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MHSAA & Spine In Sports Foundation Provide "See What You Hit" Video; Hot Weather Training Tips Also Distributed To Schools

EAST LANSING, Mich. - July 22 - With the approach of another high school sports season and high summer temperatures, the Michigan High School Athletic Association has stepped up its role this year in providing its member schools educational materials to assist them in minimizing the possibility of catastrophic injuries to student-athletes.

The Association has joined forces with the California-based Spine In Sports Foundation (www.spineinsports.org) to distribute a videotape, "See What You Hit," to its 1,300-plus member junior high-middle and senior high schools. The 13-minute video is dedicated to teaching proper blocking and tackling techniques to football players in order to help prevent serious neck injuries by illustrating how such injuries occur and how to minimize their devastating effects. Michigan is the largest state in the number of schools which will be reached by the program.

The video is designed to be shown to football coaches, players and their parents, and community members. It highlights the cases of high school football players who had their careers affected by spine injuries incurred during games, and includes instruction from various NFL players and coaches The video can also be viewed on the MHSAA Web Site at:

http://www.mhsaa.com/services/seewhat.html

"Each year, the MHSAA has tried to provide its schools with some sort of video resource related to its mission - something to do with safety, scholarship, sportsmanship or scope of programs," said John Johnson, communications director of the Association. "Our past efforts have been in-house productions focusing on the last three of those S's, and we were excited last year when the Spine In Sports Foundation approached us about the 'See What You Hit" video. It is one of the best tapes we've ever seen on the topic, and we hope that every football-playing school will take the time to show this tape to their coaches, players and parents."

The topic of heat-related injuries received a lot of attention last year with deaths at the professional and college levels. Each Spring, the MHSAA has provided information to its member schools to help them prepare for hot weather practice and game conditions in the late Summer and early Fall.

"Heat Stress & Athletic Participation" is information from the National Federation of State High School Associations which the MHSAA annually distributes to schools for use by all fall sports teams. The information points out that student-athletes are subject to a variety of maladies from heat cramps to heat strokes at this time of year. Preventative steps are outlined, as well as a table describing the combination of relative humidity and air temperature impact on athletic activities. (copy attached/follows)

"The bottom line here is the hydration of athletes," Johnson said. "It is an absolute necessity that water be available in unlimited quantities at all times during practices. But at the same time, coaching staffs need to be tuned into their student-athletes and be sure they are partaking of water. If schools and their student-athletes follow these guidelines, then we minimize the risk for heat-related problems."
Johnson added that as student-athletes work out on their own individually or with a group of

teammates in informal settings during the summer, that they need to be aware of their hydration.

The Spine in Sports Foundation is a Los Angeles based, non-profit organization dedicated to the prevention of spinal injuries in adolescent athletes. It was founded in 1996 by Dr. Robert G. Watkins and Dr. Lytton A. Williams in response to the highly publicized and seemingly alarming increase in the incidents of severe spinal injuries in adolescent athletes. The Foundation's goal and vision is to reach every adolescent athlete in the United States, in every sport played, through various educational programs and publications designed to educate on methods of avoiding spinal injury while participating in sports.

The MHSAA is a private, not-for-profit corporation of voluntary membership by over 1,300 public and private senior high schools and junior high/middle schools which exists to develop common rules for athletic eligibility and competition. No government funds or tax dollars support the MHSAA, which was the first such association nationally to not accept membership dues or tournament entry fees from schools. Member schools which enforce these rules are permitted to participate in MHSAA tournaments, which attract approximately 1.6 million spectators each year.

Note: More information about the "See What You Hit" video or the Spine In Sports Foundation can be obtained by contacting Andrew Watkins, Executive Director, at 1-866-84-SPINE (77463) or www.spineinsports.org. Media outlets may obtain copies of the "See What You Hit" video by contacting John Johnson at the MHSAA office. Sports directors/editors may wish to share this information with health reporters or news directors/editors at their respective outlets to help promote the need for safety in sports that the items in this press release discuss.

HEAT STRESS AND ATHLETIC PARTICIPATION

(Provided by the National Federation of State High School Associations)
(This material was edited for the specific purposes of the MHSAA)

Early fall football, cross country, and soccer practices are conducted in very hot and humid weather in many parts of the United States. Due to the equipment and uniform needed in football, most of the heat problems have been associated with football. From 1995 through the 2000 football season there have been 14 high school heat stroke deaths in football. This is not acceptable. During hot weather conditions the athlete is subject to the following:

HEAT CRAMPS - Painful cramps involving abdominal muscles and extremities caused by intense, prolonged exercise in the heat and depletion of salt and water due to profuse sweating.

HEAT SYNCOPE - Weakness fatigue and fainting due to loss of salt and water in sweat and exercise in the heat. Predisposes to heat stroke.

HEAT EXHAUSTION (WATER DEPLETION) - Excessive weight loss, reduced sweating, elevated skin and core body temperature, excessive thirst, weakness, headache and sometimes unconsciousness.

HEAT EXHAUSTION (SALT DEPLETION) - Exhaustion, nausea, vomiting, muscle cramps, and dizziness due to profuse sweating and inadequate replacement of body salts.

HEAT STROKE - An acute medical emergency related to thermoregulatory failure. Associated with nausea, seizures, disorientation, and possible unconsciousness or coma. It may occur suddenly without being preceded by any other clinical signs. The individual is usually unconscious with a high body temperature and a hot dry skin (heat stroke victims, contrary to popular belief, may sweat profusely).

It is believed that the above-mentioned heat stress problems can be controlled provided certain precautions are taken. The following practices and precautions are recommended:

1. Each athlete should have a physical examination with a medical history when first entering a program and an annual health history update. History of previous heat illness and type of training activities before organized practice begins should be included.

2. It is clear that top physical performance can only be achieved by an athlete who is in top physical condition. Lack of physical fitness impairs the performance of an athlete who participates in high temperatures. Coaches should know the PHYSICAL CONDITION of their athletes and set practice schedules accordingly.

3. Along with physical conditioning the factor of acclimatization to heat is important. Acclimatization is the process of becoming adjusted to heat and it is essential to provide for GRADUAL ACCLIMATIZATION TO HOT WEATHER. It is necessary for an athlete to exercise in the heat if he/she is to become acclimatized to it. It is suggested that a graduated physical
conditioning program be used and that 80% acclimatization can be expected to occur after the first 7-10 days. Final stages of acclimatization to heat are marked by increased sweating and reduced salt concentration in the sweat.

4. The old idea that water should be withheld from athletes during workouts has NO SCIENTIFIC FOUNDATION. The most important safeguard to the health of the athlete is the replacement of water. Water must be on the field and readily available to the athletes at all times. It is recommended that a minimum 10-minute water break be scheduled for every half hour of heavy exercise in the heat. Athletes should rest in a shaded area during the break. WATER SHOULD BE AVAILABLE IN UNLIMITED QUANTITIES.

5. Check and be sure athletes are drinking the water. Replacement by thirst alone is inadequate. Test the air prior to practice or game using a wet bulb, globe, temperature index (WBGT index) which is based on the combined effects of air temperature, relative humidity, radiant heat and air movement. The following precautions are recommended when using the WBGT Index: (ACSM's Guidelines for the Team Physician, 1991)

Below 64 - Unlimited activity
65-72 - Moderate risk
74-82 - High risk
82 plus - Very high risk

6. There is also a weather guide for activities that last 30 minutes or more (Fox and Mathews, 1981) which involves know the relative humidity and air temperature:

AIR TEMP - DANGER ZONE - CRITICAL ZONE

70 F -------- 80% RH---------- 100% RH
75 F -------- 70% RH ---------- 100% RH
80 F--------- 50% RH ---------- 80% RH
85 F -------- 40% RH ---------- 68% RH
90 F--------- 30% RH ---------- 55% RH
95 F--------- 20% RH ---------- 40% RH
100 F ------- 10% RH ---------- 30% RH
RH = RELATIVE HUMIDITY

One other method of measuring the relative humidity is the use of a sling psychrometer, which measures wet bulb temperature. The wet bulb temperature should be measured prior to practice and the intensity and duration of practice adjusted accordingly. Recommendations are as follows:

Under 60 F - Safe but always observe athletes
61-65 F - Observe players carefully
66-70 F - Caution
71-75 F -Shorter practice sessions and more frequent water and rest breaks

75 plus F - Danger level and extreme caution

7. Cooling by evaporation is proportional to the area of the skin exposed. In extremely hot and humid weather reduce the amount of clothing covering the body as much as possible. NEVER USE RUBBERIZED CLOTHING.

8. Athletes should weigh each day before and after practice and WEIGHT CHARTS CHECKED. Generally a 3 percent weight loss through sweating is safe and over a 3 percent weight loss is in the danger zone. Over a 3 percent weight loss the athlete should not be allowed to practice in hot and humid conditions. Observe the athletes closely under all conditions. Do not allow athletes to practice until they have adequately replaced their weight.

9. Observe athletes carefully for signs of trouble, particularly athletes who lose significant weight and the eager athlete who constantly competes at his/her capacity. Some trouble signs are nausea, incoherence, fatigue, weakness, vomiting, cramps, weak rapid pulse, visual disturbance and unsteadiness.

10. Teams that encounter hot weather during the season through travel or following an unseasonably cool period, should be physically fit but will not be environmentally fit. Coaches in this situation should follow the above recommendations and substitute more frequently during games.

11. Know what to do in case of an emergency and have your emergency plans written with copies to all your staff. Be familiar with immediate first aid practice and prearranged procedures for obtaining medical care, including ambulance service.

HEAT STROKE - THIS IS A MEDICAL EMERGENCY - DELAY COULD BE FATAL.

Immediately cool body while waiting for transfer to a hospital. Remove clothing and place ice bags on the neck, in the axilla (armpit), and on the groin areas. Fan athlete and spray with cold water to enhance evaporation.

HEAT EXHAUSTION - OBTAIN MEDICAL CARE AT ONCE.

Cool body as you would for heat stroke while waiting for transfer to hospital. Give fluids if athlete is able to swallow and is conscious.

SUMMARY

The main problem associated with exercising in the hot weather is water loss through sweating. Water loss is best replaced by allowing the athlete unrestricted access to water. Water breaks two or three times every hour are better than one break an hour. Probably the best method is to have water available at all times and to allow the athlete to drink water whenever he/she needs it. Never restrict the amount of water an athlete drinks, and be sure the athletes are drinking the water. The small amount of salt lost in sweat is adequately replaced by salting food at meals. Talk to your medical personnel concerning emergency treatment plans.
