

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

**Margo N. Woods, D.Sc.**

- I. Definitions of obesity
  - A. Body Fat
  - B. Body Weight
  - C. Body Mass Index (BMI)
  
- II. Measuring obesity, body weight, weight for height, and body fat
  - A. Assessment methods: availability, accuracy, sensitivity
  - B. Waist circumference vs. waist-hip ratio
  
- III. Status of obesity in U.S. and worldwide
  - A. Developed nations and developing nations
    - a. Urban, rural
    - b. Socioeconomic status
  
- IV. Energy Metabolism and determinants of body weight
  - A. Resting energy expenditure, thermic effect of feeding, and activity
  - B. Energy intake
  - C. Energy balance vs. imbalance
  - D. Substrate oxidation and storage
  - E. Vulnerable populations and Life stages
    - a. In utero, childhood/adolescence, pregnancy, menopause, retirement
  - F. What's genetic and what's environmental?
    - a. Hormonal changes
      - i. Pregnancy, menopause
    - b. Societal issues
      - i. Activity feasibility, fast food availability and portion sizes, marketing techniques, eating on the run
    - c. Medications
      - i. Psychiatric meds (anti-psychotics), corticosteroids
    - d. Personal time
      - i. Increases in work-related time demands, juggling multiple roles (mom/dad and parental care-giver, full-time employment, church)
  - G. Estimating energy needs - how much should we eat?
  - H. Implications for nutrition recommendations - what should we eat?
  
- V. Medical implications of obesity
  - A. Mortality

- B. Cardiovascular
- C. Metabolic
- D. Pulmonary
- E. Musculoskeletal
- F. Psychiatric, emotional and quality of life
- G. Economic burden
- H. Treatment Principles
  - a. Education
    - i. Dietary change
    - ii. Exercise and Physical activity
    - iii. Behavior
  - b. Emotional Support systems
  - c. Characteristics of “successful” weight reducing programs
- I. Implications for nutrition recommendations - what should we eat?
- J. Supplements, herbals, over the counter products
- K. Medications and surgical interventions
- L. What’s the prescription?