Chapter 5: Your Body Composition

Lesson 1: The basics of body composition

**Your body type:** bone size, muscle size, muscle mass & body fat % (fig 5.1 p. 148)

1. **Ectomorph**- low body fat %, small bone size, small muscle mass & size
2. **Mesomorph**- low-med body fat %, me-lg. bone size, lg. amount of muscle mass
3. **Endomorph**- ^ body fat %, lg. bone size, small amount of muscle size & mass

**Body weight**- you can control this

- teens need more calories than adults since they are still growing
- “too much emphasis on weight and not enough on lean body weight”

**Body mass index**- age, gender, height, weight (fig 5.2 p. 149 / “Teacher-Coach tips”)

**Body composition**- relative % in your body of fat to lean body tissue, water, bone & muscle

- **body fat**- most people want to lose fat, but your body does need fat in limited quantities

**essential fat**- minimum amount of body fat needed for good health

- Insulates your body against the cold
- Cushions your internal organs, protecting them from injury
- Provides you with a valuable source of energy (males 7-19% / females 12-24%)

**Body composition & your functional health & fitness**- (fig 5.4 p. 151)

- **Excessive leanness**- body fat % below acceptable range
- **Overfat**- too much body fat

Lesson 2: Influences on your body composition

- after infancy, your teen years are the most dramatic growth period

- **infancy & adolescence are the only times when the body develops new fat cells**

- the # of fat cells added during adolescence depends on body type

- ectomorphs less than endomorphs
- obese people have more and larger fat cells
- the size of the fat cells determines your body fat %

**Lifestyle behaviors**- “You are what you eat”

- extra calories stored as fat= ^ size of fat cells
- more active= more calories burned
**The energy equation**

- **calorie intake** (fig 5.5 p. 154) - calories per gram of nutrient

- **caloric expenditure** - process by which body converts calories from food to energy

  - **RMR (resting metabolic rate)** - calories burned during rest
    - how? Heartbeat, blood circulation, breathing

  **Factors**

  - **gender** - males have higher RMR than females
    - muscle burns more calories than fat
  
  - **age** - decreases with age

  - **heredity** - who you are

  - **eating habits** - eating several small meals stimulates your RMR,
    - digestion requires energy, Eating one meal per day can slow your RMR = weight gain

  - **eliminating calories** - below recommended values = slows RMR
    - tired, hungry all the time, low energy

  - **physical activity & exercise** - ^ RMR

**Weight control & physical activity**

- the #, size & weight of body parts that you work = larger muscles require more energy to work them

- intensity= more work requires more fuel

- duration= more active= burn more calories

**Lesson 3: Evaluating your body composition**

- **body circumference** - fat is stored differently *(males-waist / females- hips)*

- **body fat ratings** - fig 5.10 p. 161

- **best measure of body composition** p. 162 *(biomedical impedance 3%-6% error margin / underwater weighting is the most accurate at 1-3%)*

**Lesson 4: Maintaining a healthy body composition**

1. Evaluate your needs
2. Be realistic (lose 1-2 lbs per week or gain ½ lb per week)
3. Design a personal plan
4. Become physically active - 60 min per day
   a. Aerobic exercise - burn calories & lose fat
   b. Weight training - gain muscle = ^ RMR & burn more calories
5. Keep track of progress

**Nutrition & physical activity**

- the most effective way to lose weight is through nutrition & physical activity
- reduce calories & increase calorie expenditure through physical activity

- **eat nutrient dense foods** - high in nutrients / low in calories

- “More About” p.165 / Fitness Facts p.166 / Teacher Coach Tips p.166

**Benefits of achieving your goals - must be persistent & patient**

- ^ energy, ^ self-esteem, reduce stress levels, reduce risk of developing diseases