

# Study reveals dementia risk in former professional footballers

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Credit: University of Glasgow

A landmark study led by the University of Glasgow has revealed the first major insights into lifelong health outcomes in former professional footballers.

In findings published today in the *New England Journal of Medicine* and funded by the Football Association (FA) and the Professional Footballers' Association (PFA), researchers compared the causes of death of 7,676 former Scottish male professional football players who were born between 1900 and 1976 against those of more than 23,000 matched individuals from the general population.

Led by consultant neuropathologist Dr. Willie Stewart, honorary clinical associate Professor at the University of Glasgow, the FIELD study found that former professional footballers had an approximately three and a half times higher rate of death due to neurodegenerative [disease](#) than expected.

Dr. Stewart, said: "This is the largest study to date looking in this detail at the incidence of neurodegenerative disease in any sport, not just professional footballers."

"A strength of our study design is that we could look in detail at rates of different neurodegenerative disease subtypes. This analysis revealed that risk ranged from a 5-fold increase in Alzheimer's disease, through an approximately four-fold increase in [motor neurone disease](#), to a two-fold Parkinson's disease in former professional footballers compared to population controls."

Although footballers had higher risk of death from neurodegenerative disease, they were less likely to die of other common diseases, such as heart disease and some cancers, including lung cancer. Reflecting these findings, the study found that deaths in former footballers were lower than expected up to age 70, and higher than expected over that age.

Dr. Stewart said: "An important aspect of this work has been the ability to look across a range of health outcomes in former professional footballers. This allows us to build a more complete picture of health in

this population.

"Our data show that while former footballers had higher dementia rates, they had lower rates of death due to other major diseases. As such, whilst every effort must be made to identify the factors contributing to the increased risk of neurodegenerative disease to allow this risk to be reduced, there are also wider potential health benefits of playing football to be considered."

The association between contact sport participation and neurodegenerative disease has been subject to debate in recent years. Post-mortem studies have identified a specific dementia pathology linked to exposure to brain injury, known as [chronic traumatic encephalopathy](#) (CTE), in a high proportion of brains of former contact sports athletes, including former footballers in parallel studies led by Dr. Stewart.

However, until this study, it was not clear whether there was any evidence of an increase in neurodegenerative disease rate in former footballers.

Greg Clarke, FA Chairman, said: "This is the most comprehensive study ever commissioned into neurodegenerative disease in former professional footballers. We welcome its findings and thank Dr. Willie Stewart for diligently leading this important research.

"The whole game must recognize that this is only the start of our understanding and there are many questions that still need to be answered. It is important that the global football family now unites to find the answers and provide a greater understanding of this complex issue. The FA is committed to doing all it can to make that happen."

Gordon Taylor, PFA Chief Executive, said: "These findings are a matter

of considerable importance to our members. We are grateful to Dr. Willie Stewart and his team for their work.

"The PFA co-funded FIELD, alongside The FA. It is now incumbent on football globally to come together to address this issue in a comprehensive and united manner. Research must continue to answer more specific questions about what needs to be done to identify and reduce risk factors.

"Our members wellbeing is of paramount importance to us, and we are committed to representing their voice as this conversation opens up across football's stakeholders."

The paper "Neurodegenerative disease mortality in former professional soccer players" is published in the *New England Journal of Medicine*.

Provided by University of Glasgow

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