

Apr 16th, 11:00 AM - 2:00 PM

Concussion Return to Play Protocols Effect on Athletes' Reporting of Symptoms

Timothy S. Waller

Cedarville University, twaller@cedarville.edu

Amanda R. Meade

Cedarville University, ameade@cedarville.edu

Elizabeth A. Sled

Cedarville University, esled@cedarville.edu

Michael S. Weller

Cedarville University, mweller@cedarville.edu

Follow this and additional works at: http://digitalcommons.cedarville.edu/research_scholarship_symposium



Part of the [Kinesiology Commons](#), and the [Sports Sciences Commons](#)

Waller, Timothy S.; Meade, Amanda R.; Sled, Elizabeth A.; and Weller, Michael S., "Concussion Return to Play Protocols Effect on Athletes' Reporting of Symptoms" (2014). *The Research and Scholarship Symposium*. 45.

http://digitalcommons.cedarville.edu/research_scholarship_symposium/2014/poster_presentations/45

This Poster is brought to you for free and open access by DigitalCommons@Cedarville, a service of the Centennial Library. It has been accepted for inclusion in The Research and Scholarship Symposium by an authorized administrator of DigitalCommons@Cedarville. For more information, please contact digitalcommons@cedarville.edu.



Concussion Return to Play Protocols Effect on Athletes Reporting of Symptom



Timothy S. Waller, ATS; Amanda Meade, MS, LAT, ATC; Elizabeth Sled, PhD, MS, PT; Michael S. Weller, MS, LAT, ATC.
Cedarville University, Cedarville, Ohio

Department of Kinesiology and Allied Health

ABSTRACT

When an athlete suffers a concussion, the standard return to play (RTP) guidelines are that they must sit out a minimum of a week as they go through a slow progression of exertional and neurocognitive tests once they are asymptomatic. This is a great improvement to concussion treatment in the past where athletes were often dangerously returned. However, because of this “blanket” 7-day minimum return policy, we believe the current RTP guidelines are potentially leading athletes to hide their symptoms more so they do not have to sit out. We surveyed 53 athletes from soccer, basketball, lacrosse, and football teams from 3 universities in Southwest Ohio (ages 18-22, 34=male, 19=female). The survey contained questions about their demographics, concussion symptom knowledge, concussion history, potential reporting of concussions, and opinion on their university’s return to play policy. The results showed that 40% of athletes would be willing to hide their symptoms of a mild concussion and 21% believe that their university’s return to play policy affects this decision. While the results do not completely confirm our hypothesis, we still believe that the numbers we received in our study are enough to warrant a consideration of the current “blanket statement” return to play policy in favor of a very similar but more individualized version.

INTRODUCTION

When an athlete is diagnosed with a concussion under the current consensus guidelines, they must sit out a minimum of a week as they go through a slow progression of exertional and neurocognitive tests once they are asymptomatic. While these guidelines have served a much needed purpose for moderate to severe concussions, an athlete can sustain a concussion with minimum symptoms and be asymptomatic the next day, but they still must work through the minimum 7 day RTP policy. Just like any injury, a brain injury can be mild or severe, and we should treat the concussion based on its severity (Guskiewicz, J of Ath Train, 2004). If the symptoms last for an extended period of time, then the athlete should be held out of play for as long as the symptoms (McCrorry Clin J Sport Med, 2009) But in the same realm of thought, if the symptoms last for a short time, the athlete should be able to return to play within a few days. Furthermore, athletes are often known to be dishonest about injuries in order to compete. (Theye, Clinical Medicine & Research. 2004) While this is common knowledge, we found very few studies that actually tested this.

PURPOSE

We desired to see if our current return to play policies potentially lead athletes to be dishonest about their concussion symptoms. If so, how can we continue our evolution of concussion policies to include individualized return to play policies, not only for those who are out for long periods of time, but also for those who are out short periods of time? Thus, the purpose of this study was to survey athletes from NCAA Division II sports about whether or not they would hide their concussions symptoms and if our current return to play guidelines affect this decision.

METHODS

Subjects

The athletes who we surveyed were from three NCAA Division II Universities in Southwest Ohio. All three of the universities that were used had return to play guidelines that were consistent with the International Consensus Guidelines. These athletes from these universities had to be involved in a sport with a high-incidence of concussions. Although the athletes had to be in a high concussion incidence sport (football, soccer, basketball, lacrosse), it was not a requirement that they had experienced a previous concussion. The survey was sent to a total of 220 athletes, of which 53 responded for a response rate of 24%. Of those who responded, 34 were male and 19 were female. The majority of these athletes were between the ages of 18-22.

Survey

Our research method for this study was survey based. In order to test our hypothesis, a 20 question survey was prepared with the following five sections: 1) Background demographic information questions (5 questions); 2) identifying common concussion symptoms (2 questions); 3) concussion history (2 questions); 4) reporting of concussions (6 questions), and 5) return to play guidelines (5 questions). The survey took approximately 10-15 minutes to complete though a brief survey of the official times shows that most athletes took the survey in under 10 minutes. The section on background demographic information included questions about the athletes age, gender, varsity sport, and the year of college they were in. The section on “identifying common symptoms” was included in the survey to assess whether the athletes had some knowledge of what a concussion would feel like as we were about to ask them whether they might be dishonest about concussion symptoms. The “concussion history” section showed us which athletes had actually experienced a concussion before. In the “reporting of concussions” section, we asked the athlete if they had been dishonest about concussions in the past and if they thought they would potentially hide concussion symptoms in the future. When questioning athletes about potential future concussions, we were careful to ask two different questions specifying the difference between hiding what they thought were “mild” symptoms and what they thought were “severe” symptoms.” We also asked them to explain why they would or would not lie. In the last section, we asked questions pertaining to their universities return to play guidelines, such as their knowledge of the policy, whether they were in favor of it or not, and if they would like to see anything changed in the policy. A sample question from this section is, “In your opinion, does your university’s concussion policy affect the way you report your concussion symptoms? Explain.” A full copy of the survey is located in appendix A (still to come).

Procedures:

An email was sent to the athletes briefly explaining the research project and providing a link to an online, electronic questionnaire. The athletes had one month to follow the link and complete the survey. A more detailed explanation of the project with the informed consent information was attached in a document to the email. Two weeks after the original email, another email was sent to the athletes reminding them to take the survey. The data was collected to the secure, online database. The demographic information and 7 of the “yes or no” and Multiple-choice closed-ended questions were quantitatively analyzed using the summary data provided by the online database. The remaining 8 open-ended questions were analyzed qualitatively for similar categories and themes

STATISTICAL ANALYSIS

The demographic information and 7 of the “yes or no” and Multiple-choice closed-ended questions were quantitatively analyzed using the summary data provided by the online database. The remaining 8 open-ended questions were analyzed qualitatively for similar categories and themes.

RESULTS

Identifying Common Concussion Symptoms:

Most athletes were able to correctly identify common concussion symptoms that we presented to them demonstrating that nearly all of them had a good knowledge of the symptoms that they could have if they sustained a concussion. Of 19 total options, headache(100%), dizziness(98%), concentration problems(96%), sensitivity to light and noise(96%), and confusion (92%) were the top chosen symptoms.

Concussion History:

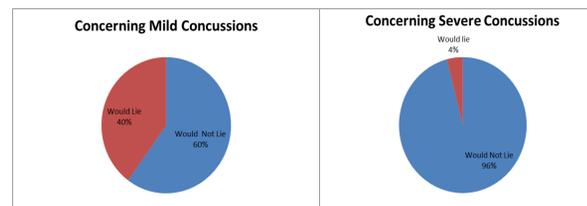
Out of 53 athletes, 22 athletes had sustained one or more concussions and 31 reported never having sustained a concussion. Of those who said they had sustained a concussion, 18 of the athletes were male and 4 were female.

Reporting of Concussions

When asked if they have ever lied about potential concussion symptoms, 7 answered that they had and 46 said they had not. Of the 7 who lied, 6 were male and 1 was female. When asked why they lied, the consensus was that they did not want to sit out or that they wanted to keep playing.

We next asked the athletes whether they would lie in the future about a potential concussion if they believed it was “mild” and then whether they would lie if they believed it was “severe”. Concerning the mild concussions, 40%(21) said they would lie and 60%(32) said they would not. Of these 21, 14 were men (41% of the male athletes) and 7 were women (36% of the female athletes). Of the 22 athletes who had already sustained a concussion, 45%(10) said they would still lie while 55%(12) said they would not. Concerning the severe concussions, only 4%(2) said they would lie and 96%(51) said they would not. Of the 22 athletes who had already sustained a concussion, 5%(1) said they would still lie while 95%(21) said they would not. Some of these results are displayed in Table 3.

Table 3



When asked why they would or why they would not lie about a mild concussion and then about the severe. The consensus was they would lie because they “wanted to play” or “didn’t want to sit out” and they did not lie because of “fear of worse injury” or “lifelong effects”.

Only about 50% of the athletes knew their RTP policy. when asked whether they were

or were not in favor of their university’s return to play policy, 94% (48) said “Yes” and 6%(3) said “No”. 32 athletes said that their RTP policy did not affect the way they reported symptoms while 14 (21% of the total athletes) said that it did. These results and reasons why are displayed in Table 2

Table 2



DISCUSSION

The results showed that 40% of the athletes would want to hide their symptoms if they thought the concussion was only “mild”. Based on our knowledge of athletes and other studies, we believe that this number would be very similar or higher if the study were to be done more extensively.(McCrea, *Clin Journal of Sp Med*, 2004) Ultimately, the athletes do not think the symptoms are serious enough to warrant missing playing time. This then leads to the question, “Is there such a thing as a ‘mild’ concussion?” The literature seems to support the idea that many concussions are mild and that they should be treated based on their severity. (Herring, *Med & Sci in Sp & Ex*, 2011) If concussions can be mild and the recovery be based upon the athletes symptoms, then why is there a blanket statement that there must be a 5 to 7 day minimum time out? The current literature states that 80-90% of concussions resolve in 7-10 days with many specifying that the symptoms often resolve within a week (Guskiewicz, J of Ath Train, 2004) But many of those 80-90% of concussions actually heal within a few days. (Elleberg, *J Neurotrauma*, 2009) We fully support the safety concerns behind the consensus guideline recommendations. However, 40% of athletes in our study would be willing to lie and hide their symptoms for fear of being held out. This is not safe for the athletes. Many of those athletes hide their symptoms regardless of the policy. But we firmly believe that telling athletes that they will have to sit out a guaranteed week offers them more reason to hide their symptoms. What if they knew they had a strong possibility of returning in 2-4 days? We believe that the 40-60% number of athletes who are hiding their symptoms would decrease if this was the case. The majority of athletes (79%) said that their RTP policy did not affect their reporting symptoms because they knew the safety risks they were taking if they hid their symptoms. However, 21% of the athletes in our study said that the policy did negatively affect the way they reported their symptoms. These answers strongly support our claim that our current guidelines are potentially causing athletes to hide their symptoms because they know for sure that they will be out a guaranteed week if they say anything.

Limitations: We had a small sample size and relied on the honesty of the athletes. We also lacked football, rugby, and hockey athletes who are the most susceptible to concussions.

CONCLUSION

The results to our study did not completely confirm our hypothesis. Only 40% admitted to hiding their symptoms. If our research was done on a larger scale we believe this number would increase. And only 21% said that their university’s return to play policy affected the way they reported their symptoms, which—also lower than we expected. Although our hypothesis was not fully supported, we still believe that the numbers we received in our study are enough to warrant a consideration of the current “blanket statement” return to play policy in favor of a very similar but more individualized version.