

Date of Hearing: April 26, 2021

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

Sharon Quirk-Silva, Chair

AB 1348 (McCarty) – As Amended April 21, 2021

SUBJECT: Youth athletics: chronic traumatic encephalopathy.

SUMMARY: This bill would require the Surgeon General to convene a Commission on Chronic Traumatic Encephalopathy and Youth Football to investigate issues related to the risks of brain injury, if any, associated with participation in youth football, as specified.

Specifically, **this bill:**

- 1) Requires the Surgeon General to convene a Commission on Chronic Traumatic Encephalopathy and Youth Football to investigate issues related to the risks of brain injury associated with participation in youth football.
- 2) States the purpose of the Commission is to provide recommendations to the Governor and Legislature on:
 - a) Strategies to reduce the risks of brain injury associated with participation in youth football, if any, and;
 - b) The minimum appropriate age for participation in youth tackle football.
- 3) Provides the Commission shall be led by the Surgeon General and consist of members selected by the Surgeon General, including, but not be limited to, members with expertise in public health, neuroscience, neurology, or other relevant fields.
- 4) Directs the Commission to review, investigate, and analyze issues relating to the risk of brain injury associated with participation in youth football, including:
 - a) The risk of concussion, chronic traumatic encephalopathy (CTE), or other brain injury from participation in youth tackle football.
 - b) The short and long-term health consequences of concussion, CTE, or other brain injury in youth.
 - c) How the risks and health consequences described in paragraphs (1) and (2) vary with the age of the youth tackle football participant.
- 5) Requires, on or before July 1, 2023, the Surgeon General to publish a report on their internet website on the findings of the Commission, including recommendations on the following issues:
 - a) The appropriate minimum age for participation in youth tackle football.

- b) Best practices for minimizing the risk of concussion, CTE, or other brain injury in youth football, including youth tackle football.
- 6) Makes various Legislative findings and declarations.
- 7) Contains a Sunset clause of January 1, 2024, at which time the section will be repealed.

EXISTING LAW:

- 1) Requires a school district, charter school, or private school to comply with the following requirements if it offers a football program:
 - a) Prohibits a high school or middle school football team from conducting more than two full-contact practices per week during the preseason and regular season (defines “full-contact practice” as a practice where drills or live action is conducted that involves collisions at game speed);
 - b) Limits the full-contact portion of a practice from exceeding 90 minutes in any single day; and,
 - c) Prohibits a high school or middle school football team from holding a full-contact practice during the off-season.
- 2) Requires a youth sports organization, as defined, to comply with certain requirements related to athletes suspected of sustaining a concussion or head injury, including removal from the athletic activity and a prohibition on returning until he or she is evaluated by a licensed health care provider. Requires youth sports organizations to give a concussion and head injury information sheet to each athlete.
- 3) Requires a school district, charter school, or private school that offers an athletic program to comply with concussion and head injury requirements similar to those applying to youth sports organizations described in 2) above.
- 4) Requires a youth sports organization to offer concussion and head injury education, or related educational materials, to each coach and administrator of the youth sports organization, and requires each coach and administrator to successfully complete this education at least once, either online or in person, before supervising an athlete.
- 5) Requires a youth sports organization to annually give the Opioid Factsheet for Patients published by the Centers for Disease Control and Prevention to each athlete.
- 6) Prohibits a youth tackle football team from conducting more than two full-contact practices per week during the preseason and regular season.
- 7) Prohibits a youth tackle football team from holding a full-contact practice during the off-season.

- 8) Limits the full-contact portion of a youth football team practice from exceeding 30 minutes in any single day.
- 9) Requires a youth football team coach to annually receive a tackling and blocking certification from a nationally recognized program that emphasizes shoulder tackling, safe contact and blocking drills, and techniques designed to minimize the risk during contact by removing the involvement of a participant's head from all tackling and blocking techniques.
- 10) Requires each youth tackle football administrator, coach, and referee to annually complete all of the following:
 - a) The concussion and head injury education required under existing law for coaches and administrators of a youth sports organization;
 - b) The Opioid Factsheet for Patients that existing law requires to be given to each athlete in a youth sports organization; and,
 - c) Training in the basic understanding of the signs, symptoms, and appropriate responses to heat-related illness.
- 11) Requires each parent or guardian of a youth tackle football participant to receive the concussion and head injury information for that athlete pursuant and the Opioid Factsheet for Patients, as required under existing law.
- 12) Requires each football helmet to be reconditioned and recertified every other year, unless stated otherwise by the manufacturer. Restricts the entities who can perform the reconditioning and recertification to only those entities licensed by the National Operating Committee on Standards for Athletic Equipment. Requires every reconditioned and recertified helmet to display a clearly recognizable mark or notice in the helmet indicating the month and year of the last certification.
- 13) Requires a minimum of one state-licensed EMT, paramedic, or higher-level licensed medical professional to be present during all preseason, regular season, and postseason games. Requires the EMT, paramedic, or higher-level licensed medical professional to have the authority to evaluate and remove any participant from the game who exhibits an injury, including, but not necessarily limited to, symptoms of a concussion or other head injury.
- 14) Requires a coach to annually receive first aid, cardiopulmonary resuscitation, and automated external defibrillator (AED) certification.
- 15) Requires at least one independent non-rostered individual, appointed by the youth sports organization, to be present at all practice locations. Requires the individual to hold current and active certification in first aid, CPR, AED, and concussion protocols. Requires the individual to have the authority to evaluate and remove any youth tackle football participant from practice who exhibits an injury, including, but not limited to, symptoms of concussion or other head injury.
- 16) Requires safety equipment to be inspected before every full-contact practice or game to ensure that all youth tackle football participants are properly equipped.

- 17) Requires every youth tackle football participant removed from a game or practice to comply with provisions of law requiring a parent or guardian to be notified, and that require written clearance from a licensed health care provider to return to athletic activity. Requires the injury to be reported to the youth tackle football league.
- 18) Requires each youth tackle football participant to complete a minimum of ten hours of noncontact practice at the beginning of each season for the purpose of conditioning, acclimating to safety equipment, and progressing to the introduction of full-contact practice. Prohibits youth tackle participants from wearing any pads, and to only wear helmets if required to do so by the coaches, during this noncontact practice.
- 19) Requires a youth sports organization to annually provide a declaration to its youth tackle football league stating that it is in compliance with this bill, and to either post the declaration on its internet website or provide the declaration to all youth tackle football participants within its youth sports organization.
- 20) Requires a youth tackle football league, on and after January 1, 2021, to establish youth tackle football participant divisions that are organized by relative age or weight or by both age and weight.
- 21) Requires a youth tackle football league, on and after January 1, 2021, to retain information, from which the names of individual are not identified, for the tracking of youth sports injuries. Requires this information to include the type of injury, the medical treatment received by the youth tackle football participant, and return to play protocols followed by the participant pursuant to this bill.

FISCAL EFFECT: Unknown. This measure has been keyed Fiscal by the Legislative Counsel.

COMMENTS:

- 1) *Author's statement of need for legislation.* According to the Author, "The purpose of this bill is to receive recommendations and/or guidance from the California surgeon general and the commission she convenes on age appropriateness for children to play youth tackle football. Head injury is a leading cause of morbidity and mortality in childhood and when it comes to contact sports, football continues to be the leading cause of head injuries. There is endless documentation on the complications that can result from head injury. Such injuries can often result in concussions and repeated injury can lead to Chronic traumatic encephalopathy (CTE). Some of the known post-concussion symptoms are chronic headaches, depression, anxiety, poor memory, irritability and poor concentration to mention a few. These symptoms are more alarming for children who are still developing their brains. With this legislation, we are seeking further clarification on the appropriate age for children to play contact football, the leading cause of sports-related head injuries. ... This bill tasks the California Surgeon General to create a commission on CTE and Youth Football to explore risks of brain injury related to participation in youth football. The commission must provide the legislature with recommendations on the appropriate age for youth to participate in tackle football and best practices to reduce brain injury while playing the sport."

2) *Background:*

- a) *The movie Concussion drew attention to the possible nexus between CTE and football.*

This committee hosted a screening of the film, *Concussion*, and a dialogue on the topic of concussion in sports with Dr. Bennet Omalu, who is portrayed in the film, and representatives of the California Athletic Trainers Association in 2016. Many of the issues raised in that film and subsequent policy discussions of this committee regarding athlete safety have seen their way into law.

A recent article on Dr. Omalu in the *Washington Post*, based on interviews with more than 50 experts in neurodegenerative disease and brain injuries, and a review of more than 100 papers from peer-reviewed medical journals, points out that 15 years after the movie, the cause of CTE is still a mystery. “Since 2005, when Omalu first reported finding widespread brain damage in a former NFL player, concerns about CTE have inspired a global revolution in concussion safety and fueled an ongoing existential crisis for America’s most popular sport. Omalu’s discovery — initially ignored and then attacked by NFL-allied doctors — inspired an avalanche of scientific research that forced the league to acknowledge a link between football and brain disease. ... After more than a decade of intensive research by scientists from around the globe, the state of scientific knowledge of CTE remains one of uncertainty.” (*From scientist to salesman: How Bennet Omalu, doctor of ‘Concussion’ fame, built a career on distorted science*, Jan. 22, 2020, Hobson, *Washington Post*)

- b) *Chronic Traumatic Encephalopathy (CTE).* CTE is degenerative brain disease and is caused by a build-up of a protein called Tau in the brain. It was first recognized in the modern medical literature as the condition of being, “punch drunk,” an allusion to its association with disabled boxers. This tau protein can form barriers in the brain which impede neuro pathways. There is no known cause for why some people develop CTE, but not others. To date, there is no proven association with the number of head injuries, the severity of head injury, or in the case of athletes, and the duration of time a player is exposed to potential head injury. CTE has been found in teenagers, young adults, and middle aged persons. CTE symptoms are similar to Alzheimer's Syndrome and dementia, and may include: difficulty thinking, impulsive behavior, depression or apathy, short-term memory loss, emotional instability, substance abuse, suicidal thoughts or behavior, difficulty planning and carrying out tasks.
- c) *Studies conclude... we need more studies.* Finding a cause for the tau protein build up which causes CTE has been difficult and tying that to football has thus-far eluded science. While one study surmised in its conclusion, “Additional research studies, especially large cohort longitudinal studies, are needed to better understand the potential long-term clinical implications of youth American football to inform policy and safety decision-making.” (*Age of first exposure to American football and long-term neuropsychiatric and cognitive outcomes*, Alosco, et al, *Transl Psychiatry* (2017) 7, e1236; doi:10.1038/tp.2017.197).

A leading research group in the field of CTE stated the problem as, “The exact relationship between repetitive mild traumatic brain injury, with or without symptomatic concussion, and CTE is not entirely clear, although it is possible that repetitive axonal injury sets up a series of metabolic, ionic, and cytoskeletal disturbances that trigger a pathological cascade leading to CTE in susceptible individuals. ... Longitudinal research

efforts are underway to shed additional light on the specific variables related to head trauma, neuropathology, and clinical presentation of CTE that remain unanswered. *Chronic Traumatic Encephalopathy: A Potential Late Effect of Sport-Related Concussive and Subconcussive Head Trauma*, Gavett, Stern, and McKee, Clin Sports Med. 2011 January ; 30(1): 179–xi. doi:10.1016/j.csm.2010.09.007.

There are differing definitions of CTE and limited sources for brain donations, which has also made it difficult for researchers to comparatively study sample populations. As one study introduction proffered, “Because of differing sampling approaches and inclusion criteria, reported frequencies of CTE in autopsy cohorts has varied considerably...” (*Association between contact sports participation and chronic traumatic encephalopathy: a retrospective cohort study*, Bieniek, et al, Brain Pathology 30 (2020) 63–74)

- d) *Desire to avoid brain injuries has brought about change in the sport of football.* The NFL was sued by retired players who claimed their physical, mental and behavioral problems were caused by CTE, which in turn they claimed was caused by playing football. Numerous studies were presented by each side which was unable to definitively prove either claim. The NFL eventually settled the case. Research is ongoing.

The NFL has since changed many rules in order to make the game safer and lessen the chances of head contact. Tackling rules include no "spearing" style or hitting the helmet of another player, no hitting a defenseless player, fewer high impact plays such as run-backs of punts and kick offs, etc. The NCAA, other collegiate athletic governing bodies as well as the CIF have also established safe tackling protocols and limited full contact practices. In California, youth football rules were revamped in line with American Academy of Pediatrics recommendations for safe play. (See discussion of AB 1 (Cooper) below.

- e) *Concussion prevention efforts.* California has instituted various laws which require concussion prevention and coaches training in both schools and in youth sports, including requirements that schools must have concussion and return to play protocols for all sports; 27 Youth Sports must have concussion, heat exhaustion and return to play protocols, and; practice and full-contact drill limits for schools which elect to have a football team. AB 1 (Cooper), The California Youth Football Act, established a comprehensive safety scheme for youth tackle football including, among other things; not conducting more than 2 full-contact practices, as defined, per week during the preseason and regular season; not holding a full-contact practice during the off-season; having coaches receive a tackling and blocking certification, as specified; having designated personnel annually complete specified concussion and head injury education, a specified factsheet related to opioids, and designated training relating to heat-related illness, as defined; meeting specified requirements relating to safety equipment; having a licensed medical professional present during games, as specified; having coaches receive first aid, cardiopulmonary resuscitation, and automated external defibrillator certification; and inspecting safety equipment, as specified., was based on standards proposed by the American Academy of Pediatrics, Council on Sports Medicine and Fitness, *Tackling in Youth Football* (Journal of Pediatrics, Volume 136, number 5, November 2015).

- 3) *California Surgeon General.* The position of California Surgeon General was created by Governor Newsom by EXECUTIVE ORDER N-02-19, which stated in part:

IT IS HEREBY ORDERED that there is established the position of Surgeon General, a public entity within the Governor's direct executive authority.

IT IS FURTHER ORDERED that the Surgeon General shall:

- Advise the Governor on a comprehensive approach to addressing health risks and challenges as effectively and as early as possible.
- Marshal the insights and energy of medical professionals, scientists and other academic experts, public health experts, public servants, and everyday Californians to solve our most pressing public health challenges.
- Be a key spokesperson on public health issues throughout the State of California by providing Californians with the best medical and scientific evidence through public health reports and other tools of communicating widely to the public.

According to her Website, “The role of California Surgeon General was created in 2019 by Governor Gavin Newsom with the understanding that some of the most pernicious, but least addressed health challenges are the upstream factors that eventually become chronic and acute conditions that are far more difficult and expensive to treat. The position’s responsibilities include advising the Governor, serving as a leading spokesperson on matters of public health, and driving solutions to our most pressing public health challenges.”

- 4) *Recent amendments: As mentioned above in Comment 2, there is no known cause for why some persons develop CTE and others with similar medical and athletic histories do not. Therefore, the Author amended the bill to make the following changes to the findings and declarations:*

The Legislature finds and declares all of the following:

- a) Chronic traumatic encephalopathy (CTE) is a degenerative brain disease. ~~caused by repeated head traumas.~~
 - b) CTE ~~has been~~ *is suspected to* be linked to participation in contact sports such as boxing and football.
 - e) ~~Research shows that the risk of CTE increases with the number of years of football played.~~
 - d) CTE can cause mood and behavioral symptoms, including impulse control problems, aggression, depression, and paranoia.
 - e) CTE can result in impaired cognitive function, including memory loss, impaired judgment, and progressive dementia.
- 5) *Committee staff comments: The author may wish to expand the sports studied by the Surgeon General to be inclusive of more dangerous contact sports, including those played by young women who have a higher incidence of concussions in similar sports. The author has confined the study requested by AB 1348 to youth football. However, as stated in the analysis of AB 1 The California Youth Football Act, (discussed above and below), “It should be noted that these types of injuries happen in other sports too, and often at higher rates than in tackle football. In researching this and prior measures, the committee staff learned that the*

US Consumer Product Safety Commission, NEISS, found, ‘Pop Warner football has 12% fewer injuries per capita among 5-15 year olds than organized soccer in the same age ranges.’ And in a recent comparison between flag football, the frequently proffered ‘safer’ replacement, and tackle football, the University of Iowa found just the opposite result: ‘Our first objective was to determine whether flag football had lower injury rates than youth tackle football. The injury rate found in the youth flag league is significantly higher than the injury rate in youth tackle football (P ¼ .0065). Therefore, we reject our initial hypothesis.’”

A recent American Academy of Pediatrics study, *Concussion Incidence and Trends in 20 High School Sports*, found that while football had the highest overall incidence of concussions of the sports reviewed, nine other sports had a higher incidence of recurrent concussions, including baseball, wrestling, cheerleading, girls and boys lacrosse, basketball and soccer. Importantly, they also found, “When examining sex-comparable sports (ie, soccer, basketball, baseball or softball, cross country, swimming, and track and field), the overall concussion rate was higher in girls than in boys. This finding was retained when examining specific sex comparable sport pairs and when restricted to competitions or practices only.” Ibid.

The study noted that rates of football practice-related concussions and recurrent concussions across all sports have decreased. Concluding, “Future research should also target risk and preventive factors in other sports that allow contact, the role of skill development to reduce equipment related contact, and strategies to mitigate increased concussion risk in the latter halves of events.” (*Concussion Incidence and Trends in 20 High School Sports*, Pierpoint, Zuckerman, et al, Pediatrics 2019;144;).

Given the author’s stated concern regarding risks of repeated head injuries, it would seem advisable to include sports that have higher incidence of repeated concussions, and not simply football which has a 7.7% (and declining) rate of repeat concussions. Especially given that the concussion rates for girls in sports is higher than boys, it is concerning that the current bill does not include any review of risks to their health or “long and short term consequences of concussion, CTE or other brain injury.” Suggested additional sports would include wrestling (10.3%), baseball (11%), girls’ soccer (9.8%) and cheerleading (8.2%) and both boys lacrosse (12.1%) and girls’ field hockey (12.1%). Note: Percentages are the rate of repeat concussions within the overall number of concussions sustained in each sport.

6) *Prior and related legislation.*

- a) AB 1 (Cooper), Chapter 158, Statutes of 2019, The California Youth Football Act, beginning January 1, 2021, establishes a comprehensive safety scheme for youth tackle football including, among other things; not conducting more than 2 full-contact practices, as defined, per week during the preseason and regular season; not holding a full-contact practice during the off-season; having coaches receive a tackling and blocking certification, as specified; having designated personnel annually complete specified concussion and head injury education, a specified factsheet related to opioids, and designated training relating to heat-related illness, as defined; meeting specified requirements relating to safety equipment; having a licensed medical professional present during games, as specified; having coaches receive first aid, cardiopulmonary resuscitation, and automated external defibrillator certification; and inspecting safety equipment, as specified.

The bill, also on and after January 1, 2021, requires a youth tackle football league to establish youth tackle football participant divisions that are organized by relative age or weight or by both age and weight, and to retain information for the tracking of youth sports injuries, as specified.

- b) AB 379 (Maienschein), Chapter 174, Statutes of 2019, added protocols relating to sudden cardiac arrest prevention to the concussion protocols imposed on youth sports organizations under existing law, and would delete designation of 27 covered sports from the definition of youth sports organization for purposes of this provision, thus expanding the scope of covered youth sports organizations. Status: passed out of this committee 7-0 and is currently pending on the Assembly floor.
- c) AB 2108 (McCarty), of 2018, this bill would have prohibited any person who is not at least 12 years of age from playing tackle football with a youth sports organization, as specified. Status: Withdrawn by the author prior to hearing in this committee.
- d) AB 2800 (Chu), Chapter 21, Statutes of 2017, requires high school coaches to be trained with a basic understanding of the signs and symptoms of heat illness, as defined, and the appropriate response to heat illness.
- e) AB 2007 (McCarty), Chapter 516, Statutes of 2016, requires a concussion and head injury information sheet to be signed and returned by the athlete and athlete's parent or guardian before an athlete begins practice or competition in one of 27 sports offered by youth sports organizations, and proscribes return to play protocols for concussed athletes.
- f) AB 2127 (Cooley), Chapter 165, Statutes on 2014, limits full-contact football practices, as provided, and requires a student-athlete who has suffered a concussion or head injury to complete a graduated return-to-play protocol of at least seven days, as specified.

REGISTERED SUPPORT / OPPOSITION:

Support

There is no support on file.

Opposition

There is no opposition on file.

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