

**Nutritional Assessment  
of a  
Bilateral Amputee in  
End Stage Renal Disease  
2°  
Diabetes Mellitus**

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# Case Study

- 75 year old white female
- Lives with daughter
- Does not smoke, drink or use drugs

# Medical / Surgical Data

- PMH:
  - Renal insufficiency
  - Hypertension
  - Diabetes Type 2
  - Peripheral Vascular Disease
  - Coronary Artery Disease
- PSH:
  - Bilateral below knee amputation (1993 and 2001)
  - Coronary artery bypass graft

# History of Present Illness

- Outpatient labs:
  - Creatinine – 6
  - Bicarb – 14
- 24 hour Urinalysis:
  - Creatinine Clearance - <15mm/min
- 12/16/06 - Admitted for catheter placement to initiate hemodialysis

# Hospital Course

- Catheter placement – 12/17
  - Fistula placement
- Hemodialysis
  - 12/17, 12/18, 12/20
- Outpatient placement for hemodialysis prior to discharge
- Diabetic Education
  - Insulin and Blood Glucose monitoring – 12/17

# Laboratory Data

12/16/03

	<b>Result</b>	<b>High/Low</b>	<b>Reference</b>
<b>BUN</b>	96	-	5-25 mg/dl
<b>Sodium</b>	133	-	135-146 mmols/L
<b>Potassium</b>	4.4	WNL	3.2-5.0 mmols/L
<b>Glucose</b>	173	-	70-115 mg/dl
<b>Creatinine</b>	4.2	-	0.5-1.5 mg/dl
<b>Calcium</b>	8.3	WNL	8.1-10.2 mg/dl
<b>Phosphorus</b>	7.0	-	2.0 – 4.8 mg/dl
<b>Albumin</b>	3.4	WNL	3.2-5.0 gm/dl
<b>CO<sup>2</sup></b>	16	-	18-32 mmols/L

# Nutritional Treatment

# Diet History

- Patient is compliant with Diabetic diet at home.
- Supplements
  - Prescription vitamin
- Lantus Insulin Therapy

# Physical Activity

- Ambulates in home
  - prosthetic devices and walker
- Limited mobility in home
  - stairs

# Weight History

- 1993 – 150# after first amputation, 5'8"
- 2001 – Second amputation – gradual weight gain began
- 2003 – 175# on admission

# **Nutrition Assessment**

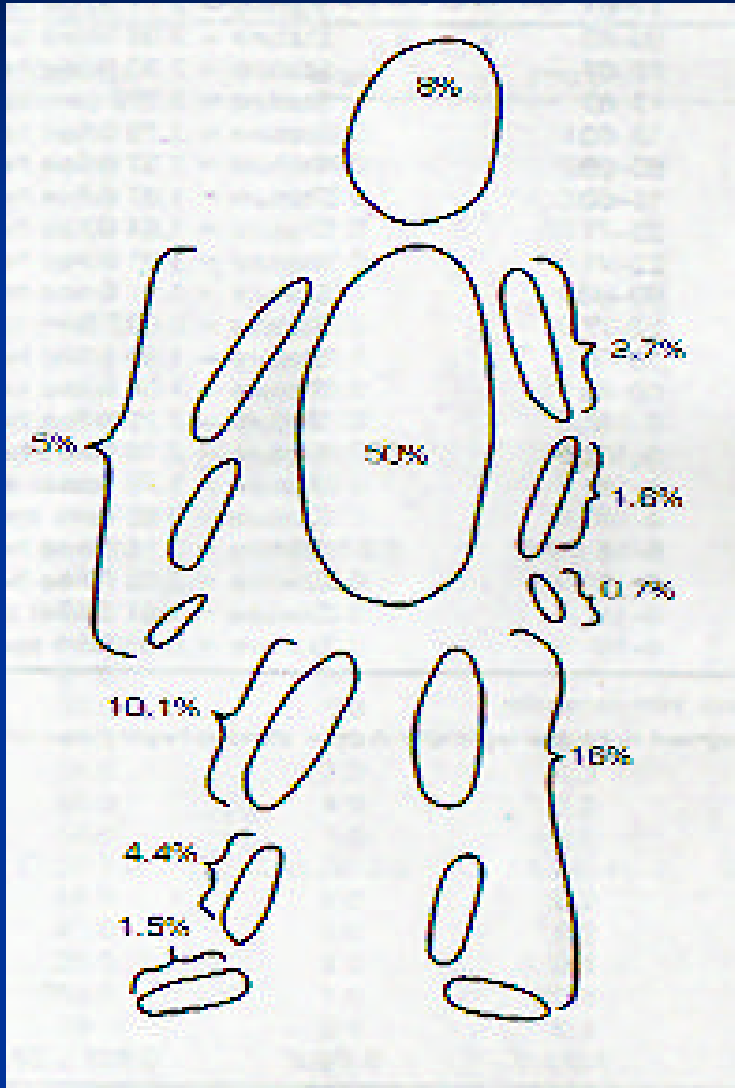
# Considerations

- Bilateral BKA
- Diabetes Mellitus – Type 2
- Hemodialysis
- Current Diet
  - 1800 Calorie – ADA/Renal
    - Appropriate?

# Body Weight Assessment

- Determine Ideal Body Weight (IBW)
  - Height prior to amputation (5'8)
  - Hamwi Method
    - 100# plus 5# for each inch over 5'0
    - $100 + 40 = 140\#$
- Determine Adjusted Ideal Body Weight (AIBW)
  - Segmental weight

# Segmental Weight



- (AIBW)
  - $140 - 11.8\% = 123\#$
- %AIBW
  - $(175/123) \times 100 = 142\%$
- Adjust for obesity
  - $(175 - 123)/4 + (123) = 136\# (61.81\text{kg})$
- New IBW
  - amputation and obesity

# Diet Recommendations

Energy	Protein	Fluid	Sodium	Potassium	Phosphorus
20- 30 kcal/kg*  monitor nutrient adequacy	1.1 – 1.4 g/kg* >50% HBV	Urine output + 500 – 750mL /day	2-3 g/d (based on urine output)	1.5 – 3g/day or 40 mg/kg*	12mg/kg*  liberalize to meet protein needs

\* based on IBW

## Other Considerations:

- consistent CHO intake

# My Recommendations

- 25 kcal/kg IBW - ~1500 kcal/day
  - Current diet exceeds needs but is appropriate due to decreased intake
- 1.2 g pro/kg - >75 g/day
- Low Potassium diet
  - Avoid high potassium foods
  - Limit medium potassium foods to one serving per day
  - Remainder from low potassium food choices
- Incorporate exercise in to daily routine
  - Hand weights during TV commercials throughout the day
- Follow diet plan until meet with Renal RD
- Will follow up after the holidays

# Medical Considerations

# Anemia

- Decrease in production of erythropoietin
  - Hormone responsible for stimulating bone marrow to produce RBC's
  - Epogen therapy
  - Iron Supplements

# Nutritional Considerations

- Diet is very restrictive
  - Substandard with regard to vitamins and minerals
    - Supplement
      - Thiamine
      - Riboflavin
      - Biotin
      - Pantothenic acid
      - Niacin
      - Pyridoxine
      - B12
      - Vitamin C

# Psychological Considerations

- Progression of disease
  - Dependent on a machine for renal function
    - Therapy 3 times week
    - 3-5 hours per session
- Restrictive diet
- Previous issues
  - Changes in physical appearance
    - Limited mobility
  - Medication dependence

# **Implications to the Findings to the Practice of Dietetics**

# Role of the Dietitian

- Apply critical thinking and clinical judgment in assessing a poorly defined patient population
  - Diabetic, amputee, dialysis
- Support and maintain the nutritional status of the patient
- Educate patient to an attractive, palatable diet that meets their lifestyle

**Questions ?**