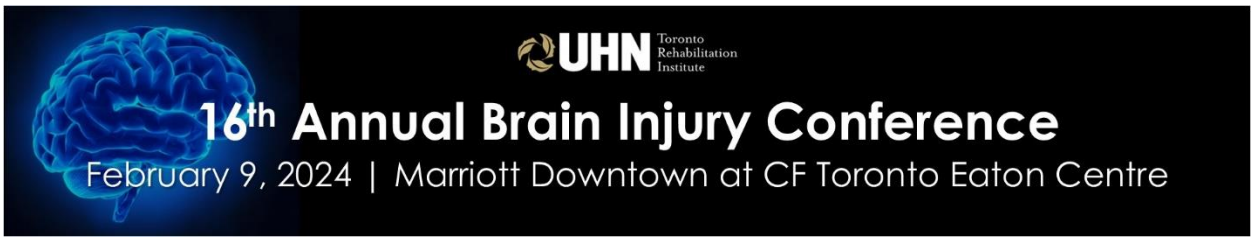

Poster #: 22

Abstract Title: Effects of repeated head impacts in Canadian university varsity level american football players on clinical presentation of head and neck pain and concussion-related symptoms

Author(s): Maée Camara[1]**,** Eric Wagnac[2], Isabelle Pagé[1], Louis de Beaumont[1], Laurie-Ann Corbin-Berrigan[1]

Organization/Affiliation: [1]Université du Québec à Trois-Rivières; [2]École de technologie supérieure

ABSTRACT:

Abstract Theme: Mild TBI / Concussion

Topic(s) of Interest: Basic Research

Purpose of Project: American football is widely known as a sport where frequent head impacts occur. In addition to being at increased risk of concussion, football athletes are also likely to develop persistent head and neck pain over time. Hence, this project aims to explore the role of reapeated head impacts in the appearance of head and neck pain and concussion-related symptoms.

Methods, Procedure, Results/Outcome, Conclusion: Twenty three university level varsity american football players were recruited on a voluntary basis. Twenty-four hours before each game of the regular season 2023-24 (n=8), participants reported their current symptoms, on the symptom scale of the Sport concussion assessment tool, 6th edition (SCAT-6). During the game, participants wore mouthguards instrumented with accelerometers and gyroscopes (IMM, Prevent Biometrics) to quantify and qualify repeated head impacts sustained during the game. Within two hours of finishing the game, participants once again reported their symptoms on the symptom scale of the SCAT-6. Preliminary results will be presented, where descriptive statistics of symptom evolution within games and season as well as repeated head impact metrics (quantity and quality) will be discussed. The association between symptom changes within the game (substracting post-game scores to pre-game score) and season (symptom evolution over the season) will be studied through various head impacts metrics such as number of impacts sustained, intensity of impact, linear and rotational accelerations sustained by the head, and much more. This research will allow to study the role of repeated head impacts in symptoms reported by football athletes, especially pertinent to head and neck pain. This study will be a first step towards better understanding the symptoms that football players are likely to develop over time, and could guide future prevention avenues.