

Study reveals potentially unnecessary radiation after suspected sports-related injury

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A new study of Utah youth with suspected sports-related head injuries found that emergency room visits for children with sports-related head injuries have increased since the state's concussion law passed in 2011, along with a rise in head CT scans—leading to potentially unnecessary radiation exposure.

The results were announced at the Pediatric Academic Societies conference in Vancouver, British Columbia in May by William McDonnell, M.D., J.D., associate professor of pediatrics at the University of Utah.

The study, completed by McDonnell and other University of Utah faculty, examined Intermountain Healthcare's emergency department database for 19 hospitals in Utah between September 1, 2009 and September 1, 2012. Researchers wanted to know if the number of children and teenagers with suspected sports-related head injuries between ages 6 and 18 who came to hospital emergency departments changed, if the number of CT scans grew, and what those scans revealed.

Like 48 other states, Utah passed a [concussion](#) and youth sports law intended to protect children. Utah's law states that a youth suspected to have a concussion or traumatic head injury must be removed from play, evaluated by a qualified medical professional, and cleared before he or she can return to play.

"It sounds so reasonable to everyone," McDonnell said. "And we all want to treat children's injuries, and prevent them whenever possible. For that reason [these kind of laws] have flown through state legislatures."

Comparing ER visits before and after the law, the researchers found that the number of children

coming in for a suspected sports-related head injury went up 43 percent in one year after the law was passed. The total number of CT scans on these children increased 17 percent.

Of the scans completed on 61 additional [children](#) in the year after the law was passed, 54 were negative—meaning the child's head was not seriously injured. On the other hand, a few more serious [head injuries](#) were caught. The study is ongoing.

"What I don't want this study to come across as is saying concussions don't matter," McDonnell said. "They definitely do—but the important thing is to treat them medically correctly."

The researchers are not ready to say whether Utah should change its law. However, they believe that legislators and state [health policy makers](#) need to consider the effects of the law.

"We think people need to recognize there are costs and benefits," he said.

Provided by University of Utah Health Sciences

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