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Assessing Helmet Fit for University of Windsor Varsity Hockey Athletes

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Protective equipment is at the forefront of the discussion on reducing sports-related concussions, with the role of helmets being equivocal. Current data suggest that modern helmets are not entirely protective against concussions, and ill-fitting helmets may contribute to concussions with longer lasting symptoms. Helmet fit can be assessed via a checklist, but its application outside of youth sport is lacking. The purpose of this study was to assess helmet fit and the effect of feedback for a men's (n=22) and a women's (n=20) university varsity ice hockey team early and late in a season. The assessment consisted of a 12-item helmet fit checklist which was divided into five categories, defining "proper fit" as meeting all criteria of the stability and size categories. Additionally, each player's concussion history and helmet fit knowledge were assessed using a survey.

It was found that the number of properly fitting helmets for males increased from 23% to 77% over the season, while remaining consistent at 50% for females. For male's, 73% had an increase in overall checklist scores and 27% saw no change; 45% of females had an increase, 5% saw no change, and 50% decreased. Reported female (85%) concussion rate was double that of males (41%), but perceived knowledge of helmet fit (male=36%, female=30%) and actual knowledge (male=77%, female=85%) were similar. As feedback only had a positive effect on male's helmet fit across the season, score differences may be due to helmet style differences (i.e., cages worn by females vs. visors worn by males). Findings suggest that improvements must be made to the checklist criteria and scoring and that a threshold be established to determine the minimum score one must obtain to have their helmet classified as 'safe for play'. The results of this study highlight not only the work that is still to be done, but the importance of prioritizing regular helmet fit assessments to maximize player safety.