



British Horseracing Authority medication and doping control research summary report: 'Milkshaking'

Why the research was needed

For over a decade it has been recognised that bicarbonate of soda may be given to racehorses to try to improve performance, so-called 'milkshaking'. This was first reported in Australia, then in Canada and the United States. Intelligence led targeted testing in Britain in 2002 did not reveal any evidence of it but testing in 2007 resulted in our first (successful) prosecution for 'milkshaking' in 2009. Although we remain of the view that it is not a widespread problem in Britain, and have no intelligence of it happening, we wished to develop our testing. In particular we wanted to know more about how best to transport samples and use portable handheld testing equipment. We hoped that this equipment could be used before the race to direct later testing— like a handheld breathalyzer in people. The study was felt to be important for us but also to potentially assist others worldwide to detect and ultimately prevent milkshaking.

Overview of the research study

The study was conducted using horses at the Authority's Centre for Racehorse Studies with analysis at HFL Sport Science. Research procedures complied with the Animals (Scientific Procedures) Act and were subject to ethical review; analyses were conducted to industry standard quality procedures. It was carried out in two horses with their being worked on a daily basis for four days to simulate a 'race' whilst taking blood samples to establish their normal parameters, then being given bicarbonate of soda and blood samples taken intensively for 24 hours. These samples were analysed both there and then with the handheld equipment, and back at the laboratory on the industry 'gold standard' equipment on which the international threshold for total carbon dioxide (TCO₂) was set.

Outcomes and conclusions

The study went according to plan, with all samples being taken and analysed successfully. We compared the data from the handheld with the 'gold standard' equipment, to show a statistically consistent correlation for the concentration of TCO₂ in plasma. This means that we are now confident enough in the handheld equipment, and how to best handle the samples, to be able to put into practice a strategy for racecourse testing. The key point about this is that the handheld equipment will be able to rapidly 'clear' the majority of horses as normal whilst focusing our attention on any potential problems. This will allow us to use our resources proportionately and effectively with least inconvenience to the majority whom we believe to be training and racing their horses well within the Rules. It is intended that the work will be submitted for publication.

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