

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 - $<15\text{mm/min}$
- 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

	Result	High / Low	Reference
BUN	96	-	5-25 mg/dl
Sodium	133	-	135-146 mmols/L
Potassium	4.4	WNL	3.2-5.0 mmols/L
Glucose	173	-	70-115 mg/dl
Creatinine	4.2	-	0.5-1.5 mg/dl
Calcium	8.3	WNL	8.1-10.2 mg/dl
Phosphorus	7.0	-	2.0 – 4.8 mg/dl
Albumin	3.4	WNL	3.2-5.0 gm/dl
CO²	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

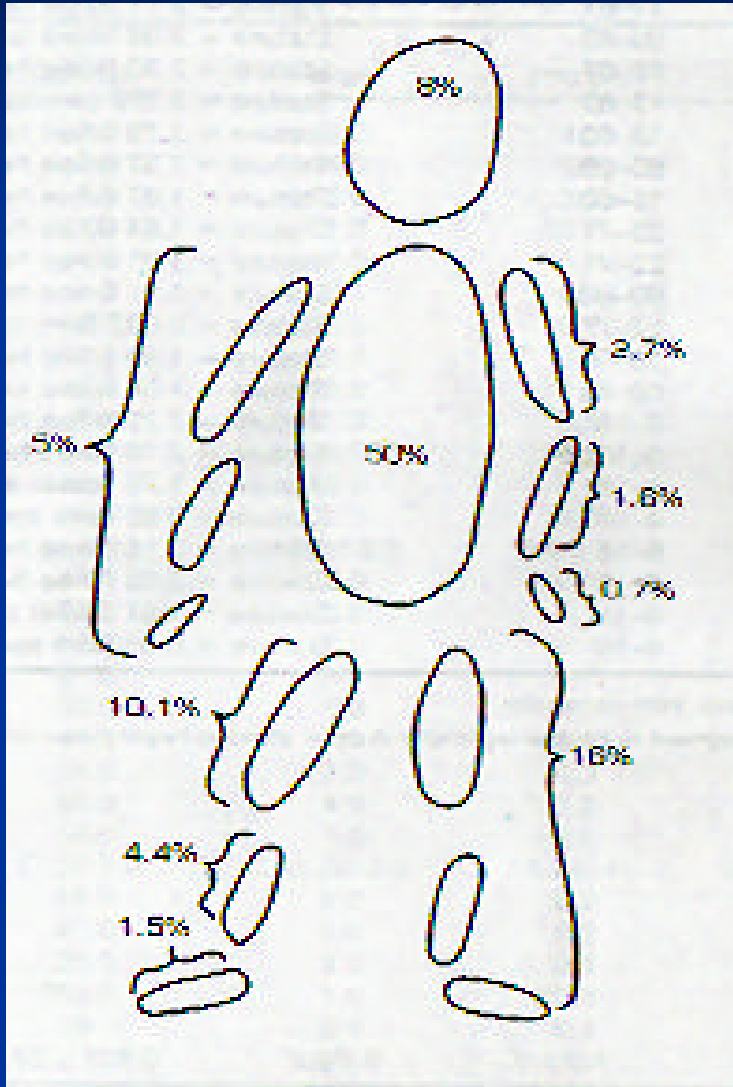
Considerations

- 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 ?