

Written evidence submitted by the British Horseracing Authority

DCMS Select Committee Concussion Inquiry Response – British Horseracing Authority

Introduction

The British Horseracing Authority (BHA), the governing and regulatory body for thoroughbred horseracing in Britain, is delighted to respond to this important inquiry from the DCMS Select Committee on Concussion in Sport.

British racing is the UK's second largest sport behind football in respect of attendances, employment and revenues generated annually. Hundreds of rural communities rely on our industry – which generates some **£4.1 billion** annually for the economy and supports tens of thousands of jobs. Annually our **59** British racecourses host around **1,500** race meetings, providing over **91,000** rides for our **450** elite athletes (jockeys) and **300** Amateur riders.

A key part of the BHA's regulatory responsibilities is looking after the safety and health of people who work in racing. Specifically, in a racecourse setting, this means ensuring that all possible regulatory action is taken to mitigate risk. An example of this is recent improvements to the design of hurdles, which has decreased faller rates in these races.

The BHA's Medical team is led by Chief Medical Adviser Dr Jerry Hill, and one of the key roles of the team is to monitor an individual's recovery from injury. This is a collaborative effort across racing involving organisations such as the Professional Jockeys Association (PJA) and charity funded organisations like the Injured Jockeys Fund (IJF) and Racing Welfare.

British racing has led the way in researching concussion and developing effective protocols. Compared with other sports, horseracing has a high incidence of concussion per minute of competition, and these are mostly, but not always, associated with a fall. The sport has developed strict protocols around managing concussion that have been in place for over a decade. These ensure that our jockeys receive individualised care to maximise recovery, financial support to compensate them for their time on the sidelines, and ensure they return when they no longer pose a risk to themselves or others. Racing has a responsibility beyond the safety of the individual as it would pose an added risk to fellow competitors to have a concussed jockey riding a 500kg live animal, when their cognitive functions are impaired.

Racing is continuing to fund ground-breaking research into the treatment of concussion, and will continue to work to further expand and apply our knowledge both on the short, and long, term effects of such head injuries. This funding is principally provided by the Racing Foundation, which was founded using racing's proceeds from the sale of the [TOTE to Betfred](#) in 2011, and uses the money to provide grants to support 'pro-active funding initiatives to address issues faced by the industry'. In 2019, this included over £4 million (figure taken from the Racing Foundation's [Annual Review](#)) invested in social welfare, training and education projects.

Our Jockeys

There are around 450 professional jockeys riding in Britain currently split between the Flat and Jumps codes, and 300 Amateur riders who ride mostly in races aimed specifically at them. Jockeys are elite athletes, who have to be extremely fit, and control their weight – for which they are given nutritional advice through the PJA - in order to ride within specified weight bands. On the Flat, the weight scale is from 9st10lb and 8st, and over Jumps, jockeys are usually riding within a weight band of 11st12lb to 10st. Amateur riders usually ride at slightly higher weights

that are consistent with the weights they ride at in Point-to-Point racing, which the BHA also regulates, and therefore all protocols discussed in this evidence around concussion also apply.

All prospective jockeys learn about the risks of race riding and are trained in how to fall. This takes place at our Racing Schools in Doncaster and Newmarket - which are funded by the Horserace Betting Levy Board - who provide Jockey Licence Courses, which can only be undertaken once an individual has passed a foundation course in racehorse care. At the end of the 2-week course, an assessment of the individuals riding ability will be made, for which they must pass if they want to take out a licence and start riding racehorses in race conditions. All young riders starting their careers are provided with a jockey coach who will work with them to help them better their race riding.

The nature of race riding makes being a jockey a fairly dangerous profession. Jockeys are required to wear a number of pieces of protective equipment designed to improve their safety, these include:

- Helmet
- Body Protector

Safety Equipment has to meet internationally agreed and verified standards which for helmets must be one of the following: PAS 015: 2011; SNELL E2001; SNELL E2016; VG1 01.040 2014-12; and, UTAC/CRITT 04/2015. These are reviewed regularly with colleagues from other racing jurisdictions, particularly Ireland and France.

During race riding, horses can travel at up to 40 mph and any fall is from a significant height of 2-3 metres which has significant potential to cause injury. Fall rates tend to be greater in Jumps racing as the statistics below demonstrate, but the injuries per fall (including concussion) are greater in Flat racing. This can be attributed to a number of reasons. Firstly, Flat races are run over a shorter distance – minimum distance is just 1000m – and therefore horses in these races travel at a greater speed, and jockeys will hit the usually firmer ground harder. In Jump racing falls tend to occur at obstacles and jockeys can 'prepare' for the fall whereas in flat racing jockey falls tend to occur without warning as the initiating event is usually horse related e.g. clipped heels.

For Jump Jockeys (over a 7-year monitoring period 2012-2018):

- **4.4% of all rides resulted in a fall**
- **Around 1 in 8 of all falls resulted in an injury**
- **Every 0.79 falls out of 100, a Jump jockey will experience a concussion**

For Flat Jockeys (over a 7-year monitoring period 2012-2018):

- **0.11% of all rides on the All Weather and Turf resulted in a fall**
- **Around 1 in 2 of all falls on the All Weather, and 1 in 16 on Turf resulted in an injury**
- **Every 12.73 falls out of 100, a Flat jockey will experience a concussion**

The source for this data is a piece of academic work from former Queen Mary University student Kate Scothorne MCPS, MSc, who – working with the BHA - conducted a research project on the 'An epidemiological study of jockey injuries in professional horseracing in Great Britain'. This study is currently unable to be shared as evidence, but can be reviewed on request by the committee.

Our protocols

Concussion management is one of the major issues facing world sport at present, and British racing has, for some time, been a pioneer on this topic. This work was initiated by the BHA's former Chief Medical Advisor, Dr Michael Turner – now Medical Director of The International

Concussion and Head Injury Research Foundation ([ICHIRF](#)), who was extremely vigilant on this issue and developed our protocols which have been in place, and regularly updated to account for the latest evidence, over the last 15 years.

The key advantage that horseracing has when compared to other sports is that, when a jockey falls off a horse in a race, that is a clear indicator that an injury (including concussion) could have been suffered. Screening all jockeys who have fallen for concussion is routinely undertaken by racecourse staff – to reduce the likelihood of a jockey riding with concussion which is proven to both reduce individual performance, and endanger other participants, both human and equine. Fortunately, the natural time gaps between races on a racecard provides an opportunity for a proper concussion assessment to take place.

Following all falls, jockeys are taken to the racecourse medical centre for assessment where they will answer ‘Maddocks type’ questions – specifically about racing such as “What the name of the horse was you were riding?”, “What horse won the Grand National this year?” etc - and perform tandem balance. If they pass and the risk of concussion from this test is low, they can continue to ride on the day. If they pass but the risk of concussion is high they are rescreened after one hour. In uncertain cases, a SCAT 5 test is undertaken, and in confirmed cases it is recommended to be done to act as the first post event SCAT 5 unless other injuries demand urgent hospital transfer.

Confirmed cases may be admitted to hospital in high velocity falls for imaging. Low risk cases receive a Racing Specific Head Injury Leaflet and care is taken to ensure they are accompanied/driven home. If a concussion is diagnosed, the Jockey is given a Red Entry and prevented from riding until cleared by the BHA Medical Department.

Jockeys are contacted within 24 hours by the BHA Medical Department and advice is given regarding on-going care and activity. A recommendation is made to engage with a suitable Physio (often at one of the Injured Jockeys Fund Centres in Lambourn, Newmarket and Malton – three major racehorse training centres) for vestibular assessment/rehab and to treat any neck or other musculoskeletal issues. The Physios will monitor the athlete clinically, with serial SCAT 5s and may undertake Buffalo Testing (a test of the individual’s response to physical exertion that usually takes place on a treadmill or exercise bike) to determine the optimum time for return to sport testing. This cannot be sooner than 7 days post injury and a failed test means a further 7-10 day stand down.

The return to sport testing mirrors baseline neurocognitive testing and reports are normally received within 24 hours. In addition, an independent Consultant Neurologist (funded by the BHA) will make an assessment of the jockey. If satisfactory, the BHA will permit a return to competitive racing under rules.

Jockeys diagnosed with a concussion on a raceday surrender their helmet which is sent for analysis and the jockey receives a voucher worth £80 towards the cost of a new helmet. This removes damaged helmets from circulation and provides useful data to inform helmet design.

Jockeys can claim income replacement insurance under the Professional Riders Insurance Scheme during their stand-down period. With the vast majority of jockeys Self-employed, having an income support scheme is crucial to incentivising jockeys to stay at home rather than try to continue to ride for financial reasons.

Furthermore, all jockeys undergo baseline CogSport, SCAT 5 and Neuropsychological testing every 2 years. All tests are reviewed and if they show deviation from previous tests or the expected normal for that individual they are repeated. If still not satisfactory the jockey is seen for a half day assessment by the Neuropsychologist – common reasons for reduced performance include dyslexia, depression, undiagnosed concussion, deliberate underperformance. Serial testing can identify slow deterioration of cognitive function from a concussion(s) sustained years earlier.

Research projects

Injury Surveillance

The ongoing industry injury surveillance programme contributes valuable data not only tracking numbers of concussion but allows analysis by race, horse and jockey parameters which allows identification of factors associated with higher risk. The longitudinal data provided by serial cognitive function tests allows identification of trends away from normal for that individual regardless of whether a recent concussion has been sustained allowing intervention if required.

Helmet Bounty

Helmets gathered from professional and amateur athletes who sustain concussive falls during competition generate a 'bounty payment' for the jockey in the form of a voucher towards a new helmet and the damaged helmet is sent to University College Dublin for analysis.

Vestibular Rehabilitation

In conjunction with Queen Mary's College, London University we supported an MSc study assessing the value of vestibular rehabilitation in our concussed athletes which led to a change in practice whereby all concussed jockeys are now referred for active rehabilitation as opposed to relying on rest alone.

Racing Industry Concussion Practitioner

For the first time in 2021, the industry will be recruiting a new part-time role solely dedicated to the issue of concussion.

The individual who takes on this role will have two primary responsibilities:

- To act as an interface between existing concussion research and the racing industry to ensure research findings are applied to practice.
- To design and assist in the delivery of a cross-industry concussion education programme to raise awareness and improve the management of concussion at all levels of racing

The principal benefit of this will be that more industry staff are trained to spot signs of concussion in our jockeys.

Hearables

Developed in partnership with Imperial College London, using funding from the Racing Foundation, the Hearables device is a miniature ear-worn system that is being trialled to diagnose and monitor concussion by measuring the body's vital signs and brain activity. Optical, mechanical, electrical and inertial sensors in the ear canal monitor tiny changes in the state of the user's body & posture and wirelessly stream them to a nearby computer or mobile phone for automatic analysis.

The device is currently being tested on hospital in-patients who have arrived with head injuries, and it is planned that this technology will be rolled out to our jockeys for further trials in the near future. It is hoped that this more data driven approach to concussion will provide greater certainty around head injuries, making it easier to diagnose.

Brain Donation (ICHIRF)

The ICHIRF works with the Queen Square Brain Bank for Neurological Disorders at University College London to study the brains of former sportsmen & women, to better understand the long-

term effects of concussion on the brain and discover any neurodegenerative damage that can only be discovered during a post-mortem. A number of former jockeys including Grand National winning rider [Bob Champion](#) and former Champion Jockey Richard Dunwoody have volunteered their brains after death to the ICHIRF.

Summary

As a regulator, the British Horseracing Authority has always taken the issue of concussion extremely seriously and our standards will continue to be high and as up to date with the latest medical research as possible. Our protocols are designed, to not only give best chance of accurately diagnosing a concussion, but also to ensure that the athlete spends a suitable period on the sidelines before they return to action.

The support and advice given to our jockeys when they are dealing with a concussion is a collaborative effort spread across a number of different organisations within British racing, with a final element of independent consultancy free from internal financial pressures, to clear them for re-enter competitive action.

With a number of industry research projects in the pipeline, British racing will continue to strive to be a leading player on this important issue.

We would be happy to respond to any follow up questions that the Committee may have after reading our Call for Evidence to this important inquiry.