

Retired NFL players at higher risk for mild cognitive impairment

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Retired NFL football players are at higher risk for mild cognitive impairment, which can be a precursor to Alzheimer's disease, a Loyola University Health System study has found.

A screening survey of 513 retired players and their wives found that 35 percent of the players had scores suggesting possible [mild cognitive impairment](#) (MCI). Their average age was 61.

"It appears there may be a very high rate of [cognitive impairment](#) in these retired football players, compared to the general population in that age range," said [neuropsychologist](#) Christopher Randolph, PhD.

Randolph presented his findings at the Alzheimer's Association International Conference 2011 in Paris.

Persons with MCI have problems with memory, language or another mental function. Such problems are noticeable to themselves or others, and show up on tests, but are not severe enough to interfere with daily living. People who have MCI are at higher risk for developing Alzheimer's disease over the next few years.

A subset of players were further screened by telephone, and then underwent more extensive evaluation at the Center for the Study of Retired Athletes at the University of North Carolina-Chapel Hill. These players were compared with two groups of nonathletes: 41 demographically similar adults with no [cognitive changes](#) and 81 people

diagnosed with MCI.

The retired players met standard [diagnostic criteria](#) for MCI and were clearly impaired compared with the demographically matched nonathletes. The impairments of retired players shown on neuropsychological testing were highly similar to those exhibited by patients with MCI.

The athletes with MCI were significantly younger and slightly less impaired overall than the comparison group of nonathletes with MCI.

Animal studies have demonstrated that blows to the head can kill [brain cells](#), even when the blow is not sufficiently hard to produce a concussion. Recent studies of [football players](#) wearing helmets with accelerometers have found that, each season, the average college football player receives more than 1,000 blows to the head of a magnitude greater than 10 g-force. More than 250 of these blows are greater than 30 g-force.

Randolph said the findings of his study suggest that repetitive head trauma from years of playing football may result in diminished brain "reserve" and thus lead to earlier expression of age-related degenerative diseases such as MCI and Alzheimer's.

"However, it would take additional studies to confirm this," Randolph said. "So for now, these studies should be considered very preliminary."

Provided by Loyola University Health System

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