

## **An investigation into equestrian spur use in the United Kingdom**

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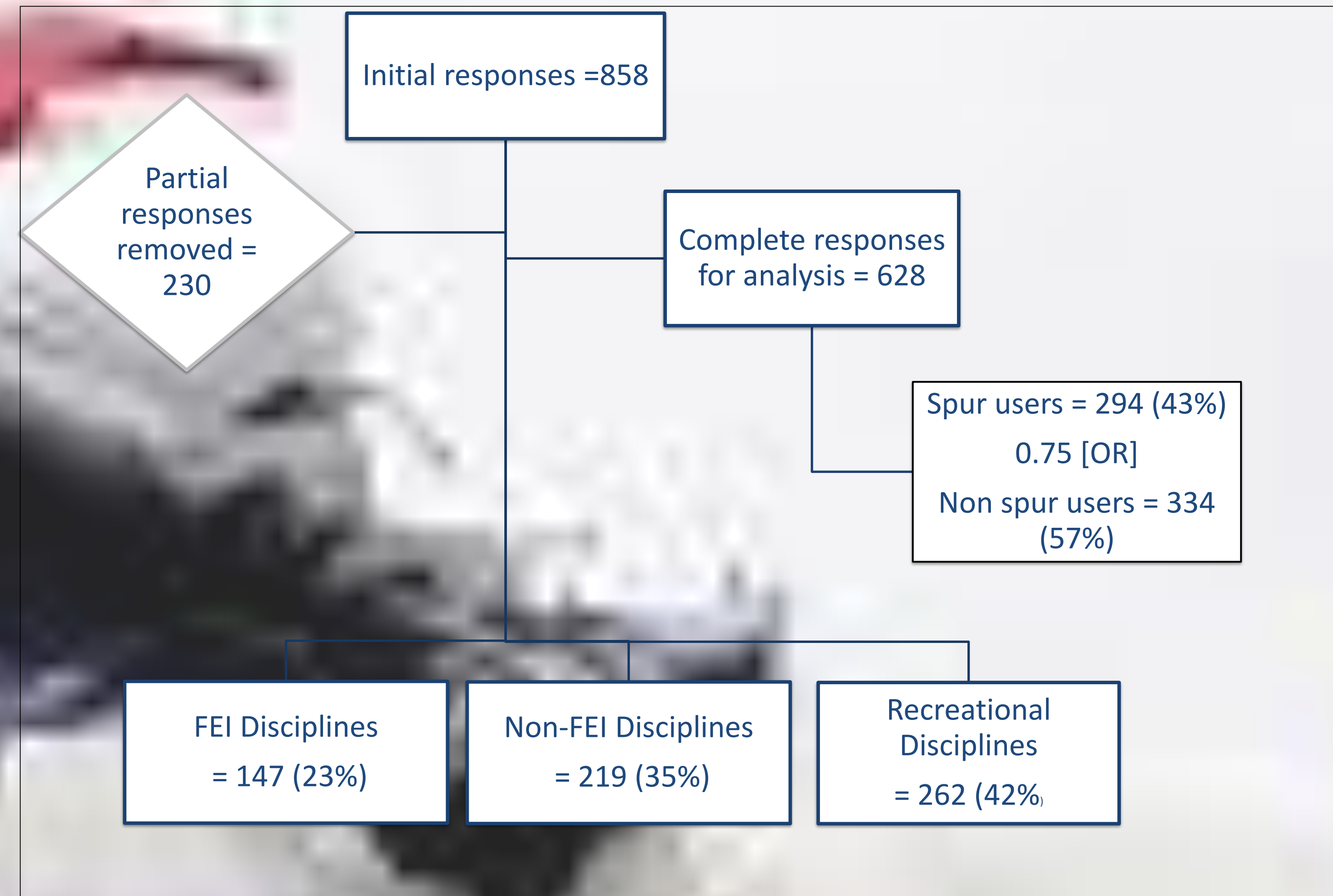
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**Aims:** The aims of this study were to describe spur use across equestrian disciplines and identify reported risk factors that are associated with an increased frequency of skin abrasion.

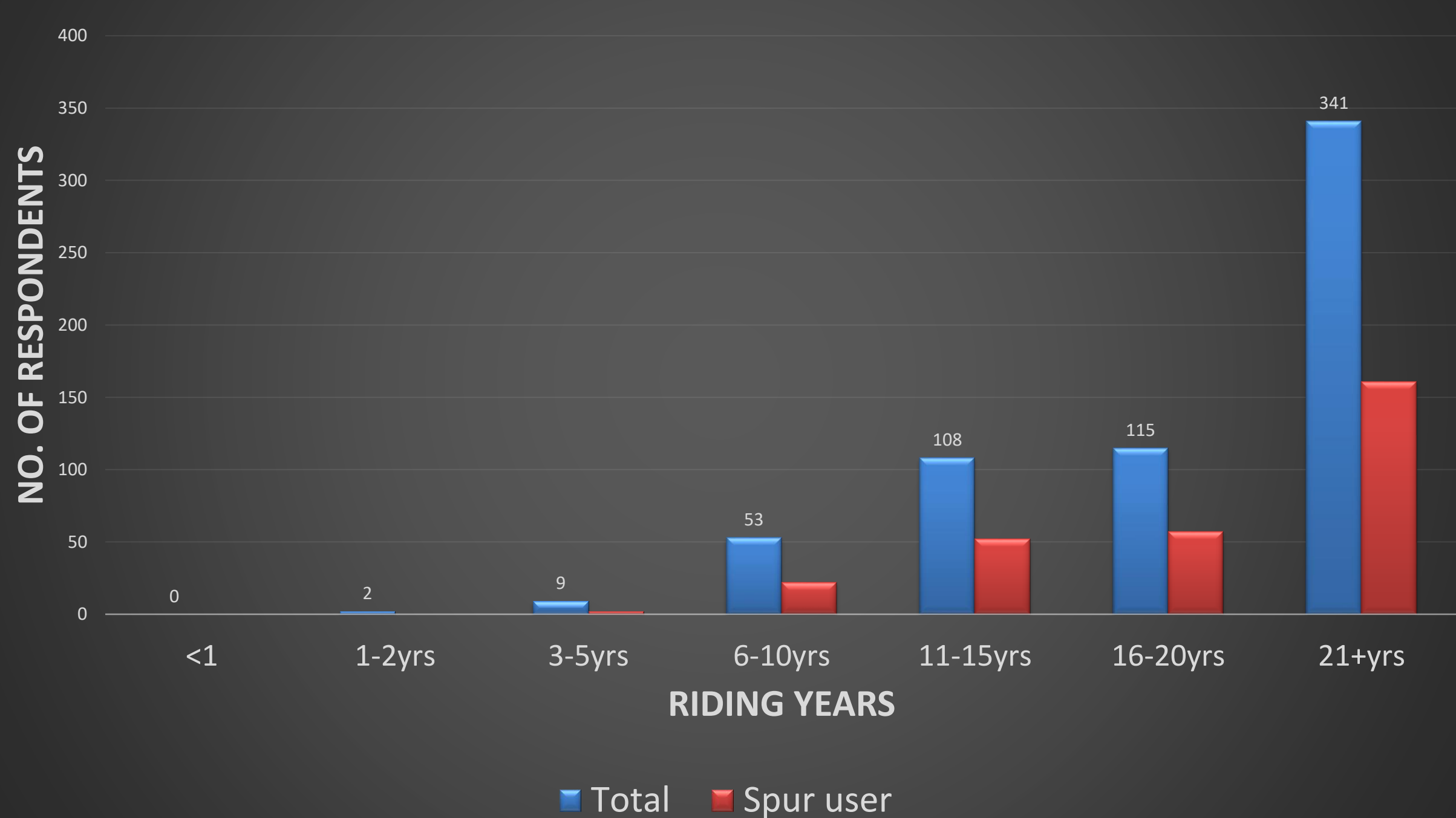
**Method:** An online survey was administered via social media platforms, industry connections and national online media sources. It included questions on rider demographics, spur design, injury rates and perception of current competition regulations. Inclusion criteria required that participants were aged at least 18 years old, a horse owner/loaner/sharer and resided in the United Kingdom. Eight hundred and fifty-eight participants responded resulting in 628 complete responses for further analysis, 597 from females (95%) and 31 from males (5%). The majority were aged between 18 and 29 years (47%), with 41 participants (7%) reporting their age at 58 years or over. 19 types of equestrian activities were reported and categorised into FEI competitive disciplines, non-FEI competitive disciplines and recreational disciplines. Descriptive statistics, Odds ratios [OR] and Chi-squared tests were utilized (IBM SPSS v24.0) with an alpha value set at  $p < 0.05$  (confidence interval 95%) unless otherwise stated. 47% of all participants used spurs.



**Figure 1: Online survey responses**

[Key: FEI Disciplines = Dressage, Show jumping, Eventing, Reining, Endurance; Non-FEI Disciplines = Showing, Polo, Mounted Games, Racing, Horseball; Recreational Disciplines = Riding School, Pony Club, Adult Riding Club, Western, Hacking, Hunting, Natural Horsemanship, British Trec, Positive reinforcement training, Riding for the disabled; [OR]=Odds ratio calculated for spur use].

**Results:** 47% of all participants used spurs. Relationships were found between spur use and gender and duration of years riding. Males were 2.88 times more likely to use spurs than females ( $p=0.005$ ). Riders within competitive non-FEI disciplines were 1.53 times more likely to use spurs than recreational riders and 1.48 times more likely to use spurs than those competing in FEI disciplines. Longer spur shanks ( $>32$  mm) significantly increased the risk of skin abrasions or hair loss related to spur use ( $p < 0.0001$ ). Rotating spur designs were 1.5 times more likely to be associated with injury compared to fixed shank designs.



**Figure 2** Spur use distribution across years' riding from the 628 respondents.

**Table 1:** The effect of spur design and shank length on the prevalence of spur related abrasion [ABR=abrasions].

SPUR DESIGN ( $p=0.053$ )					
Spur Type		Freq. of use	% ABR	Indiv.[OR]	ABR within category [OR]
Rotating	Vertical Rowel	20	25	0.33	41% [0.69]
	Horizontal Rowel	1	100	1.00	
	Roller plastic	39	44	0.68	
	Roller metal	45	44	0.69	
Fixed	Swan neck	6	17	0.20	31% [0.45]
	Prince of Wales	71	31	0.45	
	Dummy	1	0	-	
	Rounded/blunt end	101	33	0.49	
	Comb	3	0	-	
	Other*	7	29	0.92	
-	Spursuader	0	0	-	-
SPUR SHANK ( $p=0.026$ )					
Length		Freq. of use	% ABR	Indiv.[OR]	
No shank		5	0	-	-
< 25 mm (<1")		183	31	0.45	-
25 – 32 mm (1-1.25")		91	40	0.67	-
>32 mm (>1.25 ")		15	60	1.50	-

**Discussion and conclusion:** Future research should consider motivational factors for equipment selection and how it then affects the horse. This information may aid policy makers to formulate ethical guidelines for equestrian sport but also extends to inform riders of all levels how their choice of day-to-day equipment can affect equine welfare.