

Ten racetrack fence types at increased odds of a fall for horse and rider

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New research into equestrian eventing safety has assessed different types of fence and course design, and quantified their associated risk of falling for either rider or horse.

The study is published in the *Equine Veterinary Journal*, and has highlighted ten fence types which are at increased odds of a fall occurring when compared with square spread fences. Seven types of fence were found to be at reduced odds of a fall. Twelve other factors related to fence and course design were also identified as affecting the risk of falls occurring.

Eventing is a challenging equestrian sport including three phases: dressage, show jumping, and cross-country. Cross-country involves riding at speed over a course of fences and is the most dangerous phase because falls can happen at fences. Around 6% of starts result in a fall—with either the rider falling off the horse, or the horse itself falling. Falls can have very serious consequences, up to and including death for both the horse and rider. Since 2016 there have been at least 41 horse fatalities and at least 18 rider fatalities.

The study assessed fence eventing risk factors, covering aspects of fence design and course design. Researchers found that fence types were at increased odds of a fall occurring compared to square spread fences, and seven types were at reduced odds. Fences positioned with approach and/or landing downhill were more likely to have falls occur than fences on flat ground, and fences which were a jump into water were riskier than jumps onto solid ground.

The study team, at the Universities of Glasgow, Bristol, and Nottingham Trent, analyzed data from more than 200,000 fences in about 6,500 competitions over an 11-year period, and, overall, found thirteen factors related to competition, [fence](#), and course design that meant falls were more likely to occur.

Researchers believe that this study offers a starting point for establishing a scientific "risk profile" of cross-country courses which can help athletes and trainers plan for future success, and safeguard safety and

welfare.

Lead author Dr. Euan Bennet from the University of Glasgow, who started the work at the University of Bristol, said: "More than two decades after the International Eventing Safety Committee urged that 'everything should be done to prevent horses from falling,' an improved understanding of the true level of risk posed by a particular series of fences on a specific course is an essential focus of further risk reviews.

"However, it would not be desirable to look at our results and say, for example, that challenging jumps should no longer be used. Rather, it should be recognized that course [design](#) can prioritize safety without reducing challenge or competitiveness in the sport. 'Risk grading' of courses would be an important way of informing athletes about the level of risk to which they would be exposing themselves and their horse and would reduce the risk of serious and fatal injury to both horses and riders."

The study, "Fédération Equestre Internationale (FEI) eventing: Fence-level [risk factors](#) for falls during the cross-country phase (2008-2018)," is published in *Equine Veterinary Journal*.

More information: E. D. Bennet et al, Fédération Equestre Internationale (FEI) eventing: Fence-level risk factors for falls during the cross-country phase (2008-2018), *Equine Veterinary Journal* (2022). [DOI: 10.1111/evj.13863](https://doi.org/10.1111/evj.13863)

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