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Jan Medical and University of Wyoming join together to advance concussion detection technology

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Student athletes from the University of Wyoming (UW) are being asked to volunteer in a clinical study to further development of the BrainPulseTM device by Jan Medical. UW is a Division I athletics university with over 400 student athletes. The study began in early December 2016 and over 200 male and female student athletes have enrolled so far. The research team at Jan Medical is working with the school's sports medicine and athletic departments to collect concussion data. Participation in this study is completely voluntary and is being conducted under a well-defined clinical protocol.

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"Concussion research has exploded nationally over the last few years. Although student athletes are not required to enroll in the study, the high rate of participation so far signifies the importance of concussion research among our athletes," said Matthew Boyer, DO, Medical Director and Head Team Physician for Primary Care and Sports Medicine at University of Wyoming. "We appreciate all of our athletes whom have donated their time for this project."

The study device, BrainPulse by Jan Medical, utilizes a novel, non-invasive approach to obtain neurophysiological parameters that can provide clinically useful information for diagnosis of brain pathologies such as stroke and traumatic brain injuries. The BrainPulse system operates using a passive headset and small computer. The headset, similar to a bike helmet, sits on top of the head and uses highly responsive sensors to detect movement of the skull via vibrations on the surface of the skin. These vibrations, produced by heartbeat and blood flow into the brain, are naturally occurring in every person. Each sensor includes a small crystal that reacts to motion, which is then recorded by the computer. Since the headset is a monitoring device only, no energy such as electricity, radiation or heat, is being generated or transmitted to the participant's head. The BrainPulse technology is the first of its kind and has received de novo clearance by the FDA as a cranial motion measurement device.

Both concussed and non-concussed student athletes will participate in the recording phase of the clinical trial to produce an accurate side-by-side analysis. Participation will involve at least one recording with the BrainPulse device, and some athletes will complete multiple recording sessions depending on their exposure to injury. Each recording session lasts approximately three minutes and requires the participant to sit still during that time period. All information collected in the voluntary study will be considered confidential. The evaluation of symptoms, physical examination, neurological baseline testing and device recordings will be entered in a database to determine clinical outcomes and assess the BrainPulse device efficacy.

"Correlating this device to concussions objectively will be groundbreaking for future implications including rehabilitation care, classroom activity and return to sports activity," stated Ryan Pinson, M.Ed. ATC / LAT, Director of Sports Medicine at University of Wyoming. "Our number one goal is optimal healthcare for the student athletes, and I feel we are making breakthroughs with innovation and research."

"We are excited to work with Jan Medical in their effort to progress diagnosis and management of athletically related concussions with the BrainPulse device," commented Cole Vertz, MS ATC / LAT, Associate Athletic Trainer and Director of Rehabilitation at University of Wyoming.

The specific purpose of this study at UW is to collect data to improve BrainPulse algorithms that aid in the diagnosis of concussion. All information collected may aid doctors in understanding specific conditions of the brain that result from concussion or other traumatic brain injuries, establishing the areas of greatest benefit for this emerging technology.