

TEXAS AMERICAN COLLEGE OF SPORTS MEDICINE 2009 CONFERENCE

Association of Aerobic Fitness and Metabolic Syndrome in Male Firefighters

Christina Durcan, S.E. Martin, B.S. Lambert, N.P. Greene, Jennifer M. Markos, A.F. Carbuhn, J.S. Green, S.F. Crouse

Texas A & M University

Int J Exerc Sci 2(1): S43, 2009. Metabolic syndrome has been shown in numerous studies to be related to a higher incidence of coronary artery disease. A study by R. Jurca et.al., in *Med. Sci. Sports Exerc* 36(38), found a relationship between aerobic fitness and the prevalence of metabolic syndrome in a group of men enrolled in the Aerobics Center Longitudinal Study. Information on this relationship in male firefighters is currently lacking. Purpose: To determine the association of metabolic syndrome and aerobic fitness in male fire fighters. Methods: As part of an annual physical exam, 213 male fire fighters (average age = 37) underwent evaluation of risk factors associated with metabolic syndrome as defined by NCEP III. These include the presence of three or more of the following: Waist circumference > 40", HDL Cholesterol < 40 mg/dL, Triglycerides > 150 mg/dL, Blood Glucose > 110 mg/dL, and resting blood pressure > 130/85 mm Hg. Aerobic Fitness was determined by estimating VO₂max from time on treadmill during a Bruce protocol. Results: The subjects were ranked and divided into quartiles based on VO₂max. All data were analyzed using a Chi Square test ($p < .05$). Prevalence of metabolic syndrome increased significantly across quartiles as aerobic fitness declined. Conclusion: The data suggest that as aerobic fitness improves, the likelihood of male firefighters having metabolic syndrome decreases. These data are similar to the results found by R. Jurca et.al.

