (like an apple)
 - regular sized banana (or 1 small banana)
 - cup canned fruit
 - cup fruit juice (1/3 cup for grape jc. and cranberry jc.)
 - cup dried fruit

Specific Serving Sizes

- Starch and starchy vegetables =
 - cup grits and oatmeal
 - 1/3 cup pasta and rice
 - 1 slice bread
 - 1 small roll
 - cup corn, potatoes, peas
 - 3 graham crackers

Specific Serving Sizes

- Milk =
 - 1 cup whole, low-fat, or skim milk
 - cup nonfat or low-fat yogurt
 - 1 cup nonfat or low-fat yogurt that is artificially sweetened

How many carbohydrates are needed at each meal?

- Usually, around 3-4 carbohydrates per meal (or 45-60 grams).
- And 2-3 carbohydrates between meals as a snack (or 30-45 grams).
- Can be any carbohydrate food.
- But, still want variety in the diet.

General Guidelines

- Follow your doctors orders.
- Talk to a Registered Dietitian about a meal plan that is right for you!

Other Things to Remember

- Eat balanced meals and snacks at about the same time each day.
- Eat about the same amount of food daily.
- Try not to skip meals.
- Physical activity can also improve blood sugar.

Upcoming Programs

**Preparing for the Hurricane Season:
Medical Needs Shelters
Tuesday, May 9, 2006
2:00 - 4:00 p.m. (Central Time)**

For complete listing of upcoming programs visit: www.adph.org/alphtn.