

# Journal of Sports Medicine and Allied Health Sciences: Official Journal of the Ohio Athletic Trainers Association

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Volume 6  
Issue 1 *OATA 2020 Supplemental Issue*

Article 12

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May 2020

## Rodeo Athletes' Perceptions on Head Injuries: Focusing on Concussions

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### Recommended Citation

McKenzie, Alyssa; Walker, Jennifer; and Smith-Goodwin, Erika (2020) "Rodeo Athletes' Perceptions on Head Injuries: Focusing on Concussions," *Journal of Sports Medicine and Allied Health Sciences: Official Journal of the Ohio Athletic Trainers Association*: Vol. 6: Iss. 1, Article 12.

DOI: <https://doi.org/10.25035/jsmahs.06.01.12>

Available at: <https://scholarworks.bgsu.edu/jsmahs/vol6/iss1/12>

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## ***Rodeo Athletes' Perceptions on Head Injuries: Focusing on Concussions***

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### ***OBJECTIVE***

The purpose of this study was to investigate rodeo athletes' perceptions of head injuries, focusing on concussions. The significance of this study was to bring light to bull riders' perceptions and possibly misperceptions of head injuries, in an effort to help educate them better in the future.

### ***DESIGN AND SETTING***

The study was a descriptive study conducted at one small local rodeo in southwestern Ohio. The independent variables in this study were male bull riders, AT experience and experience level (novice/veteran). Novice was less than 5 years of experience and veteran was classified as 5 or more years. The dependent variable was their perception on head injuries, with a focus on concussions. The paper survey was distributed by hand, on-site, at the local rodeo.

### ***PARTICIPANTS***

The research was conducted as a convenience sample. A total of 75 surveys were distributed with a return rate of 91% (n=68). 57.4% (n=39) did have previous experience with a certified athletic trainer, 41.2% (n=28) did not, and 1.4% (n=1) did not answer that question. Of the total surveys returned (N=68), 74% (n=50) of the participants were novice athletes and 26% (n=18) were veteran athletes.

### ***INTERVENTION***

Questions 1-4 were about knowledge of general concussions. Questions 5-7 were about knowledge of second impact syndrome. Questions 8-10 were about knowledge of post-concussion syndrome. Questions 11-15 were about injury in rodeo, and questions 16-

20 were demographics. A panel of experts determined the face validity of the survey. The content validity was established through the Table of Specifications (ToS). The College's Institutional Review Board (IRB) approved this study. Quantitative descriptive statistics (frequency counts and percentages) were calculated for every applicable item on the survey. Pearson's Chi Square test was used to analyze statistical significance for experience with or without a certified athletic trainer and years of experience participating in rodeo. The alpha level was set at  $p=.05$  *a priori*. The data was analyzed using Statistical Package for the Social Sciences (SPSS) version 24.0.

### ***MAIN OUTCOME MEASUREMENT***

The survey was comprised of 20 questions. Questions 1-4, 6, and 9 used a 5-point Likert Scale (Strongly Agree5, Agree4, Don't Know3, Disagree2, Strongly Disagree1) to collect ordinal data. Question 17 used a 4-point Likert Scale (Zero to One4, Two3, Three2, Four or more1) to collect ordinal data. Questions 5, 7-8, and 10-16 used a 2-point Likert Scale (Yes2, No1) to collect nominal data. Question 19 used a 2-point Likert Scale (Male2, Female1) to collect nominal data. Questions 18 and 20 were write in questions for age and years of experience that collected nominal data.

### ***RESULTS***

93% (n=63) of all survey participants were able to identify possible mechanisms of a concussion, as it relates to rodeo, including violent blow/shaking of the head, impact with the ground after dismount, and bumping their head on the bucket chute (the bucket chute is the pen the bull is in before it is released). Only 68% (n=46) agreed that a concussion is considered a traumatic brain injury. 29%

(n=20) were aware of second impact syndrome and 27% (n=) falsely perceived second impact syndrome as hitting your head twice with no consequences. 50% (n=34) were aware of post-concussion syndrome and 60% (n=38) perceived it as lingering symptoms after a concussion. 50% (n=34) reported having a medically diagnosed concussion and 68% (n=46) reported having a concussion that went undiagnosed. Additionally, only 21% (n=14) reported that they were likely to report a potential head injury. 57% (n=39) of participants have had previous medical care experience provided by an AT. Of participants with no AT experience, 29% (n=8) reported they had heard the term "post-concussion syndrome" compared to 62% (n=24) who have had

AT experience ( $\chi^2=4.030$ ,  $df=1$ ,  $p=0.045$ ). 54% (n=15) of participants with no AT experience and 77% (n=30) with AT experience admitted to having what they believed to be an undiagnosed concussion ( $\chi^2=4.030$ ,  $df=1$ ,  $p=0.045$ ). 36% (n=10) with no AT experience and 67% (n=26) with AT experience reported having hit their head more than once per night while participating in rodeo ( $\chi^2=6.281$ ,  $df=1$ ,  $p=0.012$ ). Only 14% (n=4) with no previous AT experience and 23% (n=9) with AT experience agreed they were likely to report a potential head injury. 49% (n=24) of novice athletes and 83% (n=15) of veteran athletes reported having previous medical care experience with an AT ( $\chi^2=6.387$ ,  $df=1$ ,  $p=0.011$ ). 92% (n=46) of novice and 94% (n=17) of veteran athletes were able to correctly identify the definition

of a concussion. 62% (n=31) of novice athletes and 83% (n=15) of veteran athletes considered a concussion a traumatic brain injury. 36% (n=18) of novice athletes and 72% (n=13) of veteran athletes reported being knocked unconscious while participating in rodeo ( $\chi^2=7.001$ ,  $df=1$ ,  $p=0.008$ ). There was not a statistically significant difference between novice and veteran athletes when reporting head injuries.

### **CONCLUSION**

It is very positive to see that the majority of participants in this study were able to identify a concussion, however it is concerning that well over half were unaware of what second impact syndrome was. Additionally, only a small percentage of athletes who had previous medical care experience with an AT had heard of post-concussion syndrome. More veteran athletes have had medical care experience with an AT than novice athletes. It was alarming that only one-fifth of the total population reported that they were likely to report a potential head injury. This displays that without proper education on head injuries, this dangerous sport can become a lot more life threatening. ATs need a better platform to help consistently promote awareness of and educate rodeo athletes on head injuries and their potential severity and life-long impacts. Even though rodeo athletes may be less familiar to ATs, it is an area that could greatly benefit from the expertise of athletic trainers. These athletes are in need of the same type of education and care that would be provided for the traditional athlete.

**KEY WORDS:** *Athletic Training, Bull Riders, Concussion, Head Injuries, Rodeo*