

Blades of Glory: Noise Exposure of Hockey Officials

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Introduction: According to National USA Hockey League, tens of thousands of hockey officials could be affected by noise induced hearing loss. For this study, personal noise dosimeters and a sound level meter were used to record noise exposures during hockey games for the 2014 season. The aim of this project was to fill the current gaps in research by increasing sample size and sampling at a larger arena than the pilot study.

Methods: A total of 30 personal samples and 20 area samples were collected. The study was completed in December, 2014. Results were compared to the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL), American Conference of Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and World Health Organization (WHO) guidelines and standards.

Results: Noise dose was reported for each official at each game to determine if noise controls needed to be put in place at this specific venue. Five officials were overexposed to noise according to the OSHA standard (90dBA). All referees and linesmen were overexposed to noise according to the ACGIH and WHO recommendations (85 dBA). In addition to area and personal monitoring, the number of whistle blows was counted during the first period of four games to get an average number of whistles blown per game. According to previous researchers, whistle blows are one of the loudest and closest noise sources to referees with some whistles reaching sound levels of 116 dBA.

Conclusion: Based on the results, it is recommended that this venue take preventative action in reducing noise exposure for hockey referees and future research should focus on implementing control measures in hockey arenas.

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