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Former male elite athletes have better metabolic health in late life than their controls.

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Abstract

Elite-class **athletes** have longer life expectancy and lower risk for **chronic** noncommunicable diseases possibly because of physically active and healthier lifestyle. In this study, we assessed former male Finnish elite-class **athletes**' (n = 392) and their matched controls' (n = 207) body composition, and risk for the metabolic syndrome (MS) and nonalcoholic fatty liver **disease** (NAFLD) in later life. Compared with the controls, the former **athletes** had lower body fat percentage (24.8% vs 26.0%, P = 0.021), lower risk for MS [odds ratio (OR) 0.57, 95% confidence interval (CI) 0.40-0.81], and NAFLD (OR 0.61, 95% CI 0.42-0.88). High volume of current leisure-time physical activity (LTPA) was associated with lower body fat percentage (P for trend < 0.001). When current volume of LTPA increased 1 MET h/week, the risk of MS and NAFLD decreased (OR 0.99, 95% CI 0.98-0.99 and OR 0.97, 95% CI 0.96-0.98, respectively). Although a career as an elite-class athlete during **young adulthood** may help to protect from developing metabolic syndrome, present exercise levels and volume of LTPA seem equally important as well.

KEYWORDS: Adipose tissue; exercise; fat-free mass; liver; metabolic profile

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