

**Preseason-Practice
Heat Acclimatization Guidelines for
the Southern Maryland Athletic
Conference**

**Revised
July 26, 2012**

Preseason-Practice Heat Acclimatization Guidelines for the Southern Maryland Athletic Conference

This guide was developed in response to the known dangers of heat related illnesses, which in the worst situation may result in death. The majority of heat related deaths in high school sports in recent years could have been prevented had coaches planned conditioning and practices appropriately, been aware of the warnings signs, and acted appropriately when heat illness was suspected.

In June, 2012 a committee was formed to develop a model policy for the state of Maryland. The committee was comprised of the following individuals:

Ned Sparks – Maryland State Department of Education
Andy Warner – Maryland Public Secondary Schools Athletic Association
Bryan Ashby – Wicomico County Supervisor of Athletics
Dr. Donald Shell – Department of Health and Mental Hygiene
T. J. Morgan – Maryland Athletic Trainers Association
Gina Palermo – Maryland Athletic Trainers Association
Dr. James Dreese – University of Maryland Medical Center
Dr. Yvette Rooks – University of Maryland - School of Medicine
Dave Dolch – Manchester Valley HS Athletic Director
Dave Mencarini – Quince Orchard HS Football Coach
George Petrides – Baltimore City College HS Athletic Director and Football Coach
Jennifer Henderson – Leonardtown HS Soccer Coach
Derek Tyler – Bladensburg HS Athletic Director

Much of the language and many of the recommendations included in these guidelines are taken directly from, or modified from, that report, with sport-specific guides being developed for the Conference. We acknowledge the work of the committee and the guidance offered in the development of the guidelines.

Kevin C. Hook – Calvert County
Aly K. Johnson – Charles County
Andrew C. Roper – St. Mary’s County

Table of Contents

Overview	1
Table of Contents	2
Introduction	3
Education	4
Important Definitions	5
Hydration Awareness	6
Environmental and Non-Environmental Risk Factors	9
Heat Acclimatization Period	12
Cheerleading (Fall)	14
Cross Country	16
Field Hockey	18
Football	20
Golf	22
Soccer	24
Volleyball	26
Emergency Plan	18
Heat Stroke/Heat Exhaustion	29
References	30

Heat Acclimatization Guidelines Introduction

Each year high school athletes experience serious injury and even death as a result of heat related illnesses. It has become a major concern in that the number of deaths over the last 15 years has remained constant. That statistic becomes more alarming given that heat related illness and death are almost entirely preventable. The need to dramatically increase awareness of the issue, and recognize the symptoms of heat illness and treatment of suspected cases has become a primary consideration for early season practice routines.

The Maryland General Assembly recognized the potential for ameliorating risk and has provided legislation to address the problem. This document is offered to Maryland schools to assist in the formation of local guidelines to address heat acclimatization. It was formatted through a collaborative effort of representatives from the Maryland State Department of Education (MSDE), Department of Health and Mental Hygiene (DHMH), Local School Systems, Maryland Public Secondary Schools Athletic Association (MPSSAA), Maryland Athletic Trainers Association (MATA), and licensed physicians who treat student-athletes.

The contents of this document include education of coaches, parents, athletic administrators, and student-athletes; important definitions; hydration awareness; environmental and non-environmental risk factors; a heat acclimatization timeline; and a basic emergency plan. The guidelines attempt to strike a safe balance between a gradual introduction and assimilation into athletic competition with the need to properly teach safe playing techniques. The mitigation of other serious injuries must also be considered in any preseason-practice format.

Each school system is encouraged to carefully consider this model policy when formulating specific guidelines for acclimatization of athletes to warm weather conditions. Resources for all sections of this document may be found on the Health and Safety page of MPSSAA.org.

Education

Coaches, parents and students play a critical role in understanding the dynamics associated with heat related illnesses. For many, the concept of heat acclimatization is a vague term. Likewise, the awareness of hydration and/or heat related emergency procedures are also limited among the general population. Raising the awareness level of the components of heat related illness should be a priority of each school athletic department.

Educational initiatives on multiple fronts should be undertaken to reach the greatest level of saturation. The National Federation of State High School Associations (NFHS) online course entitled, “A Guide to Heat Acclimatization and Heat Illness and Prevention” (www.nfhslearn.com) provides a highly recommended guide to understanding the issue. The course is free and requires less than a half hour of time to complete. A certificate can be printed on completion of the course. In addition, the Center for Disease Control (CDC) provides information in a document entitled, “Extreme Heat - A Prevention Guide to Promote Your Personal Health & Safety.”

Resources on Education

- NFHS Education Course “A Guide to Heat Acclimatization and Heat Illness and Prevention” – www.nfhslearn.com
- Center for Disease Control (CDC) “Extreme Heat - A Prevention Guide to Promote Your Personal Health & Safety” - http://www.cdc.gov/nceh/hsb/extreme/Heat_Illness/index.html
- [NFHS Position Statement: Hydration to Minimize the Risk for Dehydration and Heat Illness](#)
- [NFHS Heat Acclimatization and Heat Illness Prevention Position Statement](#)
- [NATA Position Statement: Fluid Replacement for Athletes](#)
- [NATA Position Statement: Exertional Heat Illnesses](#)
- [NATA Consensus Statement on Heat-Acclimatization Guidelines](#)

Important Definitions

For the purpose of this document the following definitions will be used to provide meaning and further interpretations of the guidelines. Definitions for heat acclimatization, practice, and recovery period were derived directly from Maryland House Bill 1080 (2012) while the definition of a walk-through comes from the National Athletic Trainers Association Preseason Heat-Acclimatization Guidelines for Secondary School Athletics.

Controlled Scrimmage* – An instructional practice involving one or more teams during which athletes practice the skills, techniques, and plays of the sport in a controlled situation. The focus is instruction, not the final score. An example of this would be a team running several plays against another team and then the other team doing the same. Players should be rotated in and out so all can benefit from the practice opportunity and continue to acclimatize to the conditions.

Heat Acclimatization – Enhancing an individual’s exercise heat tolerance and ability to exercise safely and effectively in warm to hot conditions.

Practice – A period of time a student-athlete engages in physical activity during a coach-supervised, school-approved sports- or conditioning-related activity, including warm-up, stretching, weight training, and cool-down periods.

Walk-Through – A teaching opportunity when an athlete is not wearing protective equipment, including helmets, shoulder pads, catcher’s gear, or shin guards, or using other sports-related equipment (e.g. footballs, lacrosse sticks, blocking sleds, pitching machines, soccer balls, marker cones).

Recovery Period – The time between the end of one practice or walk-through and the beginning of the next practice or walk-through.

Hydration – The process of drinking fluid to restore fluid levels in the body to avoid poor performance, muscle cramps, dizziness, fatigue, and other heat related illness.

*Southern Maryland Conference Definition

Hydration Awareness

The purpose of proper hydration in regard to the overall safety and conditioning to a student-athlete is a key part of a successful high school athletic program and one of the most preventable ways to combat heat illnesses. The responsibility to prevent injury and to successfully hydrate student-athletes is shared among the student-athlete, coaching staff, and athletic trainers.

Many student-athletes are not educated on the need and do not voluntarily drink enough water to prevent significant dehydration during physical activity. National recommendations suggest student-athletes drink regularly throughout all physical activities. An athlete cannot always rely on his or her sense of thirst to sufficiently maintain proper hydration.

Suggested guidelines for local consideration:

- Readily available and unlimited amounts of water during practice and designated breaks.
- Drink before, during, and after practice and games. For example:
 - Drink 16 ounces of fluid 2 hours before physical activity.
 - Drink another 8 to 16 ounces 15 minutes before physical activity.
 - During physical activity, drink 4 to 8 ounces of fluid every 15 to 20 minutes (some athletes who sweat considerably can safely tolerate up to 48 ounces per hour).
- After physical activity, drink 16 to 20 ounces of fluid for every pound lost during physical activity to achieve normal hydration status before the next practice or competition.
- Student-athletes who do not properly rehydrate their bodies between practices run the risk of cumulative dehydration. Cumulative dehydration develops insidiously over several days and raises the risk for heat illness, especially in the first few days of acclimatization. (See NATA position statement on Fluid Replacement for Athletes).
- Student-athletes should be encouraged to monitor their hydration level by the color and volume of urine. Small amounts of dark urine indicate the need to drink more, while a “regular” amount of light colored urine is normal and indicates the student-athlete is well hydrated. A urine chart, such as www.urinecolors.com/dehydration%20chart.pdf should be posted at the school site, and encouraged to be posted at home so that student-athletes can assess their individual hydration.
- Athletes should be encouraged to maintain individual weight charts to monitor personal weight loss and hydration status. Weights should be taken prior to and after practice.
- Athletic trainers, if available, should assist in the monitoring of student-athletes during times where athletes are becoming acclimated to a new sports season and when temperatures are high.

Resources on Hydration

- [NFHS Position Statement: Hydration to Minimize the Risk for Dehydration and Heat Illness](#)
- [NFHS Heat Acclimatization and Heat Illness Prevention Position Statement](#)
- [NATA Position Statement: Fluid Replacement for Athletes](#)
- [NATA Position Statement: Exertional Heat Illnesses](#)
- [Hydration Color Chart](#)



AM I HYDRATED?

Urine Color Chart

1		
2		If your urine matches the colors 1, 2, or 3, you are properly hydrated.
3		Continue to consume fluids at the recommended amounts.
4		If your urine color is below the RED line, you are
5		<u>DEHYDRATED</u> and at risk for cramping and/or a heat illness!!
6		<u>YOU NEED TO DRINK MORE WATER!</u>
7		
8		

Environmental and Non-Environmental Risk Factors

Enacting guidelines to fit every situation is problematic when individual and local differences often render unique circumstances. Local school systems should be prepared to make interpretations and err on the side of caution when dealing with unique circumstances.

The guidelines recommended for local consideration are minimum requirements designed to acclimatize student-athletes so they can participate effectively in warm and hot conditions and reduce the risk of heat related illnesses. However, environmental and non-environmental risk factors can increase the risk of heat illness per individual participant and per individual school. Local school systems are recommended to be educated, aware, and enact policy when needed to address environmental and non-environmental risk factors.

Environmental Risk Factors

School systems are encouraged to assess the environmental conditions for each day of practice and have policies in place depending on the assessment of the conditions. The more humid and hot conditions are on any given day of practice, the higher the risk is for heat illness and appropriate modifications to the practice schedule may be necessary.

Air temperature, combined with humidity, wind speed, and the amount of radiant heat are all contributing environmental factors that can increase the risk of heat illness.

Resources for Environmental Risk Factors

- [NATA Position Statement: Exertional Heat Illness](#)
- The NOAA National Weather Service's Heat Index Chart:
<http://www.nws.noaa.gov/om/heat/index.shtml>

Non-Environmental Risk Factors

The inter-association task force on exertional heat illnesses consensus statement details factors that may increase the risk associated with participation in the heat for individual students. During moderate exercise, 70 to 90 percent of the energy produced by the body is released as heat. There are a number of factors that can hamper heat dissipation and put an athlete at increased risk for heat illness. The NFHS Sports Medicine Advisory Committee (SMAC) lists the following non-environmental risk factors.

Risk Factors:

- **Clothing and Equipment.** Clothing and equipment inhibit heat loss from the body and increase the risk for heat illness. Dry clothing and equipment absorb sweat and prevent evaporative heat loss. Dark clothing or equipment produces radiant heat gain. Clothing and equipment decrease convective heat loss by interfering with air contact with the

body. During periods of high WBGT or Heat Index, the risk of heat illnesses increases when clothing and equipment are worn. Thus, risk may be minimized through removing equipment and participating in drills wearing shirts and shorts only. Given that a great deal of heat is radiated from the head, helmets should be removed early on in hot and humid conditions.

- **Age** — Children acclimatize to heat more slowly and are less effective in regulating body heat than adults.
- **Dehydration** — It has been shown that moderate levels of dehydration (3-5% of body weight) can cause a significant decrease in performance and predispose an athlete to exertional heat illness. Lack of sufficient water to be released by the sweat glands makes it very difficult for the body to dissipate heat through evaporation. Thirst is a poor indication of hydration. (See more in the Hydration Section)
- **Pre-activity Hydration Status** — Athletes who begin activity in an already dehydrated state are at increased risk for exertional heat illness. Pre-activity hydration status may be compromised by inadequate rehydration following previous session, alcohol consumption, rapid weight loss regimes (i.e., wrestling), and febrile or gastrointestinal illness (vomiting or diarrhea).
- **High Body Fat** — Athletes with a high percentage of body fat are at increased risk for heat illness, as fat acts to insulate the body and decreases the body's ability to dissipate heat.
- **Poor Acclimatization/Fitness Level** — Those not yet acclimatized to the heat or inadequately conditioned are at increased risk.
- **Febrile Illness** — A fever increases core temperature and decreases the ability of the body to compensate. It is dangerous to exercise with a fever, especially when Wet Bulb Globe Test (WBGT) is high. Athletes with a fever, respiratory illness, vomiting or diarrhea should not exercise, especially in a hot environment.
- **Medications** — Amphetamines (including ADHD medications), ephedrine, synephrine, ma huang and other stimulants increase heat production. Some medications have anti-cholinergic actions (amitriptyline, Atrovent) resulting in decreased sweat production. Diuretics can produce dehydration. Athletes taking medication for ADHD should be monitored closely for signs and symptoms of heat illness.
- **Sickle Cell Trait** — Athletes with sickle cell trait (SCT) are at increased risk for a sickling crisis with exercise during hot weather. Special precautions should be taken in hot and humid conditions for athletes with SCT.

- **Prior Heat Illness History** – The risk factor for individuals with a prior history of heat related illnesses is higher. Decreased heat tolerance may affect 15 percent of athletes with a history of previous heat illness.

Additional non-environmental risk factors can be found in the consensus statement by the inter-association task force. Education and understanding of these considerations is recommended for school systems.

Resources for Non-Environmental Risk Factors

- [NATA Position Statement: Exertional Heat Illness](#)
- [NFHS SMAC Heat Related Illness](#)

Heat Acclimatization Period

The implementation of any heat acclimatization guidelines should take into account an acclimatization period that defines the duration, intensity and number of required practices to acclimatize each individual student-athlete. The duration and intensity for practices are suggested to gradually increase the student-athlete's heat tolerance, enhance their ability to participate safely in warm and hot conditions, and minimize their risk for heat related illnesses.

The body of evidence supporting heat acclimatization guidelines is extensive and led to the National Athletic Trainers Association (NATA) and an inter-association task force comprised of the American College of Sports Medicine, Gatorade Sports Science Institute, National Strength and Conditioning Association, United States Army Research Institute of Environmental Medicine, American Orthopaedic Society for Sports Medicine, American Medical Society for Sports Medicine and American Academy of Pediatrics to develop *Preseason Heat-Acclimatization Guidelines for Secondary School Athletics*.

These national guidelines serve as a basis in forming a model policy to acclimatize student-athletes to their respective environment for the safe training and participation during the preseason-practice period.

No research or sound reasoning was found to deviate from the minimum requirements of the inter-association task force's policy relating to the duration, intensity, and number of practices during the first five days of acclimatization. Therefore, it is in the best interest to reduce the risk of heat related illnesses by not compromising a student-athlete's acclimatization period while encouraging athletic administrators and coaches to find the most effective methods to increase and use instructional time.

Core principles:

1. Student-athletes and coaches must adhere to the heat acclimatization guidelines for their sport. Failure to do so may result in disciplinary procedures.
2. If outdoor practices must be canceled due to inclement weather/excessive heat, practice should be moved indoors whenever possible. If a day's practice is entirely lost because of such factors, the acclimatization schedule must be moved back a day which may affect when certain equipment may be introduced or even when a scrimmage may be scheduled.
3. Controlled scrimmages: A student-athlete shall not be permitted to participate in a controlled scrimmage until he/she has completed six (6) days of practice for all sports. Careful consideration must be given to the readiness of students new to the sport.
4. Rest Period: Teams may not practice more than six (6) consecutive days. One 24-hour rest period must be included within a seven (7) day period i.e. Sunday.

5. 3 – 5 Practice Rule: The maximum allotted time per day for practice is 5 hours (on the days that double practices are permitted). A 5-hour practice day may NOT be immediately followed by a practice day greater than 3 hours; therefore practice days may follow a 3-5-3-5 format.
6. Recovery period: A minimum of a three (3) hour recovery period should be provided after any session of greater than 2 hours in length and a three (3) hour recovery period should be provided before a walk-through.

Specific guidelines for cheerleading (fall), cross-country, golf, field hockey, football, soccer and volleyball are provided in the following pages.

Cheerleading (Fall)

Heat Acclimatization Days 1 through 5

Day 1 and 2 – Conditioning and Hydration Focus (*One practice per day*)

Acclimatization/Conditioning Practice (3 hours maximum)

- Unlimited water access with planned water breaks at least every 20-30 minutes, during which coaches mandate and monitor fluid intake

Recovery period (3 hours minimum)

- Cool indoor air-conditioned environment
- Film study or chalk talks sessions are permitted (2 hours maximum)
- Lunch encouraged

Walk-through Practice (1 hour maximum)

- No strenuous activity permitted
- No conditioning or weight room activities

Day 3, 4 and 5 – Conditioning and Hydration Focus with Limited Contact (*One practice per day*)

Acclimatization/Conditioning Practice (3 hours maximum)

- Recovery period (3 hours minimum)
- Walk-through practice (1 hour maximum)

Recovery period (3 hours minimum)

- Cool indoor air-conditioned environment
- Film study or chalk talks sessions are permitted (2 hours maximum)
- Lunch encouraged

Walk-through Practice (1 hour maximum)

- No strenuous activity permitted
- No conditioning or weight room activities

Heat Acclimatization Days 6 through 14 (*More than one practice per day only under certain circumstances*)

- Double practice days are permitted
- A 3-hour recovery period is required between double sessions
- When practice time on a single day is between 4-5 hours, (split between two sessions) the total practice time the next day must not exceed 3 hours.

- When a double practice day is followed by a rest day (Sunday or a day when no practices occur at all), then another double practice day is permitted after the rest day.
- On a double practice day, no practice shall exceed three hours in duration, and no student-athlete shall participate in excess of five hours total practice time. Warm up, stretching, cool down, walk-through, conditioning and weight training activities are to be included as part of the practice time.

Option A - One, 3-hour practice

Option B - One, 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 1 hour walk-through. The walk-through may precede the practice provided a 3-hour recovery period is observed between the walk-through and the start of practice. (Note: A **2-hour** film session, chalk talk or similar activity is permitted during the recovery period on days when only one practice is scheduled.)

Option C - (Double Practice) One 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 2-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

Option D - (Double Practice) One 2-hour practice, followed by a mandatory 3-hour recovery period, followed by a 3-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

*Option C or Option D days must be followed by an Option A, Option B, or a day off.

* Under no circumstances may you have a back to back Option C or Option D days.

Cross Country

Heat Acclimatization Days 1 through 5

Day 1 and 2 – Conditioning and Hydration Focus (*One practice per day*)

Acclimatization/Conditioning Practice (3 hours maximum)

- Unlimited water access with planned water breaks at least every 20-30 minutes, during which coaches mandate and monitor fluid intake

Recovery period (3 hours minimum)

- Cool indoor air-conditioned environment
- Film study or chalk talks sessions are permitted (2 hours maximum)
- Lunch encouraged

Walk-through Practice (1 hour maximum)

- No strenuous activity permitted
- No conditioning or weight room activities

Day 3, 4 and 5 – Conditioning and Hydration Focus with Limited Contact (*One practice per day*)

Acclimatization/Conditioning Practice (3 hours maximum)

- Recovery period (3 hours minimum)
- Walk-through Practice (1 hour maximum)

Recovery period (3 hours minimum)

- Cool indoor air-conditioned environment
- Film study or chalk talks sessions are permitted (2 hours maximum)
- Lunch encouraged

Walk-through Practice (1 hour maximum)

- No strenuous activity permitted
- No conditioning or weight room activities

Heat Acclimatization Days 6 through 14 (*More than one practice per day only under certain circumstances*)

- Double practice days are permitted
- A 3-hour recovery period is required between double sessions
- When practice time on a single day is between 4-5 hours, (split between two sessions) the total practice time the next day must not exceed 3 hours.

- When a double practice day is followed by a rest day (Sunday or a day when no practices occur at all), then another double practice day is permitted after the rest day.
- On a double practice day, no practice shall exceed three hours in duration, and no student-athlete shall participate in excess of five hours total practice time. Warm up, stretching, cool down, walk-through, conditioning and weight training activities are to be included as part of the practice time.

Option A - One, 3-hour practice

Option B - One, 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 1 hour walk-through. The walk-through may precede the practice provided a 3-hour recovery period is observed between the walk-through and the start of practice. (Note: A **2-hour** film session, chalk talk or similar activity is permitted during the recovery period on days when only one practice is scheduled.)

Option C - (Double Practice) One 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 2-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

Option D - (Double Practice) One 2-hour practice, followed by a mandatory 3-hour recovery period, followed by a 3-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

*Option C or Option D days must be followed by an Option A, Option B, or a day off.

* Under no circumstances may you have a back to back Option C or Option D days.

Field Hockey

Heat Acclimatization Days 1 through 5

Day 1 and 2 – Conditioning and Hydration Focus (*One practice per day*)

Acclimatization/Conditioning Practice (3 hours maximum)

- Goalkeepers in helmets and kickers and with mouth pieces
- Field players in shin guards, goggles and with mouth pieces
- Unlimited water access with planned water breaks at least every 20-30 minutes, during which coaches mandate and monitor fluid intake

Recovery period (3 hours minimum)

- Cool indoor air-conditioned environment
- Film study or chalk talks sessions are permitted (2 hours maximum)
- Lunch encouraged

Walk-through Practice (1 hour maximum)

- No protective equipment or strenuous activity permitted
- No usage of sports related equipment such as sticks, balls, cones, etc.
- No conditioning or weight room activities

Day 3, 4 and 5 – Conditioning and Hydration Focus with Limited Contact (*One practice per day*)

Acclimatization/Conditioning Practice (3 hours maximum)

- Goalkeepers in helmets, chest protectors, kickers, and with mouth pieces
- Field players in shin guards, goggles, and with mouth pieces
- Recovery period (3 hours minimum)
- Walk-through Practice (1 hour maximum)

Recovery period (3 hours minimum)

- Cool indoor air-conditioned environment
- Film study or chalk talks sessions are permitted (2 hours maximum)
- Lunch encouraged

Walk-through Practice (1 hour maximum)

- No protective equipment or strenuous activity permitted
- No usage of sports related equipment such as sticks, balls, cones, etc.
- No conditioning or weight room activities

Heat Acclimatization Days 6 through 14 (*More than one practice per day only under certain circumstances*)

- Full protective equipment and gear are permitted.
- Double practice days are permitted.
- A 3-hour recovery period is required between double sessions.
- When practice time on a single day is between 4-5 hours, (split between two sessions) the total practice time the next day must not exceed 3 hours.
- When a double practice day is followed by a rest day (Sunday or a day when no practices occur at all), then another double practice day is permitted after the rest day.
- On a double practice day, no practice shall exceed three hours in duration, and no student-athlete shall participate in excess of five hours total practice time. Warm up, stretching, cool down, walk-through, conditioning and weight training activities are to be included as part of the practice time.

Option A - One, 3-hour practice

Option B - One, 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 1 hour walk-through. The walk-through may precede the practice provided a 3-hour recovery period is observed between the walk-through and the start of practice. (Note: A **2-hour** film session, chalk talk or similar activity is permitted during the recovery period on days when only one practice is scheduled.)

Option C - (Double Practice) One 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 2-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

Option D - (Double Practice) One 2-hour practice, followed by a mandatory 3-hour recovery period, followed by a 3-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

*Option C or Option D days must be followed by an Option A, Option B, or a day off.

* Under no circumstances may you have a back to back Option C or Option D days.

Football

Heat Acclimatization Days 1 through 5 (*One practice per day only*)

Day 1 and 2 – Conditioning and Hydration Focus

Acclimatization/Conditioning Practice (3 hours maximum)

- Helmets, t-shirts, shorts, and football shoes only
- No contact of any kind
- Unlimited water access with planned water breaks at least every 20-30 minutes, during which coaches mandate and monitor fluid intake

Recovery period (3 hours minimum)

- Cool indoor air-conditioned environment
- Film study or chalk talks sessions are permitted (2 hours maximum)
- Lunch encouraged

Walk-through Practice (1 hour maximum)

- No protective equipment or strenuous activity permitted
- No usage of sports related equipment such as sticks, balls, cones, etc.
- No conditioning or weight room activities

Day 3, 4 and 5 – Conditioning and Hydration Focus with Limited Contact

Acclimatization/Conditioning Practice (3 hours maximum)

- Helmets, shoulder pads, and shorts, are appropriate dress.
- Contact with tackling dummies, blocking sleds or similar devices may be initiated.
- Recovery period (3 hours minimum)
- Walk-through practice (1 hour maximum)

Heat Acclimatization Days 6 through 14 (*More than one practice per day only under certain circumstances*)

- Full protective equipment and gear are permitted.
- Body to body contact is permitted.
- Double practice days are permitted (see next bullet).
- Double practice days **MUST** be followed by a single practice day. On single practice days, a 1-hour walk-through is permitted provided that the practice and walk-through are separated by at least a 3-hour recovery period.
- When a double practice day is followed by a rest day (Sunday or a day when no practices occur at all), then another double practice day is permitted after the rest day.
- On a double practice day, no practice shall exceed three hours in duration, and no student-athlete shall participate in excess of five hours total practice time. Warm up,

stretching, cool down, walk-through, conditioning and weight training activities are to be included as part of the practice time.

- On a double practice day, the two practice sessions must be separated by at least a 3-hour recovery period.

Option A - One, 3-hour practice

Option B - One, 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 1 hour walk-through. The walk-through may precede the practice provided a 3-hour recovery period is observed between the walk-through and the start of practice. (Note: A **2-hour** film session, chalk talk or similar activity is permitted during the recovery period on days when only one practice is scheduled.)

Option C - (Double Practice) One 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 2-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

Option D - (Double Practice) One 2-hour practice, followed by a mandatory 3-hour recovery period, followed by a 3-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

*Option C or Option D days must be followed by an Option A, Option B, or a day off.

* Under no circumstances may you have a back to back Option C or Option D days.

Golf

Heat Acclimatization Days 1 through 5

Day 1 and 2 – Conditioning and Hydration Focus (*One practice per day*)

Acclimatization/Conditioning Practice (3 hours maximum)

- Unlimited water access with planned water breaks at least every 20-30 minutes, during which coaches mandate and monitor fluid intake

Recovery period (3 hours minimum)

- Cool indoor air-conditioned environment
- Film study or chalk talks sessions are permitted (2 hours maximum)
- Lunch encouraged

Walk-through Practice (1 hour maximum)

- No strenuous activity permitted
- No conditioning or weight room activities

Day 3, 4 and 5 – Conditioning and Hydration Focus with Limited Contact (*One practice per day*)

Acclimatization/Conditioning Practice (3 hours maximum)

- Recovery period (3 hours minimum)
- Walk-through practice (1 hour maximum)

Recovery period (3 hours minimum)

- Cool indoor air-conditioned environment
- Film study or chalk talks sessions are permitted (2 hours maximum)
- Lunch encouraged

Walk-through Practice (1 hour maximum)

- No strenuous activity permitted
- No conditioning or weight room activities

Heat Acclimatization Days 6 through 14 (*More than one practice per day only under certain circumstances*)

- Double practice days are permitted.
- A 3-hour recovery period is required between double sessions.
- When practice time on a single day is between 4-5 hours, (split between two sessions) the total practice time the next day must not exceed 3 hours.

- When a double practice day is followed by a rest day (Sunday or a day when no practices occur at all), then another double practice day is permitted after the rest day.
- On a double practice day, no practice shall exceed three hours in duration, and no student-athlete shall participate in excess of five hours total practice time. Warm up, stretching, cool down, walk-through, conditioning and weight training activities are to be included as part of the practice time.

Option A - One, 3-hour practice

Option B - One, 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 1 hour walk-through. The walk-through may precede the practice provided a 3-hour recovery period is observed between the walk-through and the start of practice. (Note: A **2-hour** film session, chalk talk or similar activity is permitted during the recovery period on days when only one practice is scheduled.)

Option C - (Double Practice) One 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 2-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

Option D - (Double Practice) One 2-hour practice, followed by a mandatory 3-hour recovery period, followed by a 3-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

*Option C or Option D days must be followed by an Option A, Option B, or a day off.

* Under no circumstances may you have a back to back Option C or Option D days.

Soccer

Heat Acclimatization Days 1 through 5

Day 1 and 2 – Conditioning and Hydration Focus (*One practice per day*)

Acclimatization/Conditioning Practice (3 hours maximum)

- Goalkeepers in padded shirt, shorts, and gloves
- Field players in shin guards, with mouth pieces
- Unlimited water access with planned water breaks at least every 20-30 minutes, during which coaches mandate and monitor fluid intake

Recovery period (3 hours minimum)

- Cool indoor air-conditioned environment
- Film study or chalk talks sessions are permitted (2 hours maximum)
- Lunch encouraged

Walk-through Practice (1 hour maximum)

- No protective equipment or strenuous activity permitted
- No usage of sports related equipment such as sticks, balls, cones, etc.
- No conditioning or weight room activities

Day 3, 4 and 5 – Conditioning and Hydration Focus with Limited Contact (*One practice per day*)

Acclimatization/Conditioning Practice (3 hours maximum)

- Goalkeepers in padded shirt, shorts, and gloves
- Field players in shin guards, with mouth pieces
- Recovery period (3 hours minimum)
- Walk-through practice (1 hour maximum)

Recovery period (3 hours minimum)

- Cool indoor air-conditioned environment
- Film study or chalk talks sessions are permitted (2 hours maximum)
- Lunch encouraged

Walk-through Practice (1 hour maximum)

- No protective equipment or strenuous activity permitted
- No usage of sports related equipment such as sticks, balls, cones, etc.
- No conditioning or weight room activities

Heat Acclimatization Days 6 through 14 (*More than one practice per day only under certain circumstances*)

- Full protective equipment and gear are permitted.
- Double practice days are permitted.
- A 3-hour recovery period is required between double sessions.
- When practice time on a single day is between 4-5 hours, (split between two sessions) the total practice time the next day must not exceed 3 hours.
- When a double practice day is followed by a rest day (Sunday or a day when no practices occur at all), then another double practice day is permitted after the rest day.
- On a double practice day, no practice shall exceed three hours in duration, and no student-athlete shall participate in excess of five hours total practice time. Warm up, stretching, cool down, walk-through, conditioning and weight training activities are to be included as part of the practice time.

Option A - One, 3-hour practice

Option B - One, 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 1 hour walk-through. The walk-through may precede the practice provided a 3-hour recovery period is observed between the walk-through and the start of practice. (Note: A **2-hour** film session, chalk talk or similar activity is permitted during the recovery period on days when only one practice is scheduled.)

Option C - (Double Practice) One 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 2-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

Option D - (Double Practice) One 2-hour practice, followed by a mandatory 3-hour recovery period, followed by a 3-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

*Option C or Option D days must be followed by an Option A, Option B, or a day off.

* Under no circumstances may you have a back to back Option C or Option D days.

Volleyball

Heat Acclimatization Days 1 through 5

Day 1 and 2 – Conditioning and Hydration Focus (*One practice per day*)

Acclimatization/Conditioning Practice (3 hours maximum)

- Unlimited water access with planned water breaks at least every 20-30 minutes, during which coaches mandate and monitor fluid intake

Recovery period (3 hours minimum)

- Cool indoor air-conditioned environment
- Film study or chalk talks sessions are permitted. (2 hours maximum)
- Lunch encouraged

Walk-through Practice (1 hour maximum)

- No strenuous activity permitted
- No conditioning or weight room activities

Day 3, 4 and 5 – Conditioning and Hydration Focus with Limited Contact (*One practice per day*)

Acclimatization/Conditioning Practice (3 hours maximum)

- Recovery period (3 hours minimum)
- Walk-through practice (1 hour maximum)

Recovery period (3 hours minimum)

- Cool indoor air-conditioned environment
- Film study or chalk talks sessions are permitted. (2 hours maximum)
- Lunch encouraged

Walk-through Practice (1 hour maximum)

- No strenuous activity permitted
- No conditioning or weight room activities

Heat Acclimatization Days 6 through 14 (*More than one practice per day only under certain circumstances*)

- Double practice days are permitted.
- A 3-hour recovery period is required between double sessions.

- When practice time on a single day is between 4-5 hours, (split between two sessions) the total practice time the next day must not exceed 3 hours.
- When a double practice day is followed by a rest day (Sunday or a day when no practices occur at all), then another double practice day is permitted after the rest day.
- On a double practice day, no practice shall exceed three hours in duration, and no student-athlete shall participate in excess of five hours total practice time. Warm up, stretching, cool down, walk-through, conditioning and weight training activities are to be included as part of the practice time.

Option A - One, 3-hour practice

Option B - One, 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 1 hour walk-through. The walk-through may precede the practice provided a 3-hour recovery period is observed between the walk-through and the start of practice. (Note: A **2-hour** film session, chalk talk or similar activity is permitted during the recovery period on days when only one practice is scheduled.)

Option C - (Double Practice) One 3-hour practice, followed by a mandatory 3-hour recovery period, followed by a 2-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

Option D - (Double Practice) One 2-hour practice, followed by a mandatory 3-hour recovery period, followed by a 3-hour practice. (Note: A **1-hour** film session, chalk talk, or similar activity is permitted during the recovery period on days when two practices are scheduled.)

*Option C or Option D days must be followed by an Option A, Option B, or a day off.

* Under no circumstances may you have a back to back Option C or Option D days.

Emergency Plan

Practicing a comprehensive hydration and acclimatization plan constitutes the best possible emergency action plan. Never the less, it is critical that each school have in place specific preparedness measures should they encounter a heat emergency. Knowing what to do and reviewing specific protocols could minimize potentially catastrophic injuries.

As local conditions render each school setting unique, any emergency plan needs to be tailored to suit individual school needs. There are, however, common factors that should comprise every school emergency plan. In light of the fact that a qualified medical person might not be on hand at every game or practice, it is recommended that a simple plan be prescribed. An uncomplicated plan provides the best opportunity to be remembered and then employed in time of crises. Any single heat emergency plan should incorporate three basic components; recognition of heat illness, immediate cooling, and transport via ambulance to a hospital.

A simple plan with assigned specific delegated duties could prove to be most helpful in:

- Remembering what to do
- Covering important tasks
- Offering the best chance for success

Each school plan should offer as a minimum three important factors and be posted for all coaches and student-athletes to see.

- Preparedness
 - Coach training to recognize symptoms (NFHS Course at nfhslearn.com)
 - Materials on hand i.e. 100 gallon Rubbermaid stock tank, plastic children's pool
 - Water source and bottled water
 - Ice for water cooling or application to victim
 - Cell phone
- Emergency Treatment
 - Recognition of symptoms
 - Rapid submersion in tub or pool or application of ice under arms and to groin area
 - Transport via ambulance to hospital
 - Water consumption
- Pre-assignment of Responsibilities
 - Person to call 911 first and then parent
 - Person(s) to prepare soaking tub or pool or ice bags for topical application
 - Person(s) to assist with moving and attending injured player
 - Person to meet and escort emergency vehicle to victim
 - Person to supervise rest of the team

HEAT STROKE/HEAT EXHAUSTION

Heat emergencies can be life-threatening situations.

Strenuous activity in the heat may cause heat-related illness.

Symptoms may include:

- Red, hot, dry skin
- Weakness and fatigue
- Cool, clammy hands
- Vomiting
- Loss of consciousness
- Profuse sweating
- Headache
- Nausea
- Confusion
- Muscle cramping

Quickly remove person from heat to a cooler place.

Is the person:

- Unconscious or losing consciousness? **OR**
- Hot, dry, have red skin? **OR**
- Vomiting? **OR**
- Confused?

NO

Have the person lie down. Elevate legs 8 – 12 inches.

Give cool, clear fluids such as water, or commercial electrolyte drink frequently in small amounts if person is fully awake and alert. Sponge person with cool wet cloths on head, face, and trunk. Fan person, loosen clothing.

Notify responsible school authority and parent/guardian.

YES

CALL EMS.



Put person on his/her side to protect the airway. Look, listen, feel for breathing. If person is not breathing, See "CPR."

Cool rapidly by completely wetting clothing with cool water and fan person. **DO NOT USE ICE WATER.** Place ice packs on neck, armpits, and groin. Give nothing by mouth.

References

Binkley HM, Beckett J, Douglass JC, Kleiner DM, Plummer PE et al. National Athletic Trainers' Association position statement: Exertional Heat Illnesses. *Journal of Athletic Training* 2002;37(3):329-343

Casa DJ, Armstrong LE, Hillman SK, et al. National Athletic Trainers' Association Preseason Heat-Acclimatization Guidelines for Secondary School Athletics Consensus Statement. *Journal of Athletic Training* 2009;44(3):332-333

Casa DJ, Csillan D, et al. National Athletic Trainers' Association position statement: Fluid replacement for athletes. *Journal of Athletic Training* 2000;35:221-224

Education – Student Athletes – Heat Acclimatization Guidelines, Md. EDUCATION Code Ann. § 7-434 (2012)

National Federation of State High School Associations. Environmental Issues: Heat-related illness. May 2011 Sports Medicine Handbook (4th edition).

National Federation of State High School Associations (NFHS) Sports Medicine Advisory Committee. Heat Acclimatization and Heat Illness Prevention Position Statement. April 2012. <http://www.nfhs.org>.

National Federation of State High School Associations (NFHS) Sports Medicine Advisory Committee. Position Statement and Recommendations for Hydration to Minimize the Risk for Dehydration and Heat Illness. October 2011. <http://www.nfhs.org>.