

Seminar series offers deep dive on exercise and the heart

September 5 2022



Credit: Unsplash/CC0 Public Domain

The *Journal of the American College of Cardiology* has issued a four-part focus seminar series on sports cardiology and of the impact of physical activity, cardiorespiratory fitness and exercise training on the general

U.S. population and professional athletes' cardiovascular health.

"The field of sports cardiology is a well-established but still rapidly evolving subspecialty," said Jason C. Kovacic, professor at the Icahn School of Medicine at Mount Sinai and author of the accompanying introduction article to the focus seminar series. "Given the mounting interest in sports cardiology, its key relevance to all cardiovascular practitioners, and the knowledge explosion in this field, we felt it was particularly timely to pay special attention to this broad topic with a *JACC* Focus Seminar series."

Exercise for primary and secondary prevention of cardiovascular disease

In the first part of the focus seminar series, the authors highlight the need for [regular exercise](#) to meet or exceed the current physical activity guidelines for reducing cardiovascular risk in the general U.S. population. The most recent World Health Organization guidelines recommend that adults perform at least 150 to 300 minutes of moderate-intensity [aerobic exercise](#) per week, 75 to 150 minutes of vigorous-intensity aerobic [exercise](#) per week and two days of muscle strengthening exercises. Only 53% of U.S. adults currently meet the recommendations for aerobic exercise, and only 22% meet recommendations for combined aerobic and muscle strengthening exercises.

The authors said that long-term aerobic exercise training is associated with changes in cardiac morphology; exercise training can also increase blood circulation and improve CVD risk factors such as insulin resistance, blood pressure, dyslipidemia and obesity.

Heart failure with preserved ejection fraction as an

exercise deficiency syndrome

In part two of the focus seminar series, the authors said that previous research has found that exercise has long been recognized to contribute to a reduced risk of heart failure and mortality. The authors hypothesize that cardiovascular fitness and [heart failure](#) with preserved ejection fraction (HFpEF) are inversely related; the impacts of a sedentary lifestyle, combined with aging and other comorbidities, may contribute to the onset of HFpEF. Heart failure rates begin to increase by age 60, and sedentary lifestyle habits may have already been formed by this age.

Increasing physical activity is associated with greater cardiac mass, stroke volumes, cardiac output and peak oxygen consumption, and overall fewer clinical events. Exercise and cardiorespiratory fitness training can contribute to a better quality of life and can be used as a preventative measure to avoid developing HFpEF.

Athletic activity for patients with hypertrophic cardiomyopathy and other inherited cardiovascular diseases

Individuals with inherited cardiovascular diseases, such as [hypertrophic cardiomyopathy](#) (HCM), have historically been restricted from competitive sports due to risk of sudden cardiac death. The current *2020 AHA/ACC Guideline for Hypertrophic Cardiomyopathy* found that clinician-patient shared decision-making can be used to determine whether an athlete with HCM can safely participate in sports.

In the third part of the *JACC* focus seminar series, the authors said that, based on previous studies, individuals with HCM or other inherited CVD should develop a personalized approach to exercise and competitive sports with their clinician.

The athlete's heart—challenges and controversies

In the final part of the *JACC* focus seminar series, the authors discuss whether the effects of exercise are always beneficial and protective in [professional athletes](#), how exercise-induced cardiac remodeling (also known as "athlete's heart") can contribute to the development of arrhythmias and address the knowledge gap between male and female athletes' cardiovascular health. Regular exercise can promote remodeling of the heart, and significant remodeling is rarely associated with adverse clinical affects, such as atrial fibrillation or other arrhythmias. The authors highlight how extreme cases of athlete's heart could potentially evolve into cardiovascular disease.

More information: Exercise, Cardiovascular Disease, and the Athlete's Heart, *Journal of the American College of Cardiology* (2022). [DOI: 10.1016/j.jacc.2022.07.022](https://doi.org/10.1016/j.jacc.2022.07.022)

Provided by American College of Cardiology

Citation: Seminar series offers deep dive on exercise and the heart (2022, September 5) retrieved 26 April 2024 from <https://medicalxpress.com/news/2022-09-seminar-series-deep-heart.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--