

Association of Laterality and Sports Specific Rotational Preference with Number of Injuries in Artistic Gymnasts

Authors : Teja Joshi

Abstract : Laterality has shown to play a role in performance as well as injuries especially in unilateral sports disciplines. Uniquely, Artistic Gymnastics involves combination of unilateral, bilateral and complex multi-planer elements as well as gymnastics specific rotational preference. Therefore, this study was conducted to explore if any such preferences are associated with number of injuries in artistic gymnasts. To explore the association between lateral preferences, rotational preferences and injuries incidence in artistic gymnastics. Artistic gymnasts above 16 years of age, were invited to participate in an online survey. The survey included consent, lateral preference inventory, injury data collection according to anatomical locations and rotational preference for selected gymnastics elements performed on the floor exercise. SPSS version 24 was used to analyse Non-parametric data using Kruskal-Wallis (K- independent test) test. Multiple regression was performed to identify the predictor for injuries and their side in gymnasts. Total number of injuries per gymnast was associated with handedness (p value-0.049) and no significant association was noted for footedness (p value-0.207), eyedness (p value-0.491) and eardness (p value-0.798). Additionally, rotational preferences did not influence number of injuries (p value-0.521). In multiple regression, eyedness was identified as a predicting factor to determine the number of injuries. Rotational preferences were neither determined as a national strategy nor a product of lateral preference. Dominant hand had higher number of injuries in artistic gymnasts. Rotational preference is independent of laterality, number of injuries and nationality.

Keywords : sports injury, rotational preference, gymnastics, handedness

Conference Title : ICSMH 2022 : International Conference on Sports Medicine and Health

Conference Location : London, United Kingdom

Conference Dates : October 13-14, 2022