

# Big NFL players are prone to high blood pressure

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Despite being larger in size and heavier in weight, an analysis of the cardiovascular disease risk factors of about 500 National Football League players finds that overall, they have a similar cardiovascular risk profile compared to the general population. The NFL population was found to have a lower incidence of impaired fasting glucose and similar prevalence of abnormal cholesterol and triglyceride levels as compared to a sample of healthy young-adult men, but have an increased prevalence of high blood pressure, according to a study in the May 27 issue of *JAMA*.

Concern exists about the cardiovascular health implications of large size among professional football players and those players who aspire to professional status. A significant increase in body mass index (BMI) for offensive and defensive linemen has been noted during the past 30 years, and BMI fitting the category of class II obesity was reported in more than a quarter of National Football League (NFL) players in 2003, according to background information in the article. Greater player size and sporadic deaths of active and young retired professional football players have raised questions about an associated increase in cardiovascular disease (CVD) risk.

Andrew M. Tucker, M.D., of Union Memorial Hospital, Baltimore, and colleagues conducted a study to compare the prevalence of CVD risk factors in NFL players with men of the same age in the general U.S. population. The study included 504 active, veteran football players from a sample of 12 NFL teams. Data collected during team mini-camps

between April and July 2007 included health histories; height; weight; neck, waist, and hip circumferences; body composition; fasting glucose; total cholesterol, low-density lipoprotein cholesterol (LDL-C), high-density lipoprotein cholesterol (HDL-C), and triglycerides; blood pressure; pulse; and electrocardiograms. Data were compared with men of the same age in the general U.S. population who were participants of the Coronary Artery Risk Development in Young Adults (CARDIA) study, which included 1,959 participants age 23 to 35 years.

The NFL players were taller and heavier than the CARDIA group. The researchers found that despite their larger size, the NFL group had lower average fasting glucose levels and a significantly lower prevalence of impaired fasting glucose (6.7 percent vs. 15.5 percent) compared with the CARDIA group. Between the two groups, there were no significant differences in the prevalence of high total cholesterol, high LDL-C, low HDL-C or high triglycerides. Also, the NFL players were less likely to smoke when compared with the CARDIA group (0.1 percent vs. 30.5 percent).

The NFL players did have a significantly higher prevalence of hypertension (13.8 percent vs. 5.5 percent) and prehypertension (64.5 percent vs. 24.2 percent) compared with the CARDIA group. Of the 504 NFL players, seven were taking antihypertensive medication currently or in the past month, three of whom were identified as having hypertension only by their medication use.

"This unexpected prevalence of prehypertension and hypertension has led to plans for an NFL-wide survey and in-depth investigation of the mechanisms of these findings. Proposed areas for investigation include strength and resistance training, long-term use of nonsteroidal anti-inflammatory drugs, salt intake, and sleep disordered breathing," the authors write. They suggest the high levels of physical activity in the NFL sample is probably important in lessening the effect of large size on

some of the measured cardiovascular risk factors.

Source: JAMA and Archives Journals

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