

Date of Hearing: March 29, 2023

ASSEMBLY COMMITTEE ON EDUCATION
Al Muratsuchi, Chair
AB 1653 (Sanchez) – As Amended March 20, 2023

SUBJECT: Interscholastic athletic programs: emergency action plans: heat stroke

SUMMARY: Requires the California Interscholastic Foundation (CIF), in consultation with the California Department of Education (CDE), to develop guidelines, procedures and safety standards for monitoring the safety of practice and play when wet bulb globe thermometer (WBGT) readings reach specified levels, no later than July 1, 2024; and requires the governing board of the school district or the governing body of the charter school to ensure that there is a written emergency action plan in place that describes the location and procedures to be followed in the event of heat illness related to the athletic program's activities or events. Specifically, **this bill:**

- 1) Requires, in order to better protect student athletes participating in athletics during hot weather, the CIF, in consultation with the CDE, to develop guidelines, procedures and safety standards for monitoring the safety of practice and play when WBGT readings reach specified levels, no later than July 1, 2024.
- 2) Requires the guidelines to identify the WBGT readings at which a school must limit or prohibit practice and play.
- 3) Defines "wet bulb globe thermometer" as an instrument measuring the ambient temperature, humidity, wind, speed, sun angle, and cloud cover at the site of the athletic activity.
- 4) Requires, if a school district or charter school elects to offer any interscholastic athletic program, the governing board of the school district or the governing body of the charter school to ensure that there is a written emergency action plan in place that describes the location and procedures to be followed in the event of heat illness related to the athletic program's activities or events.

EXISTING LAW:

- 1) States that if a school district or charter school elects to offer any interscholastic athletic program, the governing board of the school district or the governing body of the charter school must ensure that there is a written emergency action plan in place that describes the location and procedures to be followed in the event of sudden cardiac arrest and other medical emergencies related to the athletic program's activities or events. The written emergency action plan shall be posted in compliance with the most recent pertinent guidelines of the National Federation of State High School Associations. (Education Code 35179.4)
- 2) Establishes the High School Coaching Education Training Program (HSCTP), which is administered by school districts and emphasizes the following components:

- a) Development of coaching philosophies consistent with school, school district, and governing board of a school district's goals;
- b) Sport psychology: emphasizing communication, reinforcement of the efforts of pupils, effective delivery of coaching regarding technique and motivation of the pupil athlete;
- c) Sport pedagogy: how pupil athletes learn, and how to teach sport skills;
- d) Sport physiology: principles of training, fitness for sport, development of a training program, nutrition for athletes, and the harmful effects associated with the use of steroids and performance-enhancing dietary supplements by adolescents;
- e) Sport management: team management, risk management, and working within the context of an entire school program;
- f) Training: certification in CPR and first aid, including, but not limited to, a basic understanding of the signs and symptoms of concussions and heat illness and the appropriate response to concussions and heat illness. Concussion or heat illness training may be fulfilled through entities offering free, online, or other types of training courses. For purposes of this section, "heat illness" includes heat cramps, heat syncope, heat exhaustion, and exertional heat stroke;
- g) Knowledge of, and adherence to, statewide rules and regulations, as well as school regulations including, but not necessarily limited to, eligibility, gender equity and discrimination; and
- h) Sound planning and goal setting. (EC 35179.1)

FISCAL EFFECT: Unknown

COMMENTS:

Need for the bill. According to the author, "Heat illness has become a leading cause of death for our student athletes. Parents and schools need all the tools they can to help ensure student athletes are able to practice and play their sports under reasonably safe conditions. That's why I've introduced AB 1653, to help provide schools with more tools to be better prepared for emergencies related to heat illness."

Emergency action plans. Existing law requires, if a school district or charter school elects to offer any interscholastic athletic program, the governing board of the school district or the governing body of the charter school to ensure that there is a written emergency action plan in place that describes the location and procedures to be followed in the event of sudden cardiac arrest and other medical emergencies related to the athletic program's activities or events. Currently law requires the written emergency action plan to be posted in compliance with the most recent pertinent guidelines of the National Federation of State High School Associations. This bill adds heat stroke to the list of items included in the written emergency action plan.

Practice/play policy using wet bulb globe thermometer readings. According to the National Weather Service, a WBGT is a measure of the heat stress in direct sunlight, which takes into

account: temperature, humidity, wind speed, sun angle, and cloud cover (solar radiation). This differs from the heat index, which takes into consideration temperature and humidity and is calculated for shady areas.

Using a WBGT monitor on-site provides more accurate data than that from the National Weather Service and can help athletic programs to dictate modifications in activity (work/rest ratios, hydration breaks, equipment work, length of practice) that make sports safer for all participants.

Research indicates that when establishing WBGT guidelines for physical activity, the guidelines must be geographic specific. For example, an athlete playing football in Louisiana may be accustomed to warm environmental conditions, unlike a football player from Maine. A football player practicing in 90°F temperatures in Louisiana could be comfortable whereas a football player practicing in the same conditions in Maine could be experiencing the worst conditions they have felt all year, which would increase the risk of heat illness. (University of Connecticut Korey Stringer Institute)

Researchers established heat safety regions to address the differences in heat acclimation among



residents in these areas. Below is a map of the U.S. heat safety zones that can be used to read the activity guideline chart. Using the heat safety zones, along with readings from a wet bulb globe thermometer, the following recommendations were established by the University of Connecticut Korey Stringer Institute.

Cat 3	Cat 2	Cat 1	Activity Guidelines
< 82.0°F < 27.8°C	< 79.7°F < 26.5°C	< 76.1°F < 24.5°C	Normal Activities – Provide at least three separate rest breaks each hour with a minimum duration of 3 min each during the workout.
82.2 - 86.9°F 27.9-30.5°C	79.9 - 84.6°F 26.6-29.2°C	76.3 - 81.0°F 24.6-27.2°C	Use discretion for intense or prolonged exercise; Provide at least three separate rest breaks each hour with a minimum duration of 4 min each.
87.1 - 90.0°F 30.6-32.2°C	84.7 - 87.6°F 29.3-30.9°C	81.1 - 84.0°F 27.3-28.9°C	Maximum practice time is 2 h. <u>For Football</u> : players are restricted to helmet, shoulder pads, and shorts during practice. If the WBGT rises to this level during practice, players may continue to work out wearing football pants without changing to shorts. <u>For All Sports</u> : Provide at least four separate rest breaks each hour with a minimum duration of 4 min each.
90.1 - 91.9°F 32.2-33.3°C	87.8 - 89.6°F 31.0-32.0°C	84.2 - 86.0°F 29.0-30.0°C	Maximum practice time is 1 h. <u>For Football</u> : No protective equipment may be worn during practice, and there may be no conditioning activities. <u>For All Sports</u> : There must be 20 min of rest breaks distributed throughout the hour of practice.
≥ 92.1°F ≥ 33.4°C	≥ 89.8°F ≥ 32.1°C	≥ 86.2°F ≥ 30.1°C	No outdoor workouts. Delay practice until a cooler WBGT is reached.

(Source: University of Connecticut Korey Stringer Institute and Grundstein, 2015)

What are other states doing? Georgia adopted a policy regarding practice guidelines using WBGT readings in 2012 and all Georgia Independent School Association Interscholastic Member Schools are required to comply. Georgia requires the following hydration, and rest break guidelines based on wet bulb globe thermometer readings:

- **Under 82.0: Normal activities.** Provide at least three separate rest breaks each hour of a minimum duration of 3 minutes each during practice.
- **82.0 – 86.9: Use discretion for intense or prolonged exercise.** Watch at-risk students carefully. Provide at least three separate rest breaks each hour of a minimum of four minutes duration each during practice.
- **87.0 – 89.9: Maximum outdoor Practice time is two hours.** For football, students are restricted to helmet, shoulder pads, and shorts during Practice. All protective equipment must be removed for conditioning activities. For all sports, provide at least four separate rest breaks each hour of a minimum of four minutes each during practice.
- **90.0 – 92.0: Maximum outdoor Practice time is one hour.** No protective equipment may be worn during outdoor practice and there may be no outdoor conditioning activities. There must be twenty minutes of rest breaks provided during the hour of outdoor practice.
- **Over 92: No outdoor activities or exercise.** Delay outdoor practice until a lower WBGT reading occurs.

The Georgia policy further specifies:

- The following guidelines apply to hydration and rest breaks:
 - Rest time should involve both unlimited hydration (water or electrolyte drinks) and rest without any activity involved.
 - For football, helmets should be removed during rest time.
 - The site of the rest time should be a cooling zone not in direct sunlight, such as indoors, under a tent, or under a shade tree.
 - When the WBGT is over 86, ice towels and spray bottles filled with ice water should be available in the cooling zone and cold immersion tubs shall be available for a student showing signs of heat illness. A cold immersion tub may be anything, including a shower or wading pool that can be adapted to immerse a student in cold water and ice which is available within two minutes travel from an outdoor practice facility.

- The following guidelines apply to practice:
 - All Member Schools must hold Acclimatization Activities.
 - No two-a-day practices may exceed four hours for both sessions; no single practice during two-a-days may exceed two hours. A three hour rest period must be observed between the two sessions.
 - No single practice may last more than three hours.
 - Restrictions based on outdoor WBGT readings do not apply to indoor practice where indoor air temperature is 85 degrees or less.

Coaches training. Currently CIF offers training programs to high school coaches who receive a certificate upon course completion. The completed certificate is transferable between school districts. CIF's mandated coaches training program under the High School Coaches Training Program (HSCTP) currently includes instruction on CPR, First Aid and concussions, sudden cardiac arrest and heat acclimation.

CIF offers a free online concussion training course for coaches where they receive an immediate printed certification upon completion. The free CIF online training course in heat illness prevention includes sections which explore the principles of Heat Illness Awareness, Adequate Hydration, Gradual Acclimatization, Hydration Status Record Keeping, and offers Additional Prevention Measures. Currently, coaches must complete a CPR/First Aid/Concussion course and renew that training every two years. This applies to all CIF member schools, public and private.

Recommended Committee Amendments. *Staff recommends the bill be amended* as follows:

- 1) Clarify that CIF shall develop guidelines, procedures, and safety standards for the prevention and management of exertional heat illnesses. Clarify that these guidelines shall identify the environmental conditions at which a school shall limit practice and play.
- 2) Specify that these guidelines shall include information regarding the accurate measurement of environmental heat stress at the site of the athletic activity, including the use of a wet bulb globe temperature (WBGT) to determine ambient temperature, relative humidity, wind speed, and solar radiation from the sun, including sun angle and cloud cover.
- 3) Specify that the guidelines developed shall identify environmental conditions at which a school have easily accessible at all practice and contest venues a method to institute whole-body cooling to treat a student-athlete with exertional heat illness, especially heat stroke.

Related legislation. AB 245 (McKinnor) of the 2023-24 Session would require the High School Coaching Education and Training Program to include training in recognizing the signs and symptoms of cardiac arrest.

AB 1327 (Weber) of the 2023-24 Session would require CIF to report to the Legislature annually; requires the CIF report to include instances of hate violence; and, requires CIF to

develop, in consultation with community organizations that represent the interests of ethnic groups and communities of color, a standardized incident form to track hate violence that occurs at high school sporting games or sporting events, and annually post those results on their website.

AB 2800 (Chu), Chapter 21, Statutes of 2021, adds basic understanding of the signs and symptoms of, and appropriate responses to, heat illness, to the training component of the 1998 HSCTP.

AB 2009 (Maienschein), Chapter 646, Statutes of 2018, requires, commencing July 1, 2019 that any school district or charter school which offers any interscholastic athletic program, must ensure that there is an emergency action plan in place that describes the location and procedures to be followed in the event of sudden cardiac arrest or other medical emergencies related to the athletic program's activities or events, and acquire at least one AED for each school within the school district or the charter school, for the purpose of rendering emergency care or treatment, as specified. The bill would also expressly state that an employee is not liable for civil damages resulting from the rendering of emergency care or treatment pursuant to the bill's provisions, except as provided, nor a public school, school district, or charter school, except as provided.

AB 141 (Hayashi), Chapter 173, Statutes of 2012, adds requirements to the California High School Coaching Education and Training Program (HSCTP) for training on understanding the signs and symptoms of concussions and the appropriate response to concussions.

AB 1646 (Hayashi) of the 2009-10 Session, would have required training for coaches to be able to identify symptoms of head and neck injury. The additional training would have been incorporated into coaches' first aid certification renewal. This bill was held in the Assembly Appropriations Committee.

AB 1893 (Hayashi) of the 2009-10 Session, would have required all high school spirit activities (HSSA) coaches to have valid certification in CPR and first aid, including an understanding of signs, symptoms, and appropriate emergency action steps regarding potentially catastrophic injury, including but not limited to, head and neck injury and concussion. Pupils participating in HSSA who experience or show signs of trauma or other injury would have needed to obtain a release from the treating provider before resuming spirit activities. This bill was held in the Assembly Education Committee.

AB 533 (Hayashi) of the 2009-10 Session, would have required training for coaches to be able to identify symptoms of head and neck injury. The training would have been incorporated into coaches' first aid certification renewal. This bill was held in the Assembly Appropriations Committee.

AB 2741 (Miller) Chapter 744, Statutes of 1998, establishes the 1998 California High School Coaching and Education Program to be administered by school districts and to emphasize, among other things, sport psychology, sport pedagogy, sport physiology, CPR, and first aid.

REGISTERED SUPPORT / OPPOSITION:

Support

None on file

Opposition

None on file

Analysis Prepared by: Chelsea Kelley / ED. / (916) 319-2087