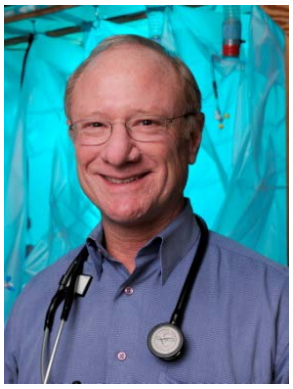

THE ATHLETE'S HEART: FRIEND OR FOE?

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Abstract

Everyone knows that exercise is beneficial. But what is the right “dose”, and is it possible to get “too much” exercise? The return of the Olympic Games to Japan in 2020 will highlight both the virtues and the potential vices of extraordinary exercise training. This talk will discuss what characteristics of cardiovascular structure and function distinguish elite athletes of all ages, and attempt to identify the best “dose” of exercise to maximize cardiovascular health. In this context, the question of whether it is possible to “overdose” on exercise and actually hurt the heart will be discussed.

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BENJAMIN D. LEVINE M.D. is the founder and Director of the Institute for Exercise and Environmental Medicine (IEEM) at Texas Health Presbyterian Hospital Dallas where he also holds the S. Finley Ewing Chair for Wellness and the Harry S. Moss Heart Chair for Cardiovascular Research. He is Professor of Internal Medicine/Cardiology and Distinguished Professor of Exercise Sciences at the University of Texas Southwestern Medical Center. Dr. Levine earned his B.A. magna cum laude in human biology from Brown University and his M.D. from Harvard Medical School. He completed his internship and residency in internal medicine at Stanford University Medical Center followed by a cardiology fellowship at UT Southwestern where he trained under the renowned cardiovascular physiologists Gunnar Blomqivst, M.D. and Jere Mitchell, M.D. Dr. Levine founded the IEEM in 1992 which has become one of the premier laboratories in the world for the study of human clinical and integrative physiology. His global research interests center on the adaptive capacity of the circulation in response to exercise training, deconditioning, aging, and environmental stimuli such as spaceflight and high altitude. A Henry Luce Foundation and Fulbright Scholar, he received the Peter van Handel Award from the United States Olympic Committee (for outstanding research), the Research Award from the Wilderness Medical Society, the Honor Award from the Texas Chapter of ACSM, and the Citation Award from the National ACSM for his body of work. A consummate clinician and teacher as well as a scholar, he was elected to the Association of University Cardiologists, received the Michael J. Joyner International Teaching Award from the Danish Cardiovascular Research Academy, and has been selected as one of the “Best Doctors” for cardiovascular medicine in Dallas and America by his peers. Dr. Levine has an unique background in space medicine, serving as a co-investigator on 4 Spacelab missions (SLS-1, SLS-2, D-2 and Neurolab), the MIR space station, and is currently the PI of a large cardiovascular experiment on the ISS, called the

“ICV”. He has a long, sustained track record of funding by the NIH, NASA and the National Space Biomedical Research Institute (NSBRI), for which he became Team Leader of the Cardiovascular Section in 2007 and he currently advises NASA’s flight surgeons on cardiovascular medical issues.

Dr Levine has published 306 peer-reviewed journal articles, reviews, book chapters, and technical papers, and is currently serving on the editorial boards of numerous journals, Dr Levine is a fellow of the American Heart Association, American College of Sports Medicine (ACSM), and the American College of Cardiology, former VP and member Board of Trustees of ACSM, a member of the Board of Directors of the American Autonomic Society, elected member of the Association of University Cardiologists, and elected member of the prestigious medical society the Association of American Physicians.