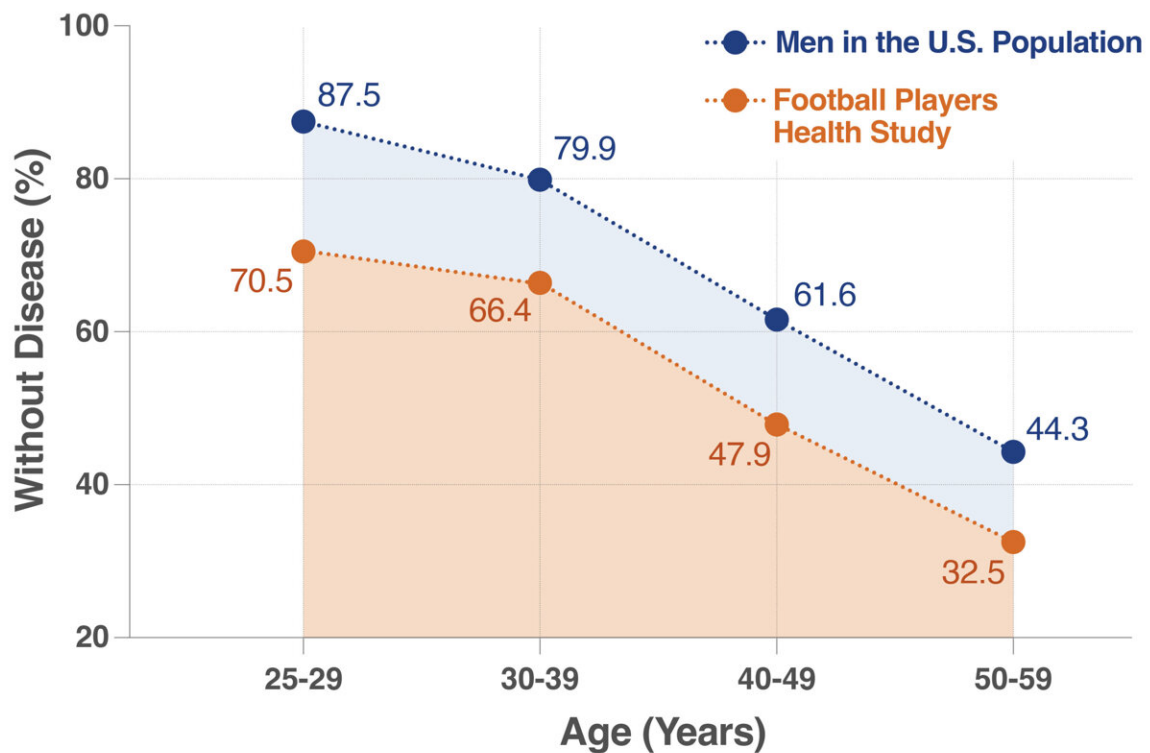


# Do former football players age faster?

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What Percentage of Former NFL Players vs. American Men Reported None of the Four Conditions?



Former NFL players may have shorter health spans—defined as absence of age-related disease—compared with men in the general population, according to a new study. Credit: Rachel Grashow, Harvard T.H. Chan School of Public Health

Former professional football players—particularly linemen—are more

likely than nonplayers with similar demographic characteristics to develop diseases typically associated with advanced age when significantly younger, according to new research published Dec. 8 in the *British Journal of Sports Medicine*.

These former elite athletes also tend to experience age-related conditions—hypertension and diabetes, among others—earlier, compared with the general population. Looking across all conditions, these athletes' health spans were reduced by nearly a decade.

Notably, the effects persisted even after the researchers accounted for body mass index and race, two powerful risk factors for the diseases studied.

The research—based on a survey of nearly 3,000 former National Football League players, representing the largest study cohort of former professional football players to date—was conducted by investigators at the Harvard T. H. Chan School of Public Health and Harvard Medical School as part of the ongoing Football Players Health Study at Harvard University, a research program that encompasses a constellation of studies designed to evaluate various aspects of players' health across their [life span](#).

The findings, the research team said, warrant further study to define the biochemical, cellular, and physiologic mechanisms behind this premature aging phenomenon.

"Our analysis raises important biological and physiological questions about underlying causes but, just as importantly, the results should serve as an alarm bell telling clinicians who care for these individuals to pay close attention even to their relatively younger former athlete patients," said study senior investigator Rachel Grashow, director of epidemiological research initiatives for the Football Players Health

Study.

"Such heightened vigilance can lead to earlier diagnoses and timelier intervention to prevent or dramatically slow the pace of age-related illness,"

This level of attention is important because [chronic conditions](#) such as diabetes or hypertension, for example, could be easily overlooked due to a former player's status as an elite athlete, Grashow added.

Although previous studies had shown that former professional football players live as long or longer than males in the general population, athletes themselves reported to their physicians that they often feel older than their chronologic age. In addition, sports medicine physicians who treat players have reported that these athletes often experience an earlier onset of age-related chronic conditions such as dementia, arthritis, hypertension, and diabetes.

Intrigued by these conflicting reports, Grashow and colleagues surveyed 2,864 Black and white former professional football players between the ages of 25 and 59 to determine whether a [health care provider](#) had ever told them that they had dementia/Alzheimer's disease, arthritis, hypertension, or diabetes. In addition, the researchers used survey data to measure participants' health spans, or how long these athletes lived without developing any of these four conditions.

The researchers compared these results to data from men aged 25 to 59 in the general population derived from two large, nationwide studies: the National Health and Nutrition Examination Survey and the National Health Interview Survey, which collectively hold information on tens of thousands of individuals.

Not surprisingly, the analysis showed that all four conditions increased

with age in both the former football players and in the general population. However, the prevalence of these conditions, or the proportion of individuals who had them, differed significantly between the two groups.

In each decade of life, the former athletes were more likely to report that they'd been diagnosed with dementia/Alzheimer's disease and arthritis. For hypertension and diabetes, only the younger players, those aged 25 to 29, reported significantly higher numbers of diagnoses compared with the general population.

Importantly, the health span for each former NFL player age group most closely resembled American men a decade older. For example, 66 percent of the former players in the 30 to 39 age group reported an intact health span, compared with 62 percent of men in the general population ages 40 to 49.

Searching for game-related aspects that might be important for this premature emergence of aging diseases, the researchers separated data from the former football players group into linemen and non-linemen. This analysis showed that linemen, who experience more contact during games than non-linemen, had notably shorter health spans across all decades of life. This subgroup tended to develop age-related diseases sooner than their non-linemen peers.

"We wanted to know: Are professional football players being robbed of their middle age? Our findings suggest that football prematurely weathers them and puts them on an alternate aging trajectory, increasing the prevalence of a variety of diseases of old age," Grashow said. "We need to look not just at the length of life but the quality of life. Professional football players might live as long as men in the [general population](#), but those years could be filled with disability and infirmity."

Metabolic conditions such as hypertension and diabetes could have dangerous long-term effects on heart [health](#) and cognition that could be mitigated with early diagnosis and treatment, said study senior author Aaron Baggish, director of in-person assessment studies at the Football Players Health Study and former director of Massachusetts General Hospital's Cardiovascular Performance Program, which provides comprehensive cardiac care to athletes.

"The duration of one's life is very important, but so too is the quality of one's life," added Baggish, who is currently professor of medicine at the University of Lausanne in Switzerland. "This study was conducted to probe the latter and now provides an important perspective on how early-life participation in the great game of football may accelerate the onset of certain common forms of chronic disease."

Grashow noted that future studies will focus on the biological mechanisms that give rise to premature aging among former professional [football](#) players, as well as interventions that can help these athletes live healthier lives as they age.

**More information:** Rachel Grashow et al, Healthspan and chronic disease burden among young adult and middle-aged male former American-style professional football players, *British Journal of Sports Medicine* (2022). [DOI: 10.1136/bjsports-2022-106021](https://doi.org/10.1136/bjsports-2022-106021)

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