

Date of Hearing: June 23, 2026

ASSEMBLY COMMITTEE ON ARTS, ENTERTAINMENT, SPORTS, AND TOURISM

Christopher M. Ward, Chair

ACR 175 (Tangipa) – As Amended June 18, 2026

SUBJECT: Chronic traumatic encephalopathy awareness

SUMMARY: ACR 175 declares the Legislature’s commitment to leading the nation in evidence-based brain safety for youth athletes. It states that no child’s neurological future should be compromised by preventable sports injuries, and affirms California’s dedication to translating cutting-edge neuroscience into practical protections for its youngest citizens participating in athletic activities.

Specifically, **this resolution** makes the following legislative findings:

- 1) The developing brains of children are uniquely vulnerable to repetitive head impacts, with research demonstrating structural and functional changes from subconcussive trauma occurring even in the absence of diagnosed concussions.
- 2) Chronic traumatic encephalopathy (CTE), a preventable neurodegenerative disease caused by repeated head trauma, has been neuropathologically confirmed in contact sport athletes as young as 17 years of age, establishing the urgent need for early preventative education.
- 3) Section 124235 of the Health and Safety Code requires youth sports organizations to provide concussion and sudden cardiac arrest information sheets, but critically fails to address the distinct mechanisms and cumulative risks for CTE from repetitive subconcussive impacts, nor does it provide education for youth athletes and coaches despite participation in contact sports beginning as early as five years of age, while also lacking guardian accountability measures for understanding sports-related neurological risks.
- 4) Peer-reviewed studies demonstrate that 85% of parents underestimate the frequency of head impacts in youth football games, and fewer than 20% can identify CTE symptoms, creating dangerous knowledge gaps.
- 5) California’s existing school concussion protocols prove the efficacy of mandated safety education, yet fail to address the epidemic of subconcussive trauma preceding diagnosable concussions.
- 6) The American Academy of Pediatrics now recommends delaying tackle football and heading soccer balls until adolescence, citing irreversible axonal damage observed in preadolescent athletes after single seasons of contact sports.
- 7) States recognition by the Legislature of the urgency to amend existing concussion protocols, creating a comprehensive approach to brain injury prevention, and that all youth sports organizations must implement modified rules designed to reduce head impacts.
- 8) States the intent of the Legislature that these organizations be required to voluntarily submit annual safety reports documenting head impact exposure during practices and games while

providing noncontact alternatives for athletes whose families choose to minimize head injury risks.

EXISTING LAW:

- 1) Requires a youth sports organization 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. (Health and Safety Code (HSC) Section 124235(a)(1)(A))
- 2) Requires youth sports organizations to give a concussion and head injury information sheet to each athlete on a yearly basis. (HSC 124235(a)(3)(A))
- 3) 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. (HSC 124235(a)(4)-(5)(A))
- 4) Requires each parent or guardian of a youth tackle football participant to receive the concussion and head injury information for that athlete, and the Opioid Factsheet for Patients. (HSC 124241(f))

FISCAL EFFECT: None. This measure is keyed nonfiscal by the Legislative Counsel.

COMMENTS:

- 1) Author's statement. According to the author, "ACR 175 is a simple resolution that highlights the importance of brain health for young athletes and the science behind Chronic Traumatic Encephalopathy. The resolution recognizes that repeated head impacts, even those that do not result in a diagnosed concussion, may still pose long-term risks to developing brains. By raising awareness of CTE and the need for evidence-based safety education, ACR 175 encourages a more complete conversation around youth sports, prevention, and informed decision-making for families, coaches, and athletic organizations."
- 2) Background. In 2015, the movie Concussion was released starring Will Smith as Dr. Bennet Omalu, who first discovered chronic traumatic encephalopathy (CTE) in the brain of NFL Hall of Famer Mike Webster in 2002. The movie, based on a 2009 article called "Brain Game" published in GQ magazine, detailed conflicts between Dr. Omalu and the NFL over his research on CTE, and the possible nexus between this neurodegenerative disease and tackle football. This committee hosted a screening of the film in 2016, and many of the issues raised in the movie led to policy discussions regarding athlete safety that have seen their way into law.

Research to-date suggests that CTE is caused in part by repeated traumatic brain injuries, including concussions, and repeated hits to the head, called sub-concussive head impacts. Symptoms can include difficulty thinking, impulsive behavior, depression or apathy, short-term memory loss, emotional instability, substance abuse, suicidal thoughts or behavior, and difficulty planning or carrying out tasks. The disease often gets worse over time similar to

Alzheimer's Syndrome and dementia. Most documented cases have occurred in athletes involved in contact sports such as football, wrestling, ice hockey, rugby, and soccer, as well as striking-based combat sports like boxing and mixed martial arts.

The exact amount of trauma required for the condition to occur is unknown, and a definitive diagnosis can only occur posthumously during autopsy. There is no specific treatment for the disease. There is no known cause for why some people develop CTE, but not others. There is also no proven association with the number of head injuries, the severity of head injury, or the duration of time an athlete is exposed to potential head injury. CTE has been found in teenagers, young adults, and middle aged persons.

- 3) Data and research. According to a study published by Nature Communications in June 2023, there is a large correlation between the increasing years of football played, as well as the cumulative exposure measures, and CTE status.¹ 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.

The committee held an informational hearing in October 2023 on youth tackle football and improving athlete safety. According to Dr. Stella Legarda, a board certified pediatric neurologist, clinical neurophysiologist, and epilepsy specialist, and the current President of the California Neurology Society, a research study that included 214 former American football players found that those who began playing football before the age of 12 had more than two times the probability for clinically meaningful impairments in reported behavior regulation, apathy, and executive function, and more than three times the probability for clinically elevated depression scores.²

Dr. Legarda's presentation also included information from a study conducted by the CDC which states that youth athletes who play tackle football sustain 23 times more high-magnitude impacts per athletic exposure than a child who plays flag football.³ The findings suggest that non-contact or flag football programs may be a safer alternative for reducing head impacts and concussion risk for youth football athletes under age 14. According to her presentation there are more than 3.9 million pre-high school tackle football players between the ages of 6-14. That number drops significantly to 1.1 million high school football players, then just over 19,000 NCAA players, and almost 1,700 NFL players.

A study published in the Annals of Neurology in October 2019 found that there was a strong dose-response relationship for the number of years of football played with CTE neuropathology, doubling odds of disease every 2.6 years and doubling odds of severe disease among those with CTE every 5.3 years. Another April 2018 study published in the Annals of Neurology found that younger age of exposure to tackle football was not

¹ Daneshvar, D.H., Nair, E.S., Baucom, Z.H. et al. Leveraging football accelerometer data to quantify associations between repetitive head impacts and chronic traumatic encephalopathy in males. Nat Commun 14, 3470 (2023). <https://doi.org/10.1038/s41467-023-39183-0>

² Transl Psychiatry (2017) 7, e1236; doi:10.1038/tp.2017.197

³ Waltzman et al, Sports Health 13(5):454-462; https://www.cdc.gov/traumaticbraininjury/pubs/youth_football_head_impacts.html#

associated with CTE pathological severity, but predicted earlier neurobehavioral symptom onset.

According to research by the Boston University School of Medicine, which was conducted through telephone clinical interviews with family and friends of 246 deceased football players, those who began tackle football before age 12 experienced symptoms an average of 13 years earlier than those who started playing at age 12 or older.⁴ The researchers, who controlled for total years of play, level of play, and factored in what decade athletes started playing (to account for different styles of play and protection through the years), found that each year younger that athletes began to play tackle football correlated with an earlier onset of cognitive problems by 2.4 years, and behavioral and mood problems by 2.5 years.

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.”⁵

- 4) Age of first exposure. Data provided to the committee by representatives of the NFL include studies published in journals and publications and were conducted by researchers representing institutions such as MIT, University of Pennsylvania, University of Texas, Medical College of Wisconsin, University of Delaware, Massachusetts General Hospital Institute of Health Professions, University of Michigan, Indiana University School of Medicine, Harvard Medical School, Spaulding Research Institute, The Ohio State University, University of North Carolina, Mass General Hospital for Children Sports Concussion Program, Princeton University, University of California, New York University, Stanford School of Medicine, Perelman School of Medicine, among others. Six of these seven studies encompass 9,000 individuals in comparative aspects of playing tackle football before and after 12 years of age. In addition, one study’s cohort included national representation of 7th-12th graders. Studies were conducted from 2017-2023.

One study concluded that the age of first exposure to tackle football before 12 years old was not associated with worse behavioral, cognitive, psychological and physical (oculomotor functioning and postural stability) outcomes. The current findings suggest that timing of onset of football exposure does not result in poorer functioning in adolescence and young adults and may contribute to resilience through decreased levels of physically related psychological distress.⁶

Another study concluded that those playing football before 12 versus after the age of 12 did not differ significantly in their ratings of depression, anger, anxiety, headaches, migraines,

⁴ <https://www.bu.edu/articles/2018/youth-football-linked-to-earlier-brain-problems/>

⁵ 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.

⁶ Brett, Benjamin L., Daniel L. Huber, Alexa Wild, Lindsay D. Nelson, and Michael A. McCrea—Sports Health 11, no.4. (2019) 332-342

neck or back pain, chronic pain, concentration problems, or memory problems. There were no statistically significant correlations between the age of first exposure to football.⁷

- 5) American Academy of Pediatrics. In November of 2015, the American Academy of Pediatrics (AAP) published a policy statement on tackling in youth football. AAP stated that the cumulative effects of concussions and the potential for a cumulative effect of subconcussive blows to the head, have been hypothesized as a causative risk factor for CTE. The recognition of these injuries and the potential for long term consequences have led some physicians to call for a reduction in the number of contact practices, a postponement of tackling until a certain age, and even a ban on high school football. The most commonly injured body parts in football at all ages are the knee, ankle, hand, and back. The head and neck sustain a relatively small proportion of overall injuries, ranging from 5% to 13%. Tackling is the most common player activity at the time of injury, and at the time of severe injury. The AAP includes the opinion that delaying the age at which tackling is introduced to the game would likely decrease the risk of injuries for the age levels at which tackling would be prohibited; however, once tackling is introduced, athletes who have no previous experience with tackling would be exposed to collisions for the first time at an age at which speeds are faster, collision forces are greater, and injury risk is higher. AAP stated that removing tackling from football altogether would likely lead to a decrease in the incidence of overall injuries, but it recognizes removing tackling from football would also lead to a fundamental change in the way the game is played.

A more recent study published by AAP in November 2019 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. The study noted that rates of football practice-related concussions and recurrent concussions across all sports have decreased.

- 6) The California Youth Football Act. 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. AB 1 (Cooper) of 2019, established the California Youth Football Act, which based on the standards proposed by AAP established a comprehensive safety scheme for youth tackle football including, among other things; not conducting more than two full-contact practices 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; 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.

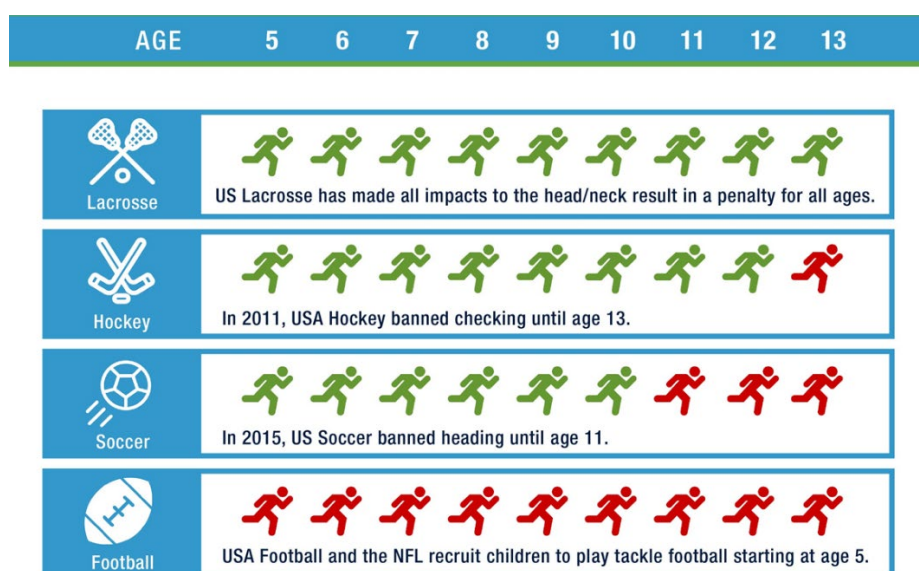
The provision of the California Youth Football Act took effect on January 1, 2021. It is important to note that the Act requires leagues and organizations to retain information for the

⁷ Iverson, Grant L., Jaclyn B. Caccese, Zachary C. Merz, Fionn Büttner, and Douglas P. Terry --Frontiers in neurology 12 (2021): 585.

tracking of youth sports injuries, but no statewide organization is currently gathering that information. Additionally, the Act specifically does not prohibit any youth sports organization or youth tackle football league from adopting and enforcing rules providing a higher level of safety than the requirements of the Act.

- 7) Improving athlete safety. The committee and its members have heard the perspectives of many youth tackle football coaches and league administrators from across the state. Most believe that the safety measures in current law have been effective, and that more time and data is needed in order to demonstrate changes in youth athlete injury statistics. They also believe in a variety of the sport's positive impacts to communities and young athletes, which range from improving physical and social skills, to diversions from engaging in negative activities, especially in urban areas and disadvantaged communities with lower socioeconomic attainment.

The committee's October 2023 informational hearing received testimony from Dr. Chris Nowinski. A concussion in 2003 inspired him to start researching concussions and CTE, and he has been an advisor to the NFL Players Association since 2010 and an advisor to the Ivy League since 2011. In his testimony, he pointed out age restrictions in youth contact sports other than football.



REGISTERED SUPPORT / OPPOSITION:

Support

None on file.

Opposition

None on file.

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