

Oregon research team scores with 'The Concussion Playbook'

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Ann Glang, co-director of the Center for Brain Injury Research and Training at the University of Oregon, led a study looking at the impact of a web-based tool to communicate issues related to concussions suffered by high school athletes. The website targets students, coaches, parents and teachers. Credit: University of Oregon

Recognize. Report. Respond. Rest. A University of Oregon researcher

wants those "R" words to resonate among young athletes. They are key terms used in an online educational tool designed to teach coaches, educators, teens and parents about concussions.

Brain 101: The Concussion Playbook successfully increased knowledge and attitudes related to brain injuries among students and parents in a study that compared its use in 12 high schools with the usual care practices of 13 other high schools during the fall 2011 sports season. The findings are online ahead of print in the *Journal of Adolescent Health*.

Participants, including 4,740 students, were in Oregon's largest high schools, Class 6A, that have athletic trainers on staff. Implementation began as the athletes took baseline cognitive assessments. Students in Brain 101 schools were then introduced to the website. Control school athletes saw a video produced by the Centers for Disease Control.

Brain 101's 15-minute segment for students is factual but simplistic, with bits of humor that teens did not find offensive, said website co-creator and study lead author Ann E. Glang, co-director of the UO-based Center for Brain Injury Research and Training. A national marketing consultant with expertise on influencing teenagers helped with messaging for the student segment, she said.

"We knew that influencing teens is really, really hard. So many kids believe that if they report a [concussion](#) it will cost them the season," she said. "Reporting on a teammate is the same—there's a strong code of staying together. So we knew what we were up against."

The playbook's main point: 3.8 million concussions occur every year in not just football but also in other sports and recreational pursuits. Across the nation, laws require that kids suspected of being concussed be pulled from play until cleared by a health-care provider.

"What's out there are mandates but not a lot of tools," said Glang, who worked half time to develop the web program as part of a seven-member research team at ORCAS, a health technology and innovation company originally known as the Oregon Center for Applied Science. "The goal for our resource is to get all of the adults and all of the kids to understand the stakes."

Following the study's completion, ORCAS decided to continue to host the website and allow schools and parents to access and use it free of charge.

"It is a very well done program," said Michael Mulvihill, chief executive officer of ORCAS, a company that today focuses on behavioral research for mobile self-management interventions. "It has generated a lot of interest and excitement and is available for free—no registration required—for the public good. ORCAS is happy to sponsor it, promote it and host it."

Brain 101 was built using the framework developed in the early 1990s in the UO College of Education for the School-Wide Positive Behavioral Interventions and Supports program, Glang said. That program is now used in more than 20,000 schools around the world.

The material, adjusted for each user group, is concisely presented, requiring little reading time, and supported with animation and videos. Specifically avoided, Glang said, were fear tactics. The content relied on interviews with researchers, certified [athletic trainers](#), neuropsychologists, physicians and public health officials. Smashing Ideas of Seattle provided the creative work.

Students are encouraged to report their own injuries as well as possible injuries in their teammates. Educators are guided on what to look for in the classroom. Parents get information on concussion symptoms and

steps they may use at home and in consultation with teachers to enhance recovery. Coaches see a 20-minute program on recognizing and responding to concussions and reducing risks.

Glang's team included two doctors with expertise diagnosing and treating concussions. Recovery tactics for concussed students include academic adjustments such as shortened [school](#) hours, less workload and additional time on tests—in addition to rest from the activities involved in the concussions.

During the study, youth athletes in Brain 101 schools experienced 51 concussions; control schools had 43. Concussed students receiving the Brain 101 approach received 51 academic accommodations compared to 25 in the control schools. Concussion-management teams were established at 77 percent of the Brain 101 schools, while only 20 percent of control schools took that step.

"The website is a stand-alone intervention," Glang said. "So many interventions require a paid outside or on-staff consultant to help bring about change. We just wanted to see what we could do if we just handed them a website."

More information: *Journal of Adolescent Health*,
www.jahonline.org/article/S1054-139X%2814%2900343-7/abstract

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