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## 【Review Article】

# Occupational Health and Physical Fitness Science

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### Abstract

History suggests that research in physical fitness and exercise physiology has developed in conjunction with research in occupational health. However, in recent years, the issues of workers' physical fitness are not treated as a crucial aspect in occupational health studies. Currently in Japan, we face a serious national issue referred to as our aging and declining population society. In this type of society where the relative number of workers is declining, workers' health should be one of the most important concerns for both employers and the government. There is an increased need in Japan to maintain workers' health and extend the years leading up to retirement from the workforce; for this reason, research in physical fitness will again play a significant role in occupational health issues.

Although people generally understand the importance of regular exercise, finding time for exercise during non-work (leisure) hours is difficult in our time-pressed society. On the other hand, many workers spend large parts of their waking hours in sedentary behavior. A new way to approach this problem may be through the study of astronauts' health issues. Although this is not a common topic in occupational health, this field may provide clues to solving life-related disease issues because aspects of the microgravity environment can be compared to a physically inactive society. Astronauts must schedule enough time for exercise despite their extremely busy schedules because a decline in physical fitness can quickly become life threatening in their environment. Although the effect may take longer to manifest in ordinary individuals in our society, many epidemiological studies show that a decline in physical fitness is strongly related to increased morbidity and mortality risks. Promoting health within the workplace, as demonstrated by astronauts, will be key to maintaining workers' optimal health during an increased number of working years.

**Key words:** cardiorespiratory fitness, microgravity environment, physical inactivity, workplace health promotion

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