

**Nutrition and Medicine, 2006**  
**Tufts University School of Medicine**  
**Nutrition and the Elderly:**  
**Lecture Outline**

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- I. Demographics of the U.S. population
  - A. % over 65 years of age in the year 2030
  - B. Comparison of age distribution of the population - 1830 and 2030
  
- II. Evaluation of Dietary Intake of the Elderly US population
  - A. Nutrients of Greatest Risk
  - B. Implications
  
- III. Changes of Physiologic Function with Age - 5 Major Functional Changes
  - A. Hearing Acuity
  - B. Visual Acuity
  - C. Pulmonary Function
  - D. Cardiac Output
  
- IV. Metabolic Changes Associated with Aging
  - A. Body Composition
    - 1. Lean Body Mass
    - 2. % Body Fat
    - 3. Bone Mass
  - B. Glucose Tolerance
    - 1. Causes of Decreasing Glucose Tolerance
    - 2. Implications
    - 3. Treatment
  - C. Calcium Loss
    - 1. Causes
    - 2. Implications and Other Risk Factors of Osteoporosis
    - 3. Treatment of Osteoporosis
  - D. Decrease in Vitamin D Synthesis
    - 1. Causes
    - 2. Implications
    - 3. Treatment
  - E. Immune Function
    - 1. Role of Vitamin B<sub>6</sub>
    - 2. Role of Vitamin E
  - F. Cataracts
    - 1. Causes
    - 2. Role of Nutrition
  - G. Atrophic Gastritis
    - 1. Causes

2. Implications for Nutrient Absorption
  - H. Functional B<sub>12</sub> Deficiency and Neurological Symptoms in the Elderly
    1. Diagnosis
    2. Treatment
  - I. Elevated Serum Homocysteine and Possible Role in CVD
- V. Protein Calorie Malnutrition in the Elderly
  - A. Assessment and Identification
  - B. Implications
  - C. Treatment
- VI. Prevalent Nutrient-Drug Interactions in the Elderly
- VII. Psycho-social Factors that Influence Ill Health in the Elderly
- VIII. Theory of Misuse and Disuse in the Aging Process
  - A. Diet
  - B. Exercise - 6 positive effects of exercise on medical parameters
    1. Improves glucose tolerance
    2. Decreases post-prandial (after eating) serum glucose with the same glucose load
    3. Improves cardiac function
    4. Increases lean body mass
    5. Decreases percent body fat
    6. Decreases bone loss
  - C. Other Misuse
    1. Alcohol
    2. Drugs