



EXERCISE PHYSIOLOGY-PRESENT & FUTURE

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Abstract

Exercise Physiology emerged from so-called work physiology and industrial hygiene as the physiological demands of manual labor and their economic consequences were considered during the later 1800s. At the same time social movements focused on improving working conditions for laborers emerged. In the early part of the 20th century work physiologists became increasingly interested in human performance including the study of elite athletes. During the second half of the 20th century the negative health consequences of inactivity emerged via epidemiological studies leading to an intellectual marriage between exercise physiology and epidemiology. In the early 21st century many of these trends continue and have been amplified by concerns about aging individuals and populations along with a global pandemic of obesity. As the 21st century continues the role of exercise, physical activity and the study of exercise physiology will be critical to address these challenges in both an individual and societal context.

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Michael J. Joyner, M.D., is the Caywood Professor of Anesthesiology at Mayo Clinic where he was named Distinguished Investigator in 2010. His interests include: exercise physiology, blood pressure, metabolism, and transfusion practices. He has also explored the limits of reductionism in biomedical research with specific expertise on how physiological redundancy and adaptations buffer the effects of genotype on phenotype. He attended the University of Arizona with residency training at Mayo. His lab has been funded by NIH since 1993, and former fellows have established independent research programs at leading institutions throughout the world. He has held leadership positions at Mayo, in the extramural research community, and with leading journals.