

## HOUSE OF REPRESENTATIVES STAFF FINAL BILL ANALYSIS

**BILL #:** CS/HB 7011 PCB PKI 20-01 Student Athletes

**SPONSOR(S):** Education Committee and PreK-12 Innovation Subcommittee, Massullo and others

**TIED BILLS:** None **IDEN./SIM. BILLS:** CS/CS/SB 1696

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**FINAL HOUSE FLOOR ACTION:** 114 Y's 0 N's **GOVERNOR'S ACTION:** Approved

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### SUMMARY ANALYSIS

CS/HB 7011 passed the House on January 29, 2020. The bill was amended in the Senate on March 4, 2020, and returned to the House. The House concurred in the Senate amendment and subsequently passed the bill as amended on March 12, 2020.

According to the American College of Sports Medicine, exertional heat stroke (EHS) is one of the leading causes of death in athletics despite evidence showing a 100 percent survival rate when an athlete is rapidly cooled down within the first 10 minutes after collapsing. Florida leads the nation in high school student athlete deaths from EHS with four since 2011.

To better protect student athletes participating in athletics during hot weather and avoid preventable injury or death, the bill requires the Florida High School Athletic Association (FHSAA) to:

- require its member schools to monitor heat stress and modify athletic activities (i.e., contests, practices, workouts, and conditioning) based on heat stress guidelines;
- identify heat stress levels at which a cooling zone must be made available for athletic activities;
- make training and materials available for the effective monitoring of heat stress;
- establishing requirements for implementing cooling zones, including the presence of individuals with training on rapid cooling at athletic activities;
- require school emergency action plans to include a procedure for onsite cooling using cold water immersion or equivalent means before transport to the hospital for EHS;
- establish hydration guidelines, including appropriate introduction of electrolytes; and
- require student athletes to pass the annual medical evaluation each year before engaging in any athletic activities that occur outside of the school year.

These requirements apply year round.

The bill also requires all athletic coaches and sponsors of extracurricular activities involving outdoor practices or events to complete annual training in EHS identification, prevention, and response, including effective administration of cooling zones.

Beginning June 1, 2021, an employee or volunteer with current cardiopulmonary resuscitation and automated external defibrillator (AED) training must be present at each athletic activity during and outside of the school year. All employees or volunteers who are reasonably expected to use an AED must complete the training and must be notified annually of the location of each AED on school grounds, which must be available in a clearly marked and publicized location for each athletic activity.

The bill is entitled the "Zachary Martin Act" after Zachary Martin, a Lee County high school football player who suffered fatal heat stroke after an outdoor practice the morning of June 29, 2017.

The bill has an indeterminate fiscal impact. See Fiscal Comments.

The bill was approved by the Governor on June 23, 2020, ch. 2020-91, L.O.F. and will become effective on July 1, 2020.

This document does not reflect the intent or official position of the bill sponsor or House of Representatives.

**STORAGE NAME:** h7011z1.DOCX

**DATE:** 6/25/2020

# I. SUBSTANTIVE INFORMATION

## A. EFFECT OF CHANGES:

### Present Situation

#### **Exertional Heat Stroke**

Exertional heat stroke (EHS) is the most severe form of heat illness<sup>1</sup> and is associated with sustained high body temperature resulting from dehydration, strenuous exercise, and environmental heat exposure.<sup>2</sup> EHS can progress to multi-organ system failure and death if not promptly recognized and treated.<sup>3</sup> EHS remains one of the leading causes of sudden death in athletics<sup>4</sup> despite evidence showing a 100 percent survival rate when an athlete is rapidly cooled down within the first 10 minutes of collapsing.<sup>5</sup> Research shows that the best practice for rapid cooling treatment is cold water immersion in any 100 gallon tub, preferably in a cooling zone,<sup>6</sup> that is filled with water and ice to lower the athlete's core body temperature.<sup>7</sup> High school athletic associations in other states such as Arkansas, Georgia, Hawaii, Idaho, Kentucky, Mississippi, New Jersey, North Carolina, Utah, and Vermont require schools to have cold water immersion tubs for onsite cooling for all warm weather practices.<sup>8</sup>

Since 1995, 64 football players have died from EHS nationally (47 high school, 13 college, 2 professional, and 2 organized youth).<sup>9</sup> Ninety percent of recorded EHS deaths occurred during practice.<sup>10</sup> From 2014-2018, there was an average of 2.2 EHS deaths per year associated with football.<sup>11</sup> There were two EHS deaths in each of 2014, 2015, and 2016.<sup>12</sup>

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<sup>1</sup> University of Connecticut, Korey Stringer Institute, *Heat Illnesses*, <https://ksi.uconn.edu/emergency-conditions/heat-illnesses/> (last visited March 13, 2020). Heat illnesses are a spectrum of illnesses that occur due to heat exposure. This heat exposure can come from either environmental heat (air temperature) or intense exercise. Such conditions include heat cramps, heat exhaustion, and heat syncope (orthostatic dizziness).

<sup>2</sup> Office of Program Policy Analysis and Government Accountability, *Prevention and Treatment of Exertional Heat Illness: Presentation to the House PreK-12 Innovation Subcommittee* (October 23, 2019), available at [https://www.myfloridahouse.gov/Sections/Documents/loaddoc.aspx?PublicationType=Committees&CommitteeId=3017&Session=2020&DocumentType=Meeting\\_Packets&FileName=pki\\_10-23-19.pdf](https://www.myfloridahouse.gov/Sections/Documents/loaddoc.aspx?PublicationType=Committees&CommitteeId=3017&Session=2020&DocumentType=Meeting_Packets&FileName=pki_10-23-19.pdf) [hereinafter *OPPAGA Presentation*].

<sup>3</sup> *Id.*

<sup>4</sup> William M. Adams, *Exertional Heat Stroke within Secondary School Athletics*, Current Sports Medicine Reports (April 2019), American College of Sports Medicine, available at [https://journals.lww.com/acsm-csmr/Fulltext/2019/04000/Exertional\\_Heat\\_Stroke\\_within\\_Secondary\\_School.13.aspx#pdf-link](https://journals.lww.com/acsm-csmr/Fulltext/2019/04000/Exertional_Heat_Stroke_within_Secondary_School.13.aspx#pdf-link) [hereinafter *Exertional Heat Stroke within Secondary School Athletics*].

<sup>5</sup> *OPPAGA Presentation*, *supra* note 2, at 17.

<sup>6</sup> Florida High School Athletic Association, *Administrative Policies of the Florida High School Athletic Association* (April 29, 2019), at 107, available at [https://www.fhsaa.org/sites/default/files/attachments/2010/09/16/node-235/1920\\_handbook\\_policies\\_website\\_116.pdf](https://www.fhsaa.org/sites/default/files/attachments/2010/09/16/node-235/1920_handbook_policies_website_116.pdf) [hereinafter *Administrative Policies of the Florida High School Athletic Association*]. A cooling zone is an area identified for rest out of direct sunlight. It should include ice sponges and towels, cold water immersion tubs, tarps that can be filled with ice and wrapped around an athlete, and other cooling alternatives to facilitate the cooling process.

<sup>7</sup> *OPPAGA Presentation*, *supra* note 2, at 17; *Exertional Heat Stroke within Secondary School Athletics*, *supra* note 4.

<sup>8</sup> University of Connecticut, Korey Stringer Institute, *State High School Sports Safety Policies*, <https://ksi.uconn.edu/high-school-state-policies-2-2-2/> (last visited March 13, 2020) [hereinafter *State High School Sports Safety Policies*].

<sup>9</sup> National Center for Catastrophic Sports Injury Research, *Annual Survey of Football Injury Research 2018* (February 15, 2019), available at <https://nccsir.unc.edu/files/2019/02/Annual-Football-2018-Fatalities-FINAL.pdf> [hereinafter *Annual Survey of Football Injury Research*].

<sup>10</sup> *Id.*

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

Florida leads the nation in high school student athlete deaths from EHS with four since 2011.<sup>13</sup> Since the 2011-2012 school year, 150 coaches have been fined and 24 suspended for not following Florida High School Athletic Association (FHSAA) EHS policies.<sup>14</sup> According to a survey conducted by the Office of Program Policy Analysis and Government Accountability, 461 student athletes from 95 schools were treated for exertional heat illness during the 2017-2018 school year.<sup>15</sup> Eighty-five percent of these students were treated by school staff.<sup>16</sup>

## Environmental Monitoring and Hydration

Two deaths in 2015 resulted from athletes over-hydrating in order to prevent heat-related issues.<sup>17</sup> In the prevention of EHS, athletes must be informed of how to properly hydrate<sup>18</sup> to aid in the body's ability to regulate itself and reduce the impact of heat stress during athletic activity.<sup>19</sup> The National Federation of State High School Associations Sports Medicine Advisory Committee has published a position statement regarding the best practices for maintaining hydration and minimizing the risk for EHS.<sup>20</sup> These include drinking water regularly throughout all athletic activity and weighing athletes before and after hot weather athletic activities to assess their change in hydration status.<sup>21</sup>

A best practice for preventing EHS in athletes is the adjustment and modification of athletic activity levels based on environmental conditions.<sup>22</sup> The FHSAA requires:<sup>23</sup>

- member schools to follow a preseason acclimatization and recovery model for all sports;
- individual schools or districts to select and promote a method of environmental monitoring to be used outside the acclimatization period; and
- compliance with standard recommendations for practice modifications.

Environmental monitoring is an important precaution taken during athletic activities, since it is more difficult for the body to cool itself in high humidity.<sup>24</sup> This can be done by monitoring the heat stress level, which is determined by measuring the ambient temperature, humidity, sun angle, wind, and cloud cover, otherwise known as the WetBulb Globe Temperature (WBGT).<sup>25</sup> This differs from the heat index, which takes into consideration temperature and humidity for shaded areas.<sup>26</sup> Heat stress can be measured by a WBGT thermometer or by other devices, such as a WeatherSTEM unit.<sup>27</sup> Other states,

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<sup>13</sup> Laurence Reisman, *Heat-related football deaths: Florida high schools must do more, mourning Sebastian parents say*, TCPalm, August 31, 2018, available at <https://www.tcpalm.com/story/opinion/columnists/laurence-reisman/2018/08/31/fhsaa-heat-stroke-preventable-shogran-sebastian-river-korey-stringer-riverdale-football-collapse/1136460002/>.

<sup>14</sup> Email from Jessica Janasiewicz, Government Consultant, Florida High School Athletic Association, *FHSAA Information* (November 12, 2019).

<sup>15</sup> *OPPAGA Presentation*, *supra* note 2, at 23.

<sup>16</sup> *Id.*

<sup>17</sup> *Annual Survey of Football Injury Research*, *supra* note 9, at 16.

<sup>18</sup> *Id.*

<sup>19</sup> *Annual Survey of Football Injury Research*, *supra* note 9, at 18.

<sup>20</sup> National Federation of State High School Associations Sports Medicine Advisory Committee, *Position Statement and Recommendations for Maintaining Hydration to Optimize Performance and Minimize the Risk for Exertional Heat Illness* (October 2018), available at <https://www.nfhs.org/media/1014751/nfhs-hydration-position-statement-final-april-2018.pdf>.

<sup>21</sup> *Id.*; *Annual Survey of Football Injury Research*, *supra* note 9, at 18.

<sup>22</sup> *Id.*; *Annual Survey of Football Injury Research*, *supra* note 9, at 17; *Exertional Heat Stroke within Secondary School Athletics*, *supra* note 4.

<sup>23</sup> *Administrative Policies of the Florida High School Athletic Association*, *supra* note 6, at 105 and 107.

<sup>24</sup> *Annual Survey of Football Injury Research*, *supra* note 9, at 17.

<sup>25</sup> National Weather Service, *WetBulb Globe Temperature*, <https://www.weather.gov/tsa/wbgt> (last visited March 13, 2020).

<sup>26</sup> *Id.*

<sup>27</sup> University of Connecticut, Korey Stringer Institute, *WetBulb Globe Temperature Monitoring*, <https://ksi.uconn.edu/prevention/wet-bulb-globe-temperature-monitoring/> (last visited January 23, 2020). A WetBulb Globe Temperature device is a measurement tool that uses ambient temperature, relative humidity, wind, and solar radiation from the sun to get a measure that can be used to monitor environmental conditions during exercise. WeatherSTEM, *Industry Focus: Safety*, <https://www.weatherstem.com/safety> (last visited March 13, 2020). WeatherSTEM units are capable of measuring the WetBulb Globe Temperature and also offer a WetBulb Globe Temperature forecast model.

such as Hawaii, New Jersey, and North Carolina, require environmental monitoring and activity modification for high school athletics based on the WBGT or heat index levels.<sup>28</sup>

## Automated External Defibrillators

Florida law requires each public school, which is a member of the FHSAA, to have an operational automated external defibrillator (AED) on school grounds.<sup>29</sup> Each school must ensure that all employees or volunteers who are reasonably expected to use the device obtain appropriate training, including completion of a course in cardiopulmonary resuscitation (CPR) or a basic first aid course that includes CPR training, and demonstrated proficiency in the use of an AED.<sup>30</sup> The location of each AED must be registered with a local emergency medical services medical director.<sup>31</sup>

## The Florida High School Athletic Association

The FHSAA is designated by Florida law as the governing nonprofit organization of athletics in Florida public schools.<sup>32</sup> The FHSAA is tasked with adopting bylaws that establish eligibility requirements for all students who participate in high school athletic competition in its member schools.<sup>33</sup> The FHSAA must require all student athletes to satisfactorily pass a medical evaluation each year before participating in an interscholastic athletic activity.<sup>34</sup>

While Florida's high school EHS treatment and prevention policies are ranked 14<sup>th</sup> in the nation by the Korey Stringer Institute, the FHSAA does not require its member schools to have devices and equipment available to effectively respond to and prevent EHS in student athletes.<sup>35</sup> The most current FHSAA policies do not:<sup>36</sup>

- regulate summer athletic activity, with the exception of football in certain circumstances;<sup>37</sup>
- require schools to establish or adopt hydration guidelines;
- require schools to have cooling zones with cold water immersion tubs and other materials necessary to facilitate the cooling process;
- require an individual with CPR and AED training to be present at athletic activities; or
- require AEDs to be present at all preseason and regular season athletic activities.

The FHSAA's Sports Medicine Advisory Committee (SMAC) is composed of physicians and athletic trainers, and functions as a resource for issues of health and safety in high school athletics.<sup>38</sup> The SMAC has provided the FHSAA Board of Directors with policy recommendations to require all schools to utilize WBGT thermometer devices for environmental monitoring,<sup>39</sup> require all schools to have cold water immersion tubs with ice and water available,<sup>40</sup> and require athletic coaches to receive training on

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<sup>28</sup> *State High School Sports Safety Policies*, *supra* note 8.

<sup>29</sup> Section 1006.165, F.S.

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> Section 1006.20(1), F.S.

<sup>33</sup> Section 1006.20(2)(a), F.S.

<sup>34</sup> Section 1006.20(2)(c), F.S.

<sup>35</sup> *OPPAGA Presentation*, *supra* note 2, at 12.

<sup>36</sup> *Administrative Policies of the Florida High School Athletic Association*, *supra* note 6, at 105 and 107-108.

<sup>37</sup> *Administrative Policies of the Florida High School Athletic Association*, *supra* note 6, at 82. The FHSAA prohibits a member school to permit student-athletes in its football program to wear helmets or pads or engage in physical contact in any activity sponsored by or under the supervision of the school during the summer.

<sup>38</sup> Section 1006.20(2)(m); Florida High School Athletic Association, *Who we are*, <https://www.fhsaa.org/about> (last visited March 13, 2020).

<sup>39</sup> Florida High School Athletic Association, *Sports Medicine Advisory Committee Meeting* (August 29, 2017), available at [https://www.fhsaa.org/sites/default/files/orig\\_uploads/gov/sportsmed/minutes/170829.pdf](https://www.fhsaa.org/sites/default/files/orig_uploads/gov/sportsmed/minutes/170829.pdf).

<sup>40</sup> Florida High School Athletic Association, *Sports Medicine Advisory Committee Meeting* (January 30, 2018), available at [https://www.fhsaa.org/sites/default/files/orig\\_uploads/gov/sportsmed/minutes/180130.pdf](https://www.fhsaa.org/sites/default/files/orig_uploads/gov/sportsmed/minutes/180130.pdf).

when to use an AED or cold water immersion.<sup>41</sup> The FHSAA policies do not reflect the specific recommendations made by the SMAC.

### **Effect of Proposed Changes**

To better protect student athletes participating in athletics during hot weather and to avoid preventable injury or death, the bill requires the FHSAA to:

- make training and resources available to its member schools for the effective monitoring of heat stress;
- establish guidelines for monitoring heat stress, which must be based on the ambient temperature, humidity, wind speed, sun angle, and cloud cover at the site of an athletic activity, and identify heat stress levels at which a school must implement a cooling zone for each outdoor athletic contest, practice, workout, or conditioning session;
- require member schools to monitor heat stress and modify athletic activities, including suspending or moving activities, based on heat stress guidelines;
- establish hydration guidelines, including appropriate introduction of electrolytes after extended activities or when a student participates in multiple activities in a day;
- establish requirements for cooling zones at athletic activities, including, at a minimum, the immediate availability of cold water immersion tubs or equivalent means to rapidly cool internal body temperature when a student exhibits symptoms of EHS and the presence of an employee or volunteer trained to implement cold water immersion; and
- require each school's emergency action plan to include a procedure for onsite cooling using cold water immersion or equivalent means before a student is transported to a hospital for EHS.

These requirements apply year round.

The bill also specifies that the requirement that a student complete an annual medical evaluation before participating in any athletic activity applies to conditioning and to activities that take place outside of the school year.

All athletic coaches and sponsors of extracurricular activities involving outdoor practices or events must complete annual training in EHS identification, prevention, and response, including effective administration of cooling zones.

Beginning June 1, 2021, an employee or volunteer with current CPR and AED training must be present at each athletic event during and outside of the school year, including practices, workouts, and conditioning sessions. All employees or volunteers who are reasonably expected to use an AED must complete training and must be notified annually of the location of each AED on school grounds. Additionally, the bill requires each school's AED to be available in a clearly marked and publicized location for each athletic contest, practice, workout, or conditioning session, including those conducted outside of the school year.

## **II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT**

### **A. FISCAL IMPACT ON STATE GOVERNMENT:**

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<sup>41</sup> *Id.*

1. Revenues:

None.

2. Expenditures:

None.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

None.

2. Expenditures:

None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

None.

D. FISCAL COMMENTS:

The bill has an indeterminate fiscal impact on FHSAA member schools for costs associated with the purchase of cold water immersion tubs and having an individual with current CPR and AED training at each athletic activity. The cost of a cold water immersion tub can range from \$35 to \$8,000, depending on the tub's features, but it is unclear how many schools would need to purchase tubs to comply with the requirements of the bill.

Additionally, there may be an indeterminate fiscal impact on FHSAA member schools if they need to purchase additional AEDs or equipment to measure heat stress levels.