



The lifetime risk of developing MND is around 1 in 300. The exact cause of the disease remains unknown and funding for research to understand this and ultimately develop treatments is much needed. The MND Association is committed to the care of people living with and affected by MND and, through our research funding, to a world free of MND.

Previous studies have tried to determine if exercise or head impact from contact sports have caused increased risk of neurological diseases such as Alzheimer's disease, motor neurone disease (MND) and chronic traumatic encephalopathy (CTE). In the past decade evidence has emerged suggesting a potential link between contact sport participation including football and American Football (NFL) and an increased risk of neurodegenerative disease. Evidence in other sports such as rugby, and whether specific aspects of contact sport participation or wider factors related to athleticism are directly linked to MND, is currently lacking.

There is research which suggests people who play football at a professional level have an increased risk of neurodegenerative disease with a few of these studies specifically stating that playing football increases your risk of developing MND. This includes a study involving a comprehensive cohort of former Scottish professional football players. Of course, this research is of great interest to us at the MND Association.

While the studies carried out to date show a correlation between professional footballers and MND they don't demonstrate causation – so they recognise that professional footballers are more likely to develop MND but they don't suggest that playing football professionally, or any particular aspect of doing that, directly leads to a person developing MND.

At present there is not yet enough evidence to pinpoint whether specific aspects of contact sport participation, such as heading the ball in football, are directly linked to an increased incidence of neurodegenerative disease. However, public attention regarding the risk is increasing.

As a result some organisations have taken precautionary measures, for instance the Scottish Youth Football Association has issued advice that under 11s shouldn't head the ball.

While there is a growing movement within sport to understand, recognise and, where necessary, mitigate against negative long-term effects, it is also clear that a lot more research is needed. We recognise this and are working with researchers and institutions to facilitate MND research.

It is one of our frustrations as an Association that we haven't yet pinpointed all of the causes of MND. We are currently funding research which we hope will lead to answers. A combination of environmental and lifestyle factors likely act together with specific genes to predispose people to get MND. What we don't know is the exact recipe of these factors that triggers onset of the disease.

Scientific research costs money and, sadly, there is a limit to the budgets available to us. We would urge organisations with an interest in this work to consider research funding to boost what is possible.

A new MND and Sport Expert Working Group has been formed which will work to explore the potential link between sport and MND. The group includes representatives from the MND Association, MND Scotland and My Name's Doddie as well as people living with MND, and is in response to a

number of scientific publications which indicate there may be an increased risk of developing MND among people who participate in elite-level sport, including football and rugby. The group includes experts in sport and MND from around the world. It will seek to better understand the possible link, determine what research questions need to be asked in order to identify any underlying causes, as well as determine what resources are available, or required, to answer them.

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