

# Role of Protein in Therapeutic Feeding and Food by Prescription

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# Objectives

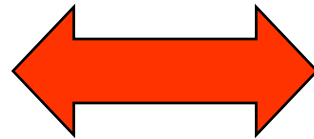
- List reasons for consideration of protein in food used for medical nutrition therapy
  - therapeutic feeding and food by prescription
- List the roles for protein in a therapeutic diet



# Defining Terms

- Food security and medical nutrition

**Food Security**



**Nutrition**

- Economic
- Social

- Malnutrition
- Disease



# Solutions/Treatments

- Food security – may include
  - food access
  - development
- Nutrition – may include
  - improved food security (general)
  - specific food/nutrient consumption (tailored)



# Normal Nutrition

- Normal eating:
  - Diverse quantities of different nutrients to satisfy physiological needs
  - With consideration to available foods and cultural habits



# Therapeutic Nutrition

- Foods and nutrients to improve nutrition
  - Solution for deficits, excesses, and alterations
- Examples:
  - Supplemental nutrients for deficiencies
    - Macro (calories) and micro (vitamins/minerals)
  - Correction of excesses and alterations



# Protein in Therapeutic Feeding

- Protein deficiencies
  - Inadequate dietary protein intake
  - Malabsorption (usually disease)
  - Increased losses
- Protein alterations
  - Increased use (infection, injury)



# Backing Up

- What we know in “simple starvation”
  - Losses are primarily fat
  - Regain with an emphasis on calories restores fat losses effectively
  - In severe weight loss, gradual regain of protein tissues



# Backing Up

- What we know in disease-related weight loss
    - Not just simple starvation\*
    - Preferential loss of muscle (body protein)
    - BMI is no longer a reasonable indicator
- \*starvation plays a role, but may not be the initiating problem



# Therapeutic Feeding

- The essence of therapeutic feeding is a tailored solution for a problem
  - If the problem is nutrient starvation (not enough consumed, malabsorption, greater losses), add nutrients accordingly
  - If the problem is alterations in the body's use, tailor the composition to assist recovery



# Food by Prescription

- Based on the idea that a balanced “foundation” is essential to all other medical nutrition efforts
- A very simplified solution and “1<sup>st</sup> step” to a very complex problem in chronic HIV infection – may not always provide the complete or best recovery



# Protein Role in Therapeutic and Prescriptive Foods

- Simplistic view: provide a balance within a food product provided
- Realistic view: provide solutions to more than “simple starvation”... but to recovery from infection-driven weight loss



# Past Research Support

- Protein store loss due to changes in protein use by the body is most associated with survival and predictive of death in chronic HIV
- Protein losses are greater in infection
- Emphasis on calories restores primarily fat



# Past Research Support

- Cancer-related wasting research suggest a role for emphasis on high-quality protein and lower emphasis on calories to more quickly restore crucial body proteins
  - Jump start of body protein restoration
  - Shorter term for potential clinical risk



# Protein Misfits

- Newly published research from SoCal
  - Weight stable and adequately consuming adults with HIV did not benefit from protein supplementation
  - Remember – there wasn't a deficit at baseline and there was already an “American diet” level of protein consumed



# Protein Fits

- Early recovery from protein wasting
- Balance vs. emphasis for types of weight loss and wasting
- Less contribution to consequences of rapid weight gain\*
- Sustainable body protein gains



