

ROOTS AND HISTORICAL PERSPECTIVE

I. Exercise Physiology

A. A Sub-Discipline of Physiology

1. Physiology - Study of how the body functions
2. Exercise Physiology - Study of how the body adapts physiologically to the acute stress of exercise, physical activity or the chronic stress of physical activity. In this context an exercise physiologist must have a general understanding of the scientific basis underlying exercise-induced physiological responses.

II. Recent History of the Field

A. 20th Century

1. Field has evolved extensively since the beginning of the early 20th century.
2. Due to an increased interest in exercise and health within the professions of physical education, physiology and medicine, especially cardiology.
3. Two interrelated activities - 1) Development and measurement of physical fitness and 2) the physical training and rehabilitation of soldiers, along with other types of military research, served as common areas of interest for all three professional groups from World War I onward.

III. Harvard Fatigue Lab

1. First “true” exercise physiology laboratory
2. Organized in the Business School at Harvard in 1927 to conduct physiological research on industrial hazards.
3. Only director of lab was DB Dill who ran lab from the time it opened in 1927 to 1947.
3. Work of Lab
 - a. Over a 20 yr. period, at least 352 research papers were published in areas of basic and applied exercise physiology.
 - b. These studies provided the cornerstone for exercise physiology as we know it today.
 - c. The HFL attracted scientist and doctoral students from around the world who formed the next great generation of scientists who published many of the landmark studies over the past 50 years.
 - d. **OVERHEAD**
 1. **General work**
 - e. Lab disbanded in 1947 and these scientists were distributed throughout the world.

IV. Research in Exercise Physiology

A. Responses to exercise

1. acute
2. chronic
 - a. training
 - b. types of training
 - c. mode of training

B. Areas of investigation

1. **SEE OVERHEAD - TABLE 5**

V. What does an Exercise Physiologist do?

A. Research

B. Community organizations

1. Many YMCA's and similar organizations conduct scientifically-based exercise programs for health maintenance, cardiac risk-factor reduction and rehabilitation.

C. Commerce and Industry

1. More and more corporations are recognizing the value of employee fitness programs and employ people trained in the area of adult fitness
2. Commercial opportunities related to health and fitness evaluation,

exercise prescription and overall program management are also found in spas, health clubs and recreation centers.

D. Rehabilitation Programs

1. Cardiac rehabilitation programs, respiratory therapy and physical therapy centers are starting to employ exercise physiologists.
2. Opportunities in this area of employment may focus on preventative medicine as well as the treatment of established diseases.

E. Competitive Sports Programs

1. Sports medicine clinics and athletic teams employ physical therapists, physical trainers and athletic trainers to help in the prevention and rehabilitation of athletic injuries.
2. Workers in these areas are becoming increasingly well-versed in exercise physiology.
3. Individuals well-acquainted with the principles of exercise physiology are also being sought for various sports-related areas of employment.

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Two interrelated activities contributed to developing the discipline:

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B. Areas of investigation