INFLUENCE OF HOCKEY NECK GUARDS ON CERVICAL RANGE OF MOTION

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This study was approved by the Institutional Review Board at Mayo Clinic. All subjects were informed on the procedures of the study and provided consent.

BACKGROUND AND PURPOSE: Hockey “neck guards” are designed to prevent lacerations to the neck from skate blades. While some youth leagues require wearing neck guards, use in older players is limited. The purpose of this study was to examine the influence of wearing a neck guard on cervical range of motion in high school hockey players and perceptions regarding comfort and restrictiveness.

METHODS AND MATERIALS: Forty-five male and female hockey players (age 14-18) were recruited from local high schools. Cervical motion was measured using a cervical range of motion (CROM) device. Wearing shoulder pads and a jersey, cervical range of motion was measured wearing 4 different commercially available neck guards and also not wearing a neck guard. A survey tool was used to evaluate neck guard comfort and perceived restriction to motion.

ANALYSES: We used repeated measures ANOVA with post-hoc testing for range of motion data and non-parametric Freidman tests for survey data. (α=.05) RESULTS: Significantly more range of motion in flexion, extension, side bending and rotation was found wearing no neck guard as compared to all designs of neck guards tested. Perceptions of restrictiveness and comfort varied based on design of the neck guards.

CONCLUSIONS: While neck guards may protect a player from serious lacerations to the neck, designs tested in this study may have a negative impact on hockey performance and possibly introduce other risks due to restricted neck range of motion.

IMPLICATIONS: This study challenges manufactures to design neck guards that cover vulnerable neck anatomy but do not limit a player's range of motion. Based on findings, some designs are less restrictive and perceived as more comfortable than other designs. If worn, least restrictive designs are recommended. Future research should investigate the influence of neck guards on younger players.