Life is sweet

Lifestyle Modification for Diabetes

Life is sweet

- I will be asking you questions throughout this presentation that will utilize critical thinking skills, information from previous classes, and the ability to synthesize this new information.
- I will add information not on the slides that may be very new or not yet widely practiced in this community.
- Questions are not ‘dumb’. Ask at any time.

Life Style Management

Goals of Therapy
1. Maintain blood glucose to as near normal as safely possible to prevent/reduce the risk of complications.
2. Achieve lipid profiles and B/P that reduce the risk for CV disease.
Life Style Management

Goals of Therapy
3. Modify lifestyle for the prevention and treatment of obesity, dyslipidemia, cardiovascular (CV) disease, and nephropathy
4. Improve health through healthy food choices and physical activity

Life Style Management

Goals of Therapy
5. Address individual nutritional needs while taking into account personal, ethnic, cultural and religious preferences and respecting the individual’s willingness to change

Nutrition

- The most important aspect of diabetes self management......AND the most difficult to manage
- Everyone must eat but diabetics must control portion, type, and timing of all food
- A Registered Dietitian will prescribe the MNT (Medical Nutrition Therapy)
Nutrition

• All members of the Diabetes Care Team should be familiar with the basics of nutritive care
• American Diabetes Association (ADA) no longer publishes ‘diets’ or ‘food plans’
• ADA recommends individualized food and meal planning that meet patients’ needs

Nutrition

Type 1 diabetes
• Calories to achieve desirable weight, body tissues, and muscle mass
• Both food and insulin necessary for glucose control
• Equal amount of calories at each meal—adjustment of carbohydrates (CHO) for insulin activity

Nutrition

Type 1 Diabetes
• Consistent amount and type of calories necessary every day
• Uniform timing of meals crucial for NPH/Lente insulin—more flexibility with bolus insulin
• Snacks are frequently necessary
Nutrition

Type 1 Diabetes
• Moderate physical activity requires approximately 20 grams of CHO/hour as replacement

Nutrition

Type 2 Diabetes
• Calories to decrease BMI if over 27
• Food intake alone may initially control glucose control
• Equal distribution of calories at each meal is desirable
• Consistent meal times helpful to assist in weight loss and glucose control

Nutrition

Type 2 Diabetes
• Snacks between meals/bedtime not usually necessary
• Physical activity may cause hypoglycemia if sulfonylurea/insulin is used
Nutrition
Total Daily Calories
• Basal calories: 20-25 Kcal/kg desirable weight
  25-35 Kcal/kg for catabolic state
• For activity: 30% more if sedentary
  50% more if moderately active
  100% more if strenuously active

Nutrition
Total Daily Calories
• Adjustments: ↑ 500 Kcal/day to gain 1lb/week
  ↓ 500 Kcal/day to lose 1 lb/week
• Pregnancy: add 340 Kcal/day in 2nd trimester
  add 452 Kcal/day in 3rd trimester
• Lactation: add 330 Kcal/day for 1st 6 months
  add 400 Kcal/day for 2nd 6 months

Nutrition
Quick Calculation of Necessary Daily Calories
• Cheap & Easy Method: Weight at BMI of 25 and add a zero at the end of that number
• Slightly More Scientific Method:
  For women: 100 lbs for 5 ft and add 5 lbs for every inch over 5 ft
  For men: 106 lbs for 5 ft and 7.5 lbs for every inch over 5 ft
Nutrition

• Then add zero to end of number to obtain amount of calories needed
• Minimum amount of Kcal/day
  For women: 1200 Kcal
  For men: 1500 Kcal

Nutrition

Macronutrients
• Protein -15-20% of calories
• 4 calories = 1 gram
• Plant, animal, dairy (cheese)

• Fat – 20-30% of calories
• 9 calories = 1 gram
• Unsaturated & rich in Omega 3 fatty acids

Nutrition

Macronutrients
• Carbohydrates – 50-70% of calories
• Minimum amount/day: 130 grams
• 4 calories = 1 gram
• Bread, rice, pasta, corn, any food with any type of flour or grain in it
Nutrition

Macronutrients

- Fruit
- Starchy Vegetables
- Milk & Milk products (NOT cheese)

Nutrition

- Alcohol – detoxification in the liver causes decreased glucose production
- Severe hypoglycemia up to 12 hours later can occur in individuals on insulin or sulfonylureas

Nutrition

Teaching Points

- Plate Method– Divide a dinner-sized plate into quarters
  - ¼ for Protein, ¼ for CHO, ½ for vegetables
- Plate Method II– Divide a dinner-sized plate into thirds
  - 1/3 for protein, 1/3 for CHO, 1/3 for vegetables
Nutrition

Teaching Points
• Food Pyramid—Portion size **must** be emphasized
• Include family members/significant others with patient’s permission
• Use open-ended questions
• Use Motivational Interviewing (echo method)
• Be a role model

Exercise

• ESSENTIAL to Diabetes Self Management
• Benefits: improved insulin sensitivity
  lower blood glucose levels
  weight loss/loss of body fat
  decreased need for medication
  lower triglycerides
  lower total cholesterol

Exercise

Benefits: lower LDL & higher HDL cholesterol
lower B/P
improved circulation
improvement in depression
Exercise

- Risks: Hypoglycemia
  injury
  increase of counter-regulatory hormones after perceived 'stress' of strenuous exercise causing a rise in blood glucose

Exercise

- Morning exercise more helpful in weight loss
- Afternoon exercise more helpful in glucose control
- 3-6 minute sessions are effective to accumulate a minimum of 30 minutes/day
- 10,000 steps/day
- Mild to moderate exercise best to prevent exacerbations of micro/macro vascular complications

Exercise

Teaching Tips

- Start low and stay slow
- Medical evaluation for Diabetic Complications prior to any exercise plan other than walking
- Carry ID and diabetes info
- Never exercise alone
- Drink fluids prior, during and after exercise
Exercise

• Visually check feet before and after exercise
• Wear appropriate clothing and footwear
• Do not exercise in extremes of weather
• Do not inject insulin into working limb if exercise is within 30 minutes of injection
• Check blood glucose before, during, after and 2 hours after exercise when first beginning an exercise program.

Exercise

Teaching tips

• Insulin/CHO adjustments may be necessary depending on duration, intensity, time of day, individual’s level of training
• Be a role model

Case study

Mr. J admitted to the hospital 4 days ago via the ED for ‘passing out’ at the hardware store.  Dx = Diabetes Type 2 & Hypertension
6 AM Vital signs:  T 98.2  HR 92 & reg.  RR 10  B/P 146/86  Wt 265
This AM’s Labs:  FBG 134  TC 561  LDL 314  HDL 31  TG 350
HX: Age 59  Height 5'10"  Mother A&W, age 79, S/P CABG 1992  Father died 1990-CVA at age 66 Married with 2 children & 3 grandchildren. Smoked 2 packs of cigarettes
Case Study

A day for 40 years. Works as CPA for 35 years & now son works with him. Hobbies: Model trains, watching sports on TV, household repairs.

No medications prior to hospitalization. Has not seen Medical Provider since 1992.

He & his parents escaped from Nicaragua and sought political asylum in the US

He was transferred from ICU yesterday after lunch.

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Case Study

and is going home tomorrow. The RD saw him and his wife in ICU yesterday. He will see RD and CDE next week. You went over hypoglycemia and its treatment, using the meter and Metformin with him yesterday.

Nights had him do a return demo on the meter use and went over hypoglycemia again.

As you enter his room, he states, “look at this great spreadsheet I made! “

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Case Study

He adds “In 6 weeks I will have lost 30 pounds and be ready to run in the hospital’s half-marathon charity run!”

Inwardly wincing, you smile, compliment him on the great computer work, and sit down to talk.

1. What are you going to do first?
Case study

2. What is his first need?
3. What is his BMI now? What is his Ideal BMI? Is BMI always the best choice to determine ideal weight?
4. How many calories does he need?
5. Protein? Fat? CHO?
6. What about exercise?
7. How will you help him at this moment?

Thank you

Thank you for your interest and attention.

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