Oral Presentation

Neurological effects

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BRAIN HEALTH AND AGEING IN RETIRED RUGBY PLAYERS, THE BRAIN STUDY

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Evidence is accumulating on the possible increased risks of neurodegenerative diseases in former contact sport athletes. Each contact sport – with different protections and different playing dynamics – exposes its players to different types of potential traumas. Evidence suggest that these are not necessarily comparable in terms of pathophysiology, and hence in terms of their potential long-term adverse effects on health. Increasing evidence on poorer general and neurological health among professional

sportsmen exposed to repetitive concussions is accumulating; however there is little evidence from rugby players specifically.

This study is designed to assess the associations between history of concussion and general and neurological health in retired elite rugby players aged 50 years or more. We are recruiting a sample of approximately 200 retired rugby players aged 50 years or more and collecting a number of general and neurological health-related outcome measures via validated tests, in addition to biomarkers of neurodegeneration (neurofilaments and tau). We will also carry out a GWAS. This study will investigate the associations between concussion during the rugby career and subsequent measures of healthy ageing and subtle neurological and cognitive impairment. This evidence will be further explored using biomarkers and genetic characteristics of the participants, and investigating which playing history characteristics may be more relevant.

Thus, the study will estimate the burden of physical and neurological health of retired rugby players and will provide initial evidence on possible associations between rugby-related concussion and subsequent general and neurological health. This will both inform current policy, and inform the design of in-depth prospective studies if required.