

## XI. HYGIENE OF MUSCULAR AND BONY SYSTEMS

The evolution of the bony systems made possible the functioning of the muscles for the purpose of locomotion. Coupled with the development of the nervous system animals became distinguished from and superior to plants. For we now associate plants with unconsciousness and immobility and animals with consciousness and movement.

Modern civilized life with its tendency to sedentary habits demands proper adaptation of our personal hygiene programs. The purpose of this section is to outline the relation of hygiene to muscular and bony systems.

### 1. Exercise

#### a. Beneficial Effects of Rational Exercise

Williams has summarized the benefits of a rational program of exercise.

- (1) Increased circulation local or general
- (2) Increased respiration
- (3) Increased elimination through kidneys, lungs, intestines, and skin.
- (4) Increased metabolic activity
- (5) Increased neural activity

#### b. Adaptation of Exercise to Individual

Exercise should be adapted to the age, sex, and occupation of the individual.

- (1) Exercise for children
- (2) Exercise for adolescents
- (3) Exercise for adults
- (4) Exercise for middle aged
- (5) Exercise in relation to occupation

#### c. Regulation of Exercise

The proper regulation of the exercise involves the selection of the forms of exercise and the extent to which it shall be carried. Rational exercise should not produce undue fatigue, muscle soreness or muscle stiffness.

#### d. Danger Signals in Exercise

- (1) Muscle soreness
- (2) Fatigue - A reasonable amount of fatigue is a desirable result of exercise. Excessive fatigue either acute or chronic is a danger signal of over exercise.

#### Forms of Fatigue

- (a) Acute
- (b) Chronic