

# More head impacts increase risk for death in NFL players

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An increase in repetitive head impacts is associated with an increased

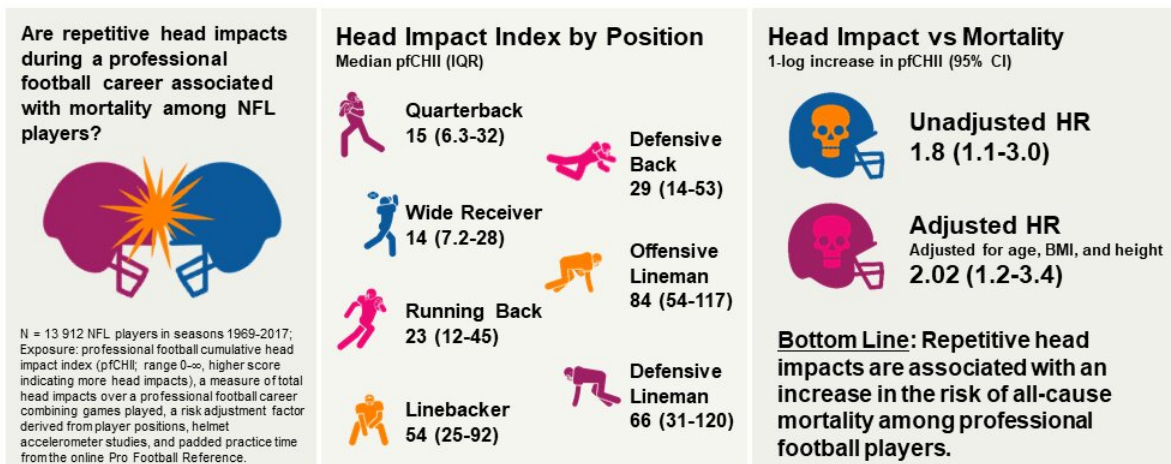
hazard of death among National Football League (NFL) players, according to a study published online May 11 in *JAMA Network Open*.

Brittany L. Kmush, Ph.D., from Syracuse University in New York, and colleagues analyzed data from the Pro Football Reference (1969 to 2017). The analysis included 14,366 [players](#) with follow-up through July 1, 2018, including 13,912 players with calculations for the [professional football](#) cumulative head impact index (pfCHII).

The researchers found that overall, 5.3 percent of players had died. Among the players in the pfCHII analysis, the median pfCHII score was 32.63. There was a significant association with an increased hazard of death for each 1-log increase in pfCHII (hazard ratio, 2.02) after adjustment. There was also a significant association with the quadratic pfCHII (hazard ratio, 0.91), indicating that the hazard of death increased at a decreasing rate, whereas the pfCHII increased.

"Reduction in repetitive head impacts from playing football or other activities through additional rule and equipment changes may be associated with reduced mortality," the authors write.

## Association of Professional Football Cumulative Head Impact Index Scores With Mortality Among NFL Players



JAMA Network **Open**

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NFL players who play certain positions that receive more head impacts have an increased risk of premature death. Credit: JAMA Network Open

**More information:** [Abstract/Full Text](#)

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