

# Get a Heads Up on Concussion in Sports Policies

National Center for Injury Prevention and Control Division of Unintentional Injury Prevention



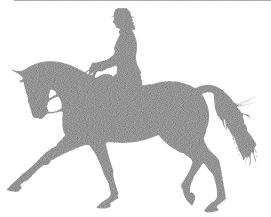
# What Do We Know?

A concussion is a type of traumatic brain injury that can have a serious effect on a young, developing brain.<sup>1,2</sup> While most children and teens with a concussion recover quickly and fully, some will have concussion symptoms that last for days, weeks, or even months.

Not giving the brain enough time to heal after a concussion can be dangerous. A repeat concussion that occurs before the brain heals from the first, usually within a short amount of time (hours, days, weeks), can slow recovery or increase the chances for long-term health problems. These may include changes in how the child or teen thinks, feels, and acts, as well as their ability to learn and remember. While rare, a repeat concussion can result in brain swelling or permanent brain damage. It can even be fatal. 6-10

#### The Facts

- Athletes who have had a concussion, at any point in their lives, have a greater chance of getting another concussion.
- Young children and teens are more likely to get a concussion and can take longer to recover than adults 3-5
- Recognizing and responding properly to concussions when they first occur can help prevent further injury or even death.<sup>6-10</sup>



## What Can We Do?

A concussion can happen at home, school, or play. So everyone from parents and coaches, to sports leagues officials and school professionals, can play an important role in learning how to spot a concussion, and knowing what to do if they think a child or teen has a concussion.

## **Policy Efforts**

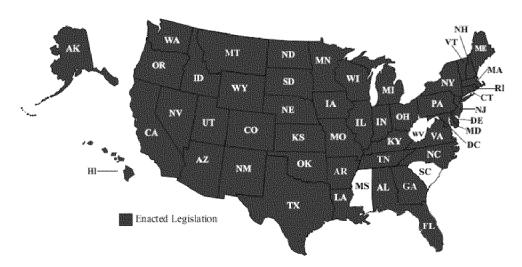
Recently many states, schools, and sports leagues and organizations have created policies or action plans on concussion in youth and high school sports. While these policy efforts show some promise, more research is needed to learn if these strategies can help educate coaches and parents about this issue and help protect children and teens from concussion and other serious brain injuries. 12,13



Check out a CDC report that includes lessons learned from Washington and Massachusetts on implementing their states' concussion in sports laws. Learn more at: www.cdc.gov/concussion/policies.html.

#### State Laws:

Beginning in 2009, the state of Washington passed the first concussion in sports law, called the Zackery Lystedt Law. <sup>14</sup> One month later, Max's law <sup>15</sup> passed in Oregon. In total, between 2009 and 2012, 43 states, and the District of Columbia, passed laws on concussion in sports for youth and/or high school athletes, often called Return to Play Laws. So far in 2013, four additional states have also passed Return to Play Laws. Some organizations, such as the National Conference of State Legislatures, have created online maps to track and update concussion in sports laws by state.



Source: National Conference of State Legislatures, 2013.16

# Most Concussion in Sports Laws Include Three Action Steps:

- Educate Coaches, Parents, and Athletes: Inform and educate coaches, athletes, and their parents and guardians about concussion through training and/or a concussion information sheet.
- Remove Athlete from Play: An athlete who is believed to have a concussion is to be removed from play right away.
- Obtain Permission to Return to Play: An athlete can only return to play or practice after at least 24 hours and with permission from a health care professional.

These action steps are based on recommendations presented in the International Concussion Consensus Statement.<sup>17</sup> First created in 2002 and most recently updated in 2008, the Consensus Statement was developed by experts in the field and includes the latest science available on concussion in sports.

#### **Local Policies and Action Plans:**

Along with the three action steps listed on the previous page, some school and league concussion policies include additional strategies in their policies or implementation plans. Research is needed to learn if including these additional strategies can help protect children and teens from concussion and other serious brain injuries. Based on interviews by CDC with nine states, below is a list of some examples of additional strategies in local policies and action plans.

### Be Ready for an Emergency by:

Creating a concussion emergency medical action plan.
These plans often include contact information for local emergency medical responders and the location of trauma centers, if available.

 Identifying appropriate health care professional(s) for games and practices to help assess and manage concussion among their athletes.

#### Ensure Safer Play by:

- Limiting contact during sports practices (when appropriate for the sport).
- Putting in place rule changes and/or banning or limiting the use of certain drills or techniques to help reduce the chances of injury.
- Checking sports equipment often. This includes making sure the equipment fits the athletes well, is in good condition, stored properly, and is repaired and replaced based on instructions from the equipment companies.

CDC *Heads Up* educational materials (available at no cost) can help state and local organizations meet many of the requirements in concussion in sports policies. Materials include online courses for.

- · Youth coaches and parents
- High school coaches (developed in partnership with the National Federation of State High School Associations)
- Health care professionals (developed with support from the NFL and CDC Foundation)



#### Build the Science by:

- Collecting data from schools on the number of concussions reported by athletes during the season.
- Studying changes in concussion knowledge and awareness among coaches and parents before and after the policy is put in place.

## Focus on Education by:

- Posting information for parents, coaches, and athletes at schools and on the field or sidelines. Posted information often includes concussion signs and symptoms, as well as what to do if a concussion occurs.
- Hosting or requiring regular trainings for athletes, parents, coaches, and school and health care professionals about concussion.

### Manage Return to School by:

- Providing information on returning to school. This includes creating:
  - A concussion management team to check on students with a concussion for any changes in behavior or increased problems with school work.
  - A plan that includes special support or help for students during the school day to help with their recovery.

# References:

- Ewing-Cobbs L, Barnes M, Fletcher JM, et al. Modeling of longitudinal academic achievements scores after pediatric traumatic brain injury. *Dev Neuropsychol* 2004; 25(1-2): 107-33.
- Ewing-Cobbs L, Prasad MR, Kramer L, et al. Late intellectual and academic outcomes following traumatic brain injury sustained during early childhood. *J Neurosurg* 2006; 105(4 Suppl): 287-96.
- Gilchrist J, Thomas KE, Xu L, McGuire LC, Coronado VG. Nonfatal sports and recreation related traumatic brain injuries among children and adolescents treated in emergency departments in the United States, 2001-2009. MMWR 2011: 60(39); 1337-1342.
- Halstead ME, Walter KD, The Council on Sports Medicine and Fitness. Sport-related concussion in children and adolescents. *Pediatrics*. 2010; 126: 597-615.
- Datalys Center. Home page. Datalys Center Website. Available from: http://www. datalyscenter.org/. Accessed October 27, 2011.
- Yang J, Peek-Asa C, Allareddy V, Phillips G, Zang Y, Cheng G. Patient and hospital characteristics associated with length of stay and hospital charges for pediatric sportsrelated injury hospitalizations in the United States, 2000-2003. *Pediatrics*. 2007; 119: e813-e820.
- Cantu R. Second impact syndrome: Immediate management. Physician and Sports Medicine. 1992:20:55-66.
- 8. Cantu R. Second-impact syndrome. Clinical Sports Medicine. 1998;17:37-44.
- Cantu R, Voy R. Second impact syndrome. Physician and Sports medicine. 1995;23(6):27-34.
- 10. McCrory P, Berkovic S. Second impact syndrome. Neurology. 1998;50:677-683.
- 11. Saunders R, Harbaugh R. The second impact in catastrophic contact-sports head trauma. *JAMA*. 1984;252(4):538-539.
- Shenouda C, Hendrickson P, Davenport K, Barber J, Bell KR. The effects of concussion legislation one year later—what have we learned: a descriptive pilot survey of youth soccer player associates. *The Journal of Injury, Function, and Rehabilitation.* Jun;4(6):427-35.2012.
- 13. Murphy A, Kaufman MS, Molton I, Coppel DB, Benson J, Herring SA. Concussion evaluation methods among Washington State high school football coaches and athletic trainers. *The Journal of Injury, Function, and Rehabilitation.* Jun;4(6):419-26. 2012.
- Washington State. Engrossed House Bill 1824, Chapter 475, Laws of 2009, 61st Legislature, 2009 Regular Session. Effective: July 26, 2009. Available from: http://apps.leg.wa.gov/documents/billdocs/2009-10/Pdf/Bills/Session%20Law%202009/1824. SL.pdf. Accessed January 3, 2011.
- Oregon state. Senate Bill 348. 75th Oregon Legislative Assemble—2009 Regular Session. Available from: http://www.leg.state.or.us/09reg/measures/sb0300.dir/sb0348. en.html. Accessed July 3, 2011.
- Map of Concussion in Sports Legislation. National Conference of State Legislatures. http://www.ncsl.org/issues-research/health/traumatic-brain-injury-legislation.aspx. Accessed May 13, 2013.
- McCrory, Meeuwisse, Johnston, Dvorak, Aubry, Molloy, Cantu. Consensus statement on concussion in sport – The 3rd International Conference on concussion in sport, held in Zurich, November 2008, *Journal of Clinical Neuroscience* 16 (2009) 755–763.



#### **Additional Resources:**

For more information and resources on concussion and CDC's Heads Up program, visit www.cdc.gov/Concussion or contact CDC at cdcinfo@cdc.gov or 1-800-CDC-INFO (232-4643) TTY 1-888-232-6348.



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