

Effects of multiple concussions in retired rugby players later in life

October 10 2016, by Ali Howard



Credit: University of Glasgow

There continues to be concern about the long term effects of concussion and repeated concussion in athletes, including boxers and rugby players who may sustain several concussive injuries throughout their career.

Health concerns about effects of concussion on athletes later in life include neurodegenerative disease and [chronic traumatic encephalopathy](#) , a progressive degenerative disease of the brain found in athletes.

However, evidence on the [long term health](#) and wellbeing of athletes and retired athletes is limited.

A study, at the University of Glasgow, has now looked at the health of 52 retired Scottish male International [rugby players](#) and found that they only displayed some mild memory effects in contrast to the 29 'control' volunteers – even although the retired rugby players sustained an average of 14 self-reported concussions each.

The study, which is published today in the *Journal of Neurology, Neurosurgery and Psychiatry*, revealed that despite multiple concussive injuries in the retired rugby players there were not significant effects on daily life overall. Cognitive test results in the retired rugby players and the controls found few differences; the retired players performed less well on a test of verbal learning and on another test of fine co-ordination of the dominant hand, but these effects were mild.

The research also found that there were no "significant associations" between the number of concussions and the participants' performances on cognitive tests.

The authors assessed all study participants on a history of playing rugby and [traumatic brain injury](#), general and mental health, life stress, concussion symptoms, cognitive function, disability and markers of chronic stress.

Professor Tom McMillan, Professor of Clinical Neuropsychology from the Institute of Health and Wellbeing, said: "Despite a high number of repeat concussions in the retired rugby players, effects on mental health, social or work function were not evident some twenty years after they had stopped playing.

"Overall there is not a suggestion of widespread decline in daily function

in ex-rugby internationalists who had a high number of repeat concussions. Although some differences in memory were found, these were mild overall and their cause uncertain."

More information: T M McMillan et al. Long-term health outcomes after exposure to repeated concussion in elite level: rugby union players, *Journal of Neurology, Neurosurgery & Psychiatry* (2016). [DOI: 10.1136/jnnp-2016-314279](https://doi.org/10.1136/jnnp-2016-314279)

Provided by University of Glasgow

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