

## 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