



NEWS

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Saint Luke's researchers examine cardiovascular risk factors in athletes

Some professional football players at higher risk

KANSAS CITY, Mo. – Some active NFL players should pay attention to signs of cardiovascular disease and undergo interventions to reduce their risk, according to new research published by a group of physicians at Saint Luke's Hospital in the April 1 *American Journal of Cardiology*.

Past media reports have suggested that retired football players were more than twice as likely to die before the age of 50 than professional baseball players. Studies have indicated that the heavier linemen – tackles, guards, centers, and defensive ends – had a 52 percent higher risk of dying of heart disease than the general population. In addition, linemen were three times more likely to die from heart disease as non-linemen.

However no studies have analyzed risk factors in current players, whose average weight has increased 10 percent since 1985 to an average of 248 pounds in 2006. Therefore, Saint Luke's researchers gathered data from 69 NFL players aged 21 – 35 years for signs of cardiometabolic syndrome, a cluster of interrelated risk factors that contribute to heart and vascular disease. Blood pressure, fasting glucose, triglycerides, waist circumference, HDL cholesterol, waist-height ratio, and triglycerides/HDL ratio were obtained and compared to men from the general population aged 20-29 years in the National Health and Nutrition Examination Survey (NHANES). Linemen and non-linemen were further compared with the reference population.

The findings showed that the players overall had a similar presence of cardiometabolic syndrome compared with the reference group. Linemen, however, had a significantly higher prevalence of the cardiometabolic syndrome compared with nonlinemen.

“Physical activity and exercise do not necessarily protect football players, particularly the heavier linemen, from developing the cardiometabolic syndrome,” said Michael Selden, M.D., a co-author of the research. Dr. Selden is a third year gastroenterology fellow, completing his training in digestive diseases.

Because BMI (height-weight ratio) alone may not be an accurate measure of obesity in muscular athletes, researchers included waist circumference and waist-height ratios as more accurate predictors of cardiovascular disease in this group.

“Current players, particularly the heavier linemen found to be at higher risk of future cardiovascular complications, should be carefully monitored and undergo interventions to reduce their risk,” said John Helzberg, M.D., an additional co-author of the study. Dr. Helzberg is the digestive disease co-director at Saint Luke’s Hospital for the combined University of Missouri Kansas City - Saint-Luke’s gastroenterology training program. The authors are now evaluating the association of cardiometabolic risk factors with fatty liver disease, an early manifestation of visceral obesity.

Study authors from Saint Luke’s included Michael Selden, M.D., John Helzberg, M.D., Jon Browne, M.D., Joseph Brewer, M.D., Fengming Tang, MS, and James O’Keefe, M.D. Other authors included Joseph Waeckerle, M.D., and Michael Monaco, M.D.

Saint Luke's Health System consists of 11 area hospitals and many primary care practices, and provides a range of inpatient, outpatient, and home care services. Founded as a faith-based, not-for-profit organization, our mission includes a commitment to the highest levels of excellence in health care and the advancement of medical research and education. The health system is an aligned organization in which the physicians and hospitals assume responsibility for enhancing the physical, mental, and spiritual health of people in the metropolitan Kansas City area and the surrounding region.

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