

[Letter to the Editor Response]

We would like to thank you for the opportunity to respond to the issues raised in Dr Kerr's letter and to clarify aspects of our methodology in relation to these concerns. We would also like to thank Dr Kerr and his colleagues at US Rugby for their interest in our paper and for taking the time to express their concerns.

In his letter to the editor, Dr Kerr notes potential concerns with the injury surveillance methodology utilized in our study.¹¹ We agree that there are notable differences between injury rates during practice and competition in rugby, as well as in many other sports. We also agree that this, as well as other factors associated with the population studied and the research setting for our study, may limit the generalizability of the incidence rates reported in our paper to other populations and settings. We acknowledge the importance of standardizing injury data collection and reporting and that these limitations in our study make it difficult to compare this study with other epidemiologic studies of rugby. As acknowledged by Dr Kerr, this was noted in the discussion section of our article as a limitation.¹¹

However, the primary objective of our study was to compare injury rates and patterns between men and women participating in collegiate rugby, and we believe the concerns raised by Dr Kerr and his colleagues had minimal impact in accomplishing this objective. Because of the similar practice and competition schedules between the men's and women's rugby teams at our institution, the proportional distribution of match and practice exposures was similar. As a result, it is unlikely that combining practice and competition injuries and exposures had any deleterious effects in addressing our primary research hypothesis. Furthermore, we believe that the strengths of our study far outweigh the weaknesses in accomplishing this goal. Our setting allowed us to compare a men's and a women's team who used the same equipment and facilities, had access to the same coaching staff and other training resources, and followed similar practice and competition schedules, essentially controlling for many potentially confounding variables. Because so many collegiate teams are club programs, they generally lack organization and have limited resources, and these aspects of participation are generally quite variable between institutions—even between men's and women's teams at the same institution. Another strength of our study is the accuracy of the injury information available through the robust injury surveillance infrastructure and closed health care system at

our institution.^{8,10,13,14} In our study, the men's and women's teams had medical coverage at practices and competitions provided by athletic trainers experienced in the sport of rugby. A dedicated sports medicine fellowship-trained team physician is also assigned to the men's and women's rugby teams at our institution, and he is present for home matches and available to follow up with any injuries sustained by these teams. This level of medical support and injury surveillance is in contrast to many epidemiologic studies of rugby, where the injury data are often self-reported, gathered by nonmedical personnel associated with the team, or reported by phone interview.^{1-7,9,12,15,16}

Our study included injuries from both 15s and 7s rugby because our men's and women's teams participated in 7s at the end of their traditional 15s competitive seasons. The sport of rugby is growing, and participation in this tournament is now typical of the more competitive collegiate programs in the United States. Therefore, we considered it important to include these injuries as part of the comprehensive collegiate rugby season for both men and women. However, because 7s is such a small part of the season, these injuries accounted for less than 3% of all injuries, so it is unlikely that the inclusion of these injuries had a serious impact on the conclusions that were drawn. Furthermore, because both men's and women's programs participated in 7s play, the decision to include 7s should not have affected the results related to our primary research objective. Finally, excluding ACL injuries (1 male player) experienced during 7s play would have actually increased the magnitude of the incidence rate ratio between male and female players, suggesting an even larger difference in the incidence rate of ACL injury between men's and women's rugby players.

It is apparent that we share similar goals with Dr Kerr and his colleagues—to identify injury rates and patterns among US rugby players in order to initiate injury prevention strategies to make participation in collegiate rugby as safe as possible. It is likely that this will facilitate the continued growth and excitement surrounding the sport of rugby in our country. However, the fact that rugby is a high-risk contact sport cannot be overlooked, and improving appropriate medical coverage in collegiate rugby should also be an important shared goal. It is disconcerting that only 17% of collegiate rugby programs studied by Dr Kerr had dedicated medical resources for practices and matches⁶; however, this is consistent with our experience covering collegiate rugby for over 15 years.

Ultimately, we agree with Dr Kerr that continued research with American rugby populations is needed to more fully understand the burden of injury associated with the sport, to mitigate this burden through systematic injury prevention initiatives, and to justify the need for appropriate medical coverage for all collegiate rugby players.

Respectfully,

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