

Date of Hearing: April 12, 2016

ASSEMBLY COMMITTEE ON ARTS, ENTERTAINMENT, SPORTS, TOURISM, AND
INTERNET MEDIA

Kansen Chu, Chair

AB 2182 (Mullin) – As Amended March 29, 2016

AS PROPOSED TO BE AMENDED IN COMMITTEE

SUBJECT: School athletics: neurocognitive testing.

SUMMARY: Creates a baseline neurocognitive testing pilot program for concussion and head injury, as defined, applying to students playing interscholastic sports, as provided, and requires specified schools to collect, maintain and report on traumatic brain injuries sustained by any pupil during athletic competition.

Specifically, **this bill:**

1) Creates a Neurocognitive Testing Pilot Grant Program, which would provide grants to schools, subject to appropriation, in order to do the following:

a) Establish baseline neurocognitive testing of pupils attending grades 9 through 12, as specified.

Further requires that this testing must take place at the beginning of an athletic season before any competitions have taken place and after any head injury, and shall be repeated at intervals not exceeding 24 months for as long as the athlete is enrolled at the school.

b) Provide post injury neurocognitive testing of an athlete who is suspected of sustaining a concussion or head injury in an athletic activity.

Mandates post injury neurocognitive tests be conducted within 72 hours of the occurrence of the injury.

c) Train personnel or to consult with experts on the interpretation of post injury test results.

d) Report to the county office of education data that includes an overview of the baseline neurocognitive testing conducted for each of the sports covered under the program, and an overview of normal, abnormal, and follow-up post injury neurocognitive tests. The data shall also include the number of athletes who discontinue participation in the sport following a concussion and post injury testing.

2) States that the grant funds shall be used for testing of pupils participating in interscholastic athletics in any of the following sports:

- a) Baseball.
- b) Basketball.
- c) Cheerleading.
- d) Field hockey.
- e) Football.
- f) Ice hockey.

- g) Lacrosse.
 - h) Rugby.
 - i) Soccer.
 - j) Softball.
 - k) Volleyball.
 - l) Wrestling.
- 3) Declares that the department shall develop an application for school districts interested in participating in the pilot program.
 - 4) Requires that school districts interested in participation must commit to participating in the pilot for four years in order to track students tested in grade 9 through high school.
 - 5) Defines “Neurocognitive testing” to mean: a comprehensive evaluation of a person’s cognitive status by specific neurologic domains, including, but not necessarily limited to, memory, attention, problem solving, language, visuospatial, processing speed, motor, and emotion.
 - 6) Requires the department to submit a report, as specified, within six months after the conclusion of the grant program to the appropriate policy committees of the Legislature with the following information:
 - a) The number of athletes who received the baseline tests.
 - b) The number of athletes who received the post injury tests.
 - c) The number of athletes who had taken the tests and discontinued participation in any of the sports covered under the program due to concussion injuries.
 - 7) Requires school districts, charter schools, or private schools to collect and maintain data on traumatic brain injuries and concussions sustained by any of its pupils during an athletic competition.
 - 8) Provides that this data shall be reported periodically to the appropriate county office of education, but the names of the injured pupils shall be kept confidential. The county office of education shall compile and retain the data for summary and analysis as it deems necessary.
 - 9) Declares the bill's provisions will sunset January 1, 2022.
 - 10) Makes related findings and declarations.

EXISTING LAW:

- 1) Limits full-contact practices, as defined, for high school and middle school football and urges the California Interscholastic Federation (CIF) adoption of rules to implement such guidelines. (Education Code 35179.5)
- 2) Requires an athlete suspected of sustaining a concussion or head injury during athletic activity to be removed from that activity and not be permitted to return until evaluated and

cleared by a licensed health care provider; urges the CIF to develop rules and protocols to implement this; requires athletes and parents to receive, sign and return a head injury information sheet annually before practice or competition; and excludes athletic activities during the regular school day or as part of a physical education course. (Education Code 49475)

- 3) Requires a high school sports coach to complete education programs developed by his or her school district and the CIF and meeting specific guidelines. (Education Code 49032)

FISCAL EFFECT: Unknown

COMMENTS:

- 1) *Author's statement in support and need for legislation.* According to the author, "A concussion is a traumatic brain injury (TBI) caused by a bump, blow, or jolt to the head. Although concussions are generally considered mild TBIs, they can have serious consequences if not properly diagnosed and managed. Athletes who sustain concussions are at greater risk of chronic traumatic encephalopathy, depression, early onset dementia, and long-term brain damage.

"Research shows that the human brain does not fully develop until a person's mid-20s. Therefore, young athletes experiencing head injuries are at greater risk of long-term brain damage if injured during the critical stages of brain development. From 2002 to 2012 the number of reported sports-related concussions among student athletes doubled. This increase in reported concussions is attributed to various factors, including greater awareness and recognition of TBIs. However, research shows that it is likely that self-reported concussion symptoms are under diagnosed, which may lead athletes to return to play prematurely."

This bill stems in part from events in the author's district, where some school districts in San Mateo County have sought stronger protections for student athletes and have, in some cases, paid for neurocognitive testing. Following on this, the San Mateo County Civil Grand Jury studied the issue and recommended, among other things, that all districts in the county serving high school students provide neurocognitive testing for all student athletes, and recommended that the districts seek funding and collect data. The grand jury report noted that a leading purveyor of the tests charges school districts \$1,200 for 800 baseline tests. These tests are computerized, with results received automatically by the testing company.

- 2) *Background: Concussions and Chronic Traumatic Encephalopathy (CTE) making recent news.* The dangers of concussions and head injuries in sport have been a growing concern, with frequent news reports of athletes, primarily football players, sustaining traumatic and lasting injuries. On March 1, 2016, this committee participated in a screening of the movie "Concussion" featuring Dr. Bennett Omalu who discussed his ground breaking research into CTE which was the focus of the film, in conjunction with a discussion of the topic of sports safety and concussion prevention by the California Athletic Trainers' Association (CATA). In addition to a major motion picture on the issue, other dramatic news reports in March alone include:
 - a) A representative of the National Football League testified that there is a connection between football and chronic traumatic encephalopathy.

- b) Women's soccer standout Brandi Chastain announced she would donate her brain to science for research into head injuries.
- c) Ivy League schools announced they would eliminate full-contact practices for football.

A Purdue University study in 2015 indicated lasting brain changes among high school football players, even without concussions, and that changes were not completely healed at the end of an off-season. The study used brain scans and changes in brain chemistry to track players more extensively than neurocognitive testing.

The growing awareness of concussion dangers has led California to enact a series of bills to protect students by limiting full-contact practices; requiring education and information for coaches, pupils and their parents; and protocols for removing students from activity after injury and for returning them to play (See comment 5 below).

- 3) *What is CTE and how is it related to concussions?* According to information on the website of the Bennett Omalu Foundation, "Chronic Traumatic Encephalopathy (CTE) is a progressive degenerative disease that afflicts the brain of people who have suffered repeated concussions and traumatic brain injuries (TBI). Though Bennet Omalu first discovered CTE in the brain of NFL Hall of Famer Mike Webster in 2002, it was previously thought to have existed in boxers, and was referred to as dementia pugilistica. It has since been found in the brains of more than ninety NFL players, and other athletes, including wrestlers and hockey players. It has also been identified in the brains of deceased military veterans, domestic abuse victims, and others.

"The brain of an individual who suffers from CTE gradually deteriorates and begins to lose mass. Brain trauma can also cause the accumulation of a type of protein called tau, which significantly interferes with brain function. As CTE progresses, it can cause memory loss, impulsive and erratic behavior, difficulty with balance, impaired judgment, and behavioral disturbances including aggression, depression, and increased suicidality. Ultimately, CTE progresses to the onset of dementia. A similar accumulation of tau protein is also seen in the brains of Alzheimer's patients. CTE symptoms can manifest months or years after brain trauma, and a definitive diagnosis of CTE can only be made after death by analyzing brain tissue at autopsy.

"The CDC estimates that up to 3.8 million concussions occur each year, with up to ten percent of high school athletes suffering from post-concussion syndrome. Trauma is also often repeated: an athlete who sustains a concussion is four to six times more likely to sustain a second concussion. It's not well understood how these incidents of trauma progress to CTE and currently there is no cure."

- 4) *Education Committee amendments will be taken in this committee.* This measure was heard in the Committee on Education April 6, 2016, and in that hearing the author accepted substantial amendments. Due to the approaching deadline for hearing of fiscal bills and committee schedules these amendments could not be put in print within the time allowed by the Joint Rules, and therefore they will be adopted and put into the measure in this committee. The following describes the amendments:

- a) *The bill now creates a pilot project.* Committee staff expressed concern that requiring all school districts to implement neurocognitive testing of all athletes participating in the specified sports will create a significant mandate, noting that there are 1.8 million students participating in California Interscholastic Federation sports alone. The amendments strike that requirement and establish a four-year grant program in three districts (one in northern, one in central and one in southern California) based on the parameters of the bill.

According to the Education Committee analysis, operating the pilot for four years would allow districts to track first year high school students through potentially four years of sports activities. Districts interested in participating in the pilot shall receive funds for administering baseline and post-injury neurocognitive tests to high school students participating in the specified sports identified in the bill and to pay for training of personnel or to consult with experts on the interpretation of post-injury test results.

Selection shall be based on a district's commitment to participate in the pilot for four years, a commitment to submit specified data to the county office of education (COE) and other criteria established by the California Department of Education (CDE). Within six months after the conclusion of the pilot, the CDE shall, based on data provided by COEs located in the districts participating in the pilot program, submit a report to the appropriate policy committees of the Legislature on the number of athletes that received the baseline tests and the post-injury tests, and the number of athletes who had taken the tests and stopped playing a sport due to concussion injuries.

b) *Other amendments:*

- i) Amend the findings and declarations section to replace "physicians" with "licensed health care providers."
- ii) Revise various parameters of the bill for implementation through a pilot program, such as deleting charter schools and private schools from the bill, deleting the requirement that school districts pay for the tests, and deleting specific requirements as to who administers and interprets the tests.
- iii) Revise the provision requiring submission of neurocognitive testing data to the COE to instead require all school districts and charter schools to submit data on the number of athletes sustaining brain injuries and concussions to the COE.

5) *Committee conforming language amendment suggested.*

The pilot program language and reporting requirements contained in Section 1 of the bill refer to injuries sustained during "athletic activities," which would include injuries which were suffered during both competition and practices. However, the injury report language contained in section 2 of the bill refers only to injuries sustained during "athletic competition." The author has agreed to amend the bill in order to conform the language of these two sections, and will amend page 5, line 6, to strike the word "competition" and replace it with "activity."

6) *Prior and related legislation.*

- a) AB 2007 (McCarty), Legislation of 2016, would protect youth sports participants from severe injury by requiring the same protocols to be in place as those in place for high school athletes. AB 2007 is currently pending before this committee.
- b) AB 2127 (Cooley), Chapter 165, Statutes of 2014, among other things, limits full-contact practices for high school and middle school football teams for concussion and head injury prevention, and requires that a return-to-play protocol after concussion or head injury be no less than seven days in duration.
- c) AB 588 (Fox), Chapter 423, Statutes of 2013, extends requirements relating to students who sustain, or are suspected of sustaining, a concussion during a school-sponsored athletic activity to charter schools and private schools.
- d) AB 25 (Hayashi), Chapter 456, Statutes of 2011, among other things, requires an athlete suspected of sustaining a concussion or head injury to be removed from activity immediately, requires written clearance from a medical health care provider for the athlete's return and requires a yearly information sheet be signed by an athlete and the athlete's parent or guardian.

REGISTERED SUPPORT / OPPOSITION:

Support

California Psychological Association

Consumer Attorneys of California

Opposition

There is no opposition on file.

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