



## Spotlight on CARE Performance Site: Head Impact Measure Team (HIM)



The Head Impact Measurement (HIM) Core is part of the CARE Advanced Research Core (ARC) and consists of investigators from Virginia Tech (Duma, Rowson), the Medical College of Wisconsin (McCrea, Shah, Stemper), the University of North Carolina (Mihalik) and Indiana University (Harezlak, Rikken) focused on understanding the biomechanics of concussion and profiling head impact exposure in contact sports. The HIM Core is co-chaired by Stefan Duma and Brian Stemper and has been collecting head impact data using the Riddell

Head Impact Telemetry (HIT) System in six NCAA Division I football teams since the 2015 season. To

date, over 511 athletes have been enrolled in the HIM protocol and the group have collected data on over 400,000 unique head impacts.

Enrolled athletes have sustained 51 concussions for which head impact data have been collected. Head impact data from those concussive events, as well as the head impacts leading up to the concussion, are being used to advance our biomechanical understanding of how concussions occur and what factors may contribute to concussion. New insights from this arm of the CARE study include the recognition that some concussions may be the result of a series of head impacts in the days and weeks leading up to the concussion and not just a single high magnitude head impact, a better understanding that tolerance for concussion may vary from athlete to athlete, and identification of factors that can influence head impact exposure including an athlete's team, position, and time during the season.

The group has highlighted these findings in peer-reviewed journal articles and at scientific meetings, and has an aggressive publication schedule planned for the next 12 months. The next phase of this study is taking shape and will involve coordination with other arms of the ARC to correlate head impact biomechanical information with changes in brain imaging metrics, clinical assessments, and blood biomarkers.

## CARE Consortium Findings: As reported by the NCAA

CARE Consortium researchers from around the country are publishing scientific papers from data gathered in the CARE Consortium. The NCAA has established a website to highlight publications which originate from this effort. Examples include:

- \*The acute effects of concussion and repetitive head impact exposure;
- \*Analysis of head impact forces;
- \*Advanced brain imaging techniques;
- \*Genetics and blood biomarkers and their relationship to brain injury;
- \*And clinical and neurobiological recovery times.

While each study's findings are focused on a specific subject, and all reflect emerging information, taken together, the papers paint an early portrait of the natural history of mild Traumatic Brain Injury (mTBI).

Read Full Article: <http://www.ncaa.org/sport-science-institute/topics/care-consortium-findings>



### CARE in Action

We are in need of new pictures for our CARE website and social media sites. Please share and submit ideas/post/tweets/pictures

of CARE in action from your site with the CARE AOC  
careaac@iupui.edu.

Thank You!

## CARE Connect

If you would like to collaborate with the CARE Consortium, please complete a Research Collaboration form. Collaboration Requests are reviewed monthly by the CARE Consortium Operating Committee.

CARE Research Collaboration

## CARE Data Request

Please note: there are two separate forms available for use when requesting data and/or publication of data from the CARE Consortium Publication Committee. Data and Publication requests are reviewed monthly by the CARE Publication Committee.

For any questions, please contact the CARE AOC at careaac@iupui.edu.

Thank You.

CARE Data Request

CARE Publication Request



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