



<https://www.wageningenacademic.com/doi/pdf/10.3920/cep.2022.s1.tuesday.14e.28.2022>

COMPARATIVE EXERCISE PHYSIOLOGY

ISSN 1755-2540 – 2022 – VOLUME 18 – SUPPLEMENT 1

Carreer interruption in French jump races during 2021 – an overview

F. Patarin¹, S. Wittreck² and D.M. Votion¹

¹University of Liège, Faculty of Veterinary Medicine, Fundamental and Applied Research for Animals & Health (FARAH), Avenue de Cureghem, B42, 4000 Sart Tilman, Quartier Vallée 2, Belgium, ²France Galop, 46 Place Abel Gance, 92100 Boulogne Billancourt, France; f.patarin@student.uliege.be

This study aims to establish a detailed register of horses experiencing a career interruption in jump races, in 2021 in France, whether or not they have finished the race, experienced a fall, or having be 'pulled up' (i.e. stoppage during the race). Risk factors associated for career disruption were searched using the France Galop national database and by reviewing videos of all the races with a racing professional to describe any falls (its cause, location, timing, etc.) or pulled up. Analysis of the database and review of 2,065 videos involving 18,489 runners retrieved 913 horse falls and 2,599 pulled up. Following these incidents, 1,550 horses experienced a career interruption or ending. Univariate and multivariate logistic regression done on the first six months showed the multifactorial nature of accidents linked to the horse (e.g. specialty and multiple career interruptions not resulting from periodisation of full training), race (e.g. fast ground, lower racing levels), racetracks profile (fence profile in a specific context), and management (e.g. high number of starts, shorter time between races, number of previous injury with training interruption, previous fall). The relevance of these findings will be questioned using all the data for 2021 and spatial epidemiology combined with health geography approaches to look for factors favouring the occurrence of accidents. Pursuing the research work during the 2022 racing campaign will aim to identify potential measures that could be taken, on an evidence-based approach, to reduce the risk of accidents inherent in any high-performance sport.

Effects of training and exercise on plasma and blood volume in Thoroughbreds and Endurance horses

J. Israel¹, R. Leguillette¹, B. Parry², D. Hodgson², B. Grant² and W. Bayly²

¹University of Calgary Faculty of Veterinary Medicine, 3280 Hospital Dr NW, Calgary, AB T2N 4Z6, Canada, ²Washington State University, Grimes Way, Pullman, WA 99164, USA; juliaisrael@hotmail.com

Exercise- and training-induced changes in plasma (PV) and blood volumes (BV) have been well documented in racehorses but not in endurance horses. Our objectives were to determine and compare the effects of training and exercise on BV and PV in Thoroughbreds (n=11, 6.6±2.8 yrs) and Arabian endurance horses (n=6, 6.8±2.0 yrs). Endurance horses underwent a 4-month training program under saddle with increasing distance up to 50 miles, and the Thoroughbreds completed a racehorse-appropriate interval training program for 3-4 months on a racetrack. PV and BV were measured before and after training at rest and after exercise (racetrack breezes and after 30 miles for endurance horses) using the previously described indocyanine green dilution technique. A Wilcoxon signed rank and Mann-Whitney tests determined the effect of training and exercise and compared the values between breeds ($P \leq 0.05$). Each horse served as its own control. Endurance horses had a greater PV and BV at rest than Thoroughbreds (PV: 66 vs 51 ml/kg; $P=0.003$. BV: 99 vs 81 ml/kg; $P=0.003$) and a greater PV (62 vs 42 ml/kg; $P<0.001$) but not BV after exercise. Training induced an increase in resting PV (66 vs 73 ml/kg; $P=0.007$) and BV (99 vs 104 ml/kg; $P=0.05$) in endurance horses. After training, resting PV (51 vs 57 ml/kg; $P=0.02$) and post-exercise PV (42 vs 51 ml/kg $P=0.007$) and resting BV (81 vs 89 ml/kg; $P=0.007$) and post-exercise BV (110 vs 123 ml/kg; $P=0.001$) increased in racehorses. Endurance horses have a greater mass-specific resting PV and BV than Thoroughbreds but the relative training-induced increases in these volumes are greater in Thoroughbreds.

https://www.wageningenacademic.com/doi/pdf/10.3920/cep2022.s1 - Tuesday, June 28, 2022 1:44:55 AM - SLU Library IP Address: 130.238.112.239