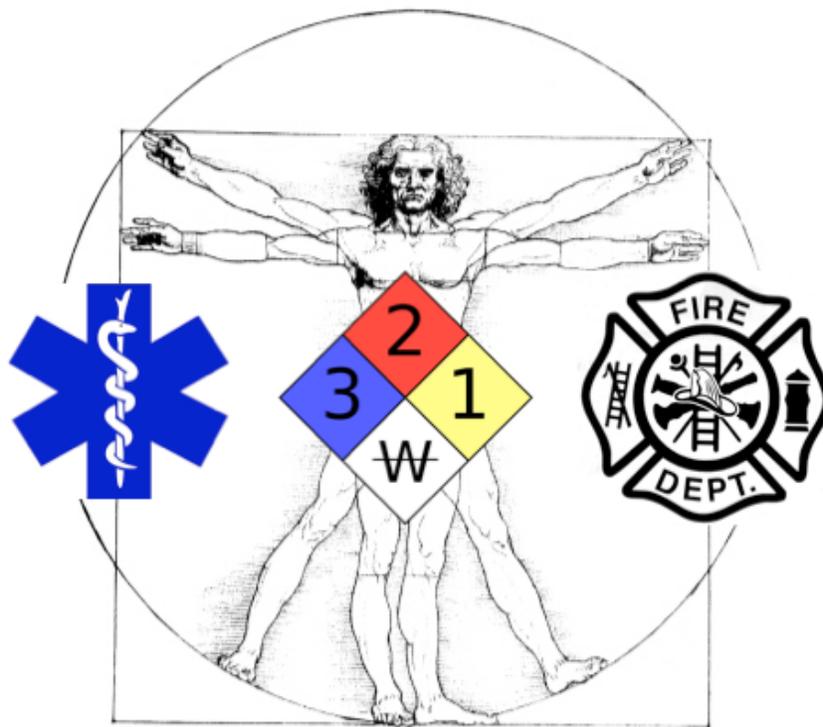

Its all about clean living

A review of Lifestyle Factors Predicting Changes in Aerobic Capacity of Aging Firefighters at 3- and 13- year Follow-Ups. Original article written by: A Punnakalio et al. J Occup Environ Med. 2012 Sep;54(9):1133-41.

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The research summary was crafted by Sara Paul, ERHPL intern.



www.firefighterresearch.org

Introduction

Firefighting and rescue work is physically demanding and performed in extreme environmental conditions. Sufficient aerobic capacity is crucial for safe and efficient work performance on the fireground. Additionally, use of fire protective clothing, equipment, breathing apparatuses, and heavy tools increase the demand of physical work capacity. After age 45, there is a progressive decrease in aerobic capacity. It is important to understand the specific lifestyle factors that promote aerobic fitness among aging firefighters.

What the study did

This study assessed 78 male Finnish firefighters aged 30 to 44 years at baseline in 1996. These baseline measurements included a questionnaire and examination of physical work capacity when wearing fire protective equipment. The questionnaire was used to determine the predictive lifestyle factors such as exercise, smoking, and drinking habits. Physical capacity was measured by obtaining aerobic capacity during an incremental exercise test on a bicycle ergometer. The first follow up occurred 3 years later in 1999, and the second follow up occurred 13 years later in 2009.

What the study reported

The aerobic capacity of firefighters in both age groups (30-34 and 40-44) decreased on average during the 3 and 13 year follow ups. The decline was more significant in the younger subjects for the 3 year follow up, however, the decline was slightly greater among the older firefighters than the younger firefighters. Among the younger and older subjects, regular exercise (at least 4 to 5 times a week) was the most significant protective factor against the decrease in aerobic fitness. Additionally, more than 15 drinks of alcohol per week and smoking was a significant risk factor for the decline in aerobic capacity 13 years later.

What it means for the fire service

It is crucial the firefighters stay fit throughout their career. The decline in aerobic capacity in older firefighters after the 13-year follow up is about the same as the general population. However, this decline is too high for the heavy job demands of firefighting. Regular exercise, however, slowed down the decrease in aerobic fitness. 42% of these firefighters did not reach the minimum aerobic fitness level required for firefighting. When aerobic fitness is not sufficient for these strenuous tasks, the firefighter experiences chronic overloading which may precipitate a heart attack. Regular exercise, health screening, and cardiorespiratory fitness assessments are highly recommended for firefighters.

