

Supplemental Online Content

Russell ER, Mackay DF, Stewart K, MacLean JA, Pell JP, Stewart W. Association of field position and career length with risk of neurodegenerative disease in male former professional soccer players. *JAMA Neurol*. Published online August 2, 2021. doi:10.1001/jamaneurol.2021.2403

eTable 1. Player position and risk of neurodegenerative disease

eTable 2. Career length and risk of neurodegenerative disease

eTable 3. Date of birth and risk of neurodegenerative disease

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eTable 1: Player position and risk of neurodegenerative disease

	Former Soccer Players	Matched Population Controls	Hazard Ratio (95% CI)	P*	Subhazard ratio (95% CI)	P**
	n/total n (%)	n/total n (%)				
All players	386/7,676 (5.0)	366/23,028 (1.6)	3.66 (2.88, 4.65)	<0.001	3.90 (3.25, 4.66)	<0.001
Goalkeeper	19/598 (3.2)	34/1,794 (1.9)	1.83 (0.93, 3.60)	0.079	1.09 (0.49, 2.44)	0.883
Outfield	271/4,813 (5.6)	234/14,439 (1.6)	3.83 (3.11, 4.73)	<0.001	4.48 (3.67, 5.48)	<0.001
Defender	81/1,347 (6.0)	55/4,041 (1.4)	4.98 (3.18, 7.79)	<0.001	5.56 (3.63, 8.49)	<0.001
Midfield	57/1,129 (5.0)	40/3,387 (1.2)	4.59 (2.73, 7.71)	<0.001	6.04 (3.63, 10.05)	<0.001
Forward	133/2,337 (5.7)	139/7,011 (2.0)	2.79 (2.06, 3.78)	<0.001	3.37 (2.51, 4.51)	<0.001
Multiposition	45/1,211 (3.7)	30/3,633 (0.8)	4.94 (2.79, 8.76)	<0.001	5.27 (2.99, 9.30)	<0.001

*Cox proportional hazards regression; **Adjusted for the competing risk of deaths from causes other than neurodegenerative disease.

eTable 2: Career length and risk of neurodegenerative disease

	Former Soccer Players	Matched Population Controls	Hazard Ratio (95% CI)	<i>P</i>*	Subhazard ratio (95% CI)	<i>P</i>**
	n/total n (%)	n/total n (%)				
1-5 years	70/2,037 (3.4)	81/6,111 (1.3)	2.26 (1.51, 3.37)	<0.001	2.53 (1.74, 3.67)	<0.001
6-10 years	73/1,535 (4.8)	62/4,605 (1.3)	4.61 (2.97, 7.17)	<0.001	4.75 (3.07, 7.37)	<0.001
11-15 years	96/1,354 (7.1)	82/4,062 (2.0)	4.28 (2.89, 6.35)	<0.001	5.09 (3.52, 7.37)	<0.001
>15 years	72/978 (7.4)	36/2,934 (1.2)	5.20 (3.17, 8.51)	<0.001	8.65 (5.19, 14.42)	<0.001

*Cox proportional hazards regression; **Adjusted for the competing risk of deaths from causes other than neurodegenerative disease

eTable 3: Date of birth and risk of neurodegenerative disease

	Former Soccer Players	Matched Population Controls	Hazard Ratio (95% CI)	<i>P</i>*	Subhazard ratio (95% CI)	<i>P</i>**
	n/total n (%)	n/total n (%)				
1910-1929	61/181 (33.7)	53/543 (9.8)	3.78 (2.26, 6.35)	<0.001	5.49 (3.11, 9.68)	<0.001
1930-1949	219/1,559 (14.0)	188/4,677 (4.0)	3.66 (2.85, 4.69)	<0.001	4.14 (3.29, 5.22)	<0.001
1950-1969	34/3,402 (1.0)	22/10,206 (0.2)	5.11 (2.77, 9.43)	<0.001	6.22 (3.41, 11.37)	<0.001

*Cox proportional hazards regression; **Adjusted for the competing risk of deaths from causes other than neurodegenerative disease