

CALIFORNIA STATE SCIENCE FAIR 2016 PROJECT SUMMARY

| Name(s) | Project Number |
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| Project Title | \mathcal{O} |
| HeadSentry: A Real Time System for Preventing Second Impact Syndrome from an Overlooked Concussion in Aquatic Sports | |
| Objectives/Cools Abstract | |
| Objectives/Goals Concussions and other head injuries are very common in a wide variety of contend concussion that goes undetected can be severely life threatening to athletes throes Second Impact Syndrome (SIS). As a result, this research project precents thead monitoring system that can help identify whether an athlete has systered an imperative a concussion, and initially focuses on the sport of water polo. Methods/Materials This project employed a multifaceted approach through the following steps. First conducted to substantiate the need for more effective concursion detection we biomechanics of concussions were investigated. Then, a sensor using acceleration were sensor using a crash test dummy head and neck system to measure the every of ball if Results It was found that impacts towards the front of the need were more dangerous that that reducing the air pressure of the water polo ball could potentially reduce the concussions. Lastly, a real-time monitoring system and web application was devide when a player is struck, identify potential symptoms, and propose diagnostic test and severity of the hit. Conclusions/Discussion As HeadSentry continues through the development process, it will expand into a concussion detection and diagnostic system to revolutionize player safety in a monitoring system. | In what is known as Sentry, a real-time that could potentially st, an online survey was ater polo. Next, the neters was constructed into . Tests were conducted impacts. an towards the side and prevalence of veloped to notify coaches sts based on the direction |
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| Summary Statement This research project presents an innovative system designed to improve the cur concussion detection and to prevent the potentially fatal Second Impact Syndrom | |
| Help Received | |