Research Assessment #10

Date: November 5, 2021

Subject: Exercise for Sport-Related Concussion and Persistent Postconcussive Symptoms

MLA Citation:

Haider MN, Bezherano I, Wertheimer A, Siddiqui AH, Horn EC, Willer BS, Leddy JJ. Exercise for Sport-Related Concussion and Persistent Postconcussive Symptoms. Sports Health. 2021 Mar;13(2):154-160. doi: 10.1177/1941738120946015. Epub 2020 Nov 4. PMID: 33147117; PMCID: PMC8167349.

Assessment:

As I am focusing on sports-related head injuries I wanted to get a better understanding on if exercise is beneficial to the cognitive recovery process. I would have presumed that it is not, however through my interview with Dr. Covert, I remembered her talking about how athletes need to exert themselves back into their normal lives, so I wanted to further research this claim.

Old guidelines for sports-related concussions called for physical and cognitive rest, however this protocol does not stand true today. As sports-related concussions cause transient functional impairment, aerobic exercise can actually speed up the recovery process. It was previously believed that physical or cognitive activity after a concussion would prolong cognitive recovery, but now it has been proven that mild to moderate aerobic exercise is safe to perform after a sports-related concussion, and is not harmful whatsoever (Haider et. al). I find this methodology to be very crucial to my understanding of concussions, as I would have never guessed that returning to physical activity, no matter the degree, could actually lessen the recovery process for an athlete. I would have also never thought that patients who had concussion symptoms were more likely to remain symptomatic if prescribed rest. This is a very

interesting approach to concussion management that I believe is not widely known by ordinary concussion patients, so when places like the Baylor Scott & White's Sports Concussion Program practice this form of treatment I find it very fascinating.

Moreover, aerobic exercise has a physiological effect on the cerebrovascular part of the concussed brain, while exercise intolerance is a physiological dysfunction due to sports related concussions (Haider et. al). This means that active treatment improves outcomes more than rest-based treatment. I find this to be very intriguing as this new discovery is causing a shift in new medical guidelines. This relates to what Dr. Covert was saying to me during our interview, as she iterated that the pre-dated "dark room" method to treating concussions was actually more ineffective than effective. Through my original work project I can further spread awareness on how mild to moderate aerobic exercise can actually speed up the recovery process, a very important thing as athletes want to return to play as fast as possible. However, I need to also keep in mind that patients should not perform exercise above the symptom threshold otherwise it will actually prolong symptoms. Like all things, aerobic exercise as a viable sports-related concussion treatment is only effective in moderation.

As an aspiring future doctor I can take this new approach to whatever clinic I may work in. I really appreciate experimental research like this as it can lead to better outcomes for people like athletes, who long to return to their sports as soons as possible. As an athlete myself I understand the desire to get back to normal play as quickly as possible, and this new way of allowing moderate aerobic exercise can actually hold over athletes in their yearning to return to their normal activity levels.