

Do your arteries get old as your fitness declines?

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Advancing age is a major risk factor for cardiovascular diseases and leads to changes in vascular structure and function. Generally, the representative markers of vascular aging are arterial stiffness, intima-media thickness, and vascular calcification. Healthy lifestyle is a critical component to protect from vascular aging and the age-related vascular dysfunction. Cardiorespiratory fitness (fitness) is a physiological biomarker of cardiopulmonary and muscular system integrity that is reflective of physical activity behavior that has a strong protective effect against cardiovascular mortality in young and older populations. Physiologically, levels of fitness, like vascular aging, gradually decline with advancing age, while advancing aging also leads to a deterioration of vascular structure and function. Thus, fitness is just as powerful as vascular aging in predicting cardiovascular disease, and declines of fitness with age can be considered a sign of vascular aging. Several studies suggested that higher fitness delays the development of large elastic artery stiffness, intima-media thickening and vascular calcification with advancing age. Therefore, improving or maintaining relatively higher fitness level based on the value of age-specific VO_{2peak} may serve as an effective approach to prevent or attenuate the age related vascular dysfunction.