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Embargoed for release until Saturday, January 27 at 12:30p.m.

### **LIVING AND PLAYING LARGE INCREASES CARDIOVASCULAR RISK** *NFL Linemen at Higher Risk of Heart and Related Ailments,* *Large Study of Retired Players Suggests*

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**AT A GLANCE**

- Weighing 300 to 350 pounds, NFL linemen are at high risk for developing a syndrome that predisposes them to cardiovascular disease and puts them at risk of heart attack and stroke, suggests a study of more than 500 retired players, which is being presented at ISET.
- More than half of retired linemen have metabolic syndrome, a group of risk factors that include abdominal obesity, high blood pressure, high blood sugar, high triglycerides and low HDL (good) cholesterol.
- More than a third of linemen have enlarged hearts and as many as 75 percent suffer from obstructive sleep apnea.
- Cardiovascular disease is the number one killer of Americans, and approximately 50 million suffer from metabolic syndrome.

HOLLYWOOD, Fla. – After retirement, National Football League (NFL) linemen – generally the heaviest players – are more than twice as likely as other football players and the general population to have a syndrome that puts them at risk for heart disease, stroke and other cardiovascular diseases, suggests research being presented at the 19<sup>th</sup> Annual International Symposium on Endovascular Therapy (ISET).

More than half of all retired NFL linemen have metabolic syndrome, in

which a person has three or more of the following conditions: abdominal obesity, high blood pressure, high blood sugar, high triglycerides (blood fats) and low HDL (good) cholesterol.

They are also more likely to have enlarged hearts and suffer from obstructive sleep apnea, according to scientifically rigorous data based on extensive cardiovascular testing of more than 550 retired professional football players during the past three years.

“Large body size is a major risk factor for cardiovascular disease, and football players – particularly linemen – are getting bigger and bigger,” said Arthur “Archie” Roberts, M.D., who will present data that was gathered by the Living Heart Foundation (LHF), which he founded. A former professional football player and retired heart surgeon, Dr. Roberts started the foundation to publicize the importance of cardiovascular health. “When I played football in the 1960s, the average lineman weighed 260 to 270 pounds. Now linemen often weigh more than 300 pounds, and many weigh 350.”

Another 60 retired NFL players – most of whom have come to attend Super Bowl XLI – will be tested Wednesday and Thursday at Baptist Cardiac & Vascular Institute in Miami, and at the offices of the South Beach Preventive Cardiology Group in Miami Beach. Data collected will be added to that from the more than 900 total retired NFL players that Dr. Roberts’ team has screened to date. The three-hour screening process includes health education and more than a dozen tests, such as heart monitoring, blood pressure measurements and blood tests, to determine the retired player’s risk of cardiovascular disease, including heart attack and stroke. New to this screening is the calcium scoring test, which involves using computed tomography (CT) to look for calcium buildup inside the arteries, a sign of cardiovascular disease. Baptist Cardiac & Vascular Institute will be the first to perform this test for the Foundation. About 40 additional players will be scanned at the Institute throughout 2007.

Of the 900 players screened by the Foundation during the last three years, information gathered on 550 has been analyzed with the following results:

- More than half of retired NFL linemen (52.5 percent) have metabolic syndrome, compared to a little more than one in five (22.2 percent) retired football players who played other positions, and the overall population (21.8 percent). Linemen also had a higher rate of diabetes, thicker heart walls and a greater rate of obesity and high blood pressure.
- Retired NFL linemen are 54 percent more likely to have enlarged hearts than non-linemen retired NFL players: 36.9 percent of linemen had enlarged hearts compared to 24.5 percent of non-linemen. In this assessment, the definition of an enlarged heart is a left ventricular mass of more than 125g/meter squared. Athletes typically have enlarged hearts due to intense conditioning, but it is thought their hearts return to normal size after their playing days are over. This new research suggests otherwise. An enlarged heart may persist and be a risk factor for cardiovascular disease.
- Obstructive sleep apnea – in which a person stops breathing repeatedly while sleeping – occurs in three of four retired linemen (75 percent), half of all retired football players (50 percent), and only 7 to 10 percent of the overall population. Those who suffer from sleep apnea awaken often during the night and get less oxygen to the blood than is required. This puts them at greater risk for mental confusion, stroke, heart attack, daytime drowsiness and high blood pressure.

The Living Heart Foundation study is the first scientifically rigorous study of cardiovascular risk in retired football players. The average age of the retired players in the study is 52.

After retiring as a heart surgeon, Dr. Roberts founded the Foundation in 2001 in Little Silver, N.J., to educate people regarding the significance of cardiovascular disease, to perform screenings and to develop lifestyle programs to combat the disease. He was a practice and backup quarterback in the NFL for three years from 1965 to 1967, including two years with the Cleveland Browns and one year with the Miami Dolphins, while concurrently attending medical school.

In addition to their large body size, linemen face other challenges that put them at increased risk of cardiovascular disease, said Dr. Roberts. Often injured, they develop arthritis and persistent joint problems, which make exercise increasingly challenging, if not impossible. Consequently, as they age, football players can't exercise easily because their old injuries continue to bother them more, said Dr. Roberts. They're also used to eating large amounts of food, a habit that is difficult to break after they retire, he said.

Curiously, Dr. Roberts has learned that weight management following football is very important. "Those players that were large and lost weight tended to do better, while other players that were not so big while playing but put on weight in later years may do worse, from a health perspective," he said.

"The Foundation's mission is to help them understand that these are the problems related to their occupation and to show them ways to prepare for and overcome these potential health problems as they age," said Dr. Roberts. "There is a concerted effort to have the players follow up with their doctors when necessary to help build healthier lifestyles. It is also helpful if they go through the LHF screenings as a group of former players, supporting one another, sharing wellness goals."

“Highlighting that some football players are at higher risk for cardiovascular disease is a great way to bring attention to an important health topic,” said Barry Katzen, M.D., founder and medical director of Baptist Cardiac & Vascular Institute. “And

football players aren't unique. Cardiovascular disease is the country's number one killer, and some 50 million Americans have metabolic syndrome, which increases their risk of heart disease. Anyone who has health issues such as excess abdominal fat and high blood pressure needs to be aware that they are at risk for heart disease and should consult a doctor about lifestyle changes and treatments, many of which are minimally invasive.”

Considered to be the premier meeting on endovascular therapy, the International Symposium on Endovascular Therapy (ISET) is attended by more than 1,200 physicians, scientists and industry professionals from around the world. The meeting pioneered the use of live cases to promote the multidisciplinary treatment of vascular disease. ISET is presented by the Baptist Cardiac & Vascular Institute, Miami.

The Living Heart Foundation (LHF) is a nonprofit organization established to combat cardiovascular disease and provide risk stratification for cardiac, pulmonary, and metabolic conditions through on-site screening and integrated health programs. LHF has been dedicated to providing these services to specific groups that traditionally have been overlooked, especially high school, college and professional athletes. The LHF screening team includes investigators from the Mayo Clinic and is supported by the Mount Sinai School of Medicine, New York, as well as a national faculty of cardiovascular experts. The Siemens Medical Group has also provided the study team with specialized imaging equipment and technical support.

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