ATTENTION!!

FOOTBALL COACHES SPORTSMANSHIP

FCYFL is very concerned about the number of sportsmanship problems that result from athletes making derogatory remarks to each other. (Trash Talk)

We are instructing our officials to make this a priority area again for 2007. They are being asked to adopt a zero tolerance for this type of negative behavior. There needs to be no warning before penalizing for trash talk or baiting and taunting.

Your cooperation is necessary if we are to prevent situations that reflect negatively on our. You are the single most important element in demanding proper behavior. If your athletes know you will not tolerate poor sportsmanship they will conform to your expectations. If you fail to emphasize good sportsmanship they will realize this is not an area where you place a lot of emphasis.

Please help us make this the best season we have ever had regarding good sportsmanship.

Make Safety A Commitment And Your No. 1 Priority!!

Excerpted from an article by Dick Schindler for the National Federation News.

Coaches' Checklist

1) Keep the head up.

2) Discuss risk of injury.

3) Keep the head out of contact.

4) Explain how serious injuries occur.

5) Involve parents in early season meeting.

6) Have a set plan for coaching safety.

7) Clearly explain and demonstrate safe techniques.

8) Provide best medical care possible.

9) Monitor blocking and tackling techniques every day.

10) Repeat drills which stress proper and safe techniques.

11) Admonish and/or discipline users of unsafe techniques.

12) Receive clearance by doctor for athlete to play following head trauma.

13) Stress safety every day.

14) Don't glorify "head hunters".

15) Support officials who penalize illegal helmet contact.

16) Don't praise or condone illegal helmet contact.

17) Provide conditioning to strengthen neck muscles.

18) Entire staff must be "tuned in" to safety program.

19) Check helmet condition regularly.

20) Improper technique causes spinal cord injuries.

21) Helmet must fit properly

22) Be prepared for a catastrophic injury.

23) The game doesn't need abusive contact.

24) Player safety is your responsibility.

25) It's a game -- not a job -- for the players.

Keep The Head Out of Football

A 1976 rule change that eliminated the head as the initial contact point in blocking and tackling has significantly reduced head and neck injuries in the sport over the last decade.

Coaches can do their part to continue that trend by teaching correct techniques and emphasizing proper fundamentals at all times. That way , players can avoid catastrophic injury and coaches can avoid lawsuits.

Keep the head out of football

FAIRFAX COUNTY YOUTH FOOTBALL LEAGUE

PRESEASON FOOTBALL MEETING OUTLINE

The FCYFL strongly recommends that each football Club review the following issues with parents, players, Head Coaches, and assistants prior to the season:

I. **Player Safety and Health**

1. **Conditioning** - stress proper diet, adequate rest and physical conditioning, including heat acclimation.

2. **Adequate Physical Examination** – FCYFL recommends each participating Player have a physical.

3. **Proper Player Equipment** - (See Mandatory Player Equipment) - emphasize the importance of properly fitted equipment, especially helmets, protective pads and shoes. Review Helmet Inspection. Demonstrate how all equipment should be fitted. Review how to spot and replace worn of damaged equipment.

4. **Review Practice Schedules** – all practices shall include scheduled "water breaks", especially in preseason drills. Review hot weather practice procedures. Emphasize that proper techniques for Blocking and Tackling will be taught. Specifically discuss injuries due to illegal use of the head and helmet in Player contact.

5. **Review Athletic Emergency Procedures** at your practice and game fields.

6. **Hospital Care** - Indicate where athletes would be taken in the event of injury.

II. **Player Eligibility Rules** - review Player eligibility rules as well as weigh-in requirements, procedures, and expectations. Discuss weight gain and weight loss. Notify parents and head coaches that they will also need to sign the weigh-in cards beginning this year.

III. **FCYFL Rules** - review League rules and expectations. Discuss NHSF playing rules v. NFL playing rules.

IV. **Club Rules** - review individual Club rules and expectations.

Clubs should distribute the following WARNING statement to all Players and parents/guardians:

WARNING

Do not use this helmet to butt, ram or spear an opposing player. This is in violation of the football rules and can result in severe head, brain or neck injury, paralysis or death to you and possible injury to your opponent.

There is a risk these injuries may also occur as a result of accidental contact without intent to butt, ram or spear. **NO HELMET CAN PREVENT ALL SUCH INJURIES**

FAIRFAX COUNTY YOUTH FOOTBALL LEAGUE

ATHLETIC EMERGENCY PROCEDURES

For a number of years the National Federation of State High School Associations and the AMA Committee on the Medical Aspects of Sports have recommended that a physician be present at all athletic games and readily available during practice sessions. However, in same cases practices and contests are conducted without a physician present. This necessitates clear cut arrangements to reach immediately a designated physician or medical facility in case of emergency.

The five cardinal points to be stressed in successful emergency care, particularly when a physician cannot be present, are:

1. ***FIRST AID** - Available at the scene, and well trained personnel to administer it;*

2. ***A COMMUNICATION SYSTEM** - A non-pay telephone with a direct outside line should be available at all times at the field or field facility so that a physician or ambulance may be called, if necessary;*

3. ***QUALIFY EMERGENCY CARE FACILITIES** - They should be available at the hospital level, including excellent staff and equipment;*

4. ***NOTIFICATION** - The facility to which the injured player is being transported should be informed of the player's condition as part of the emergency care so that necessary personnel and equipment will be available when the player arrives;*

5. ***TRANSPORTATION** - Well-equipped emergency vehicles staffed by emergency medical technicians equipped to provide all necessary life support at the scene and during transportation.*

Comment by the Committee on aspects of sports of the American Medical Association and the National Federation

FCYFL Heat Guidelines

HEAT INJURIES CAUSE MULTIPLE DEATHS EACH YEAR IN HIGH SCHOOL SPORTS.

Heat illness and injury can range from a simple muscle cramp to life threatening heat stroke. Catastrophic heat injuries are preventable. Following the recommendations found in this document, the risk of heat injuries can be reduced significantly. The most important components in preventing heat injury are the prevention of dehydration and limiting activity when temperature and humidity make it near impossible for the body to cool through evaporation of sweat.

The body produces heat at rest, this heat production increases 10 to 20 times with exercise. Evaporation is the major method of cooling the body during exercise. Evaporation of sweat dissipates the heat from the core of the body, keeping the internal organs cool. Exercising in a dehydrated state reduces the ability to sweat, therefore compromising the ability to cool. Dehydration also causes a reduction in blood volume, compromising cardiac output. The air temperature and humidity have a direct effect on the efficiency of this cooling process. Based on the effects of dehydration and exercising in the heat and humidity, the following guidelines have been established to provide administrators, coaches, and athletic training staff, with a sound plan to prevent heat injury.

Signs and Symptoms of Heat Problems:

The following are common signs and symptoms related to heat illness, but are not intended to represent a complete list. In the event an athlete is suffering from one or more of the following, the athlete should be referred to appropriate allied health care or medical professional for full evaluation.

- Muscle spasms/cramps
- Heavy or profuse sweating
- Skin is flushed or cool and pale
- Headache
- Dizziness
- Rapid pulse, nausea, weakness
- Disoriented, confusion
- Elevated body core temperature
- Cessation of sweating
- Red, dry skin
- Shallow breathing and rapid pulse
- Loss of consciousness

Heat Illness/Injury Facts:

- Adolescents take longer to acclimatize to the heat than adults
- Weight loss of water greater than 3% of body weight significantly increases the risk of heat related illness.
- 1.5 times the amount of water lost must be consumed to replace lost weight.
- Unrelated illnesses causing vomiting and/or diarrhea will increase risk of heat related illnesses. These conditions should be brought to the attention of the coaching staff prior to participation and close monitoring of these individuals should take place during practice sessions and competition.
- Athletes taking certain medications including diuretics, antihistamines, beta blockers and anti-cholinergics are at higher risk for heat illnesses.
- Light colored breathable clothing can assist the body in cooling.
- Athletes who are overweight, poorly conditioned, recovering from illness, lacking in sleep, or taking medications are at added risk for heat illnesses and should be monitored closely and/or have their participation level modified.

FCYFL CODE ORANGE GUIDELINES:

1. ***No practice can start before 6:00pm.***
2. ***Modify accordingly, all activities throughout practice as a result of the heat.***
3. ***No equipment (helmets, shoulder pads, etc) can be worn until at least 6:45pm.***
4. ***No contact drills or scrimmages until at least 6:45pm.***
5. ***Organized fluid/water breaks for rehydration must given every 20 minutes throughout the entire practice. Remove helmets during these breaks.***
6. ***When in doubt, use reasonable judgment and common sense in the best interest of player safety.***

Recommendations for Fluid Replacement:

• All clubs should establish a Fluid Replacement Protocol for their fields. (see recommendations below)
• All athletes should inform their coaches of any pre-existing heat illness, gastro-intestinal condition and/or medical complication prior to exercising in the heat.
• When possible, weigh athletes before and after each practice during hot weather. Athletes should conform to a restricted activity schedule if not within 1% of the previous days PRE-EXERCISE weight.
• Replace fluids at a rate of 24 fluid ounces for every pound of body weight lost after exercise
• Athletes should be educated in the process of hydrating themselves as a 24 hour a day process.
• Athletes should begin every athletic activity well hydrated.
• During exercise, the average person should drink 8 – 12 oz of fluid every 20 to 30 minutes.
• Urine color is an easy method to determine hydration status. Light yellow to clear urine indicates a well-hydrated athlete.
• Water should be available to athletes at all times and never be withheld from exercising individuals.

Environmental factors:

Ambient air temperature and humidity have a direct effect on the ability for a body to cool itself through the evaporation of sweat. When the air temperature is above 90, and/or the relative humidity is high, the body is at a higher risk to not effectively stay cool, which may be compounded by the level of dehydration of the body's fluids. The following chart is a simple method to determine the amount of increased risk with variations of heat and humidity, and subsequent suggestions to modify participation in physical activities.

This chart can be used by inputting the temperature and humidity available via local radio stations, Internet locations, etc. Simply cross-reference the relative humidity (top row) with the temperature (first column) to determine the humiture. FCYFL member clubs practice in the evening and the ambient conditions progressively improve as we move into the evening, however, reasonable cautions need to be implemented as the conditions warrant. As a minimum, commissioners must implement the following guidelines as outlined below and a particular field condition exists.

Humiture or Apparent Temperature Chart (After R.G.Steadman, 1979)

RELATIVE HUMIDITY (%)

Tem↓p	**10%**	**20%**	**30%**	**40%**	**50%**	**60%**	**70%**	**80%**	**90%**	**100%**
105º	100	105	113	123	135	149				
104º	98	104	110	120	132	143				
102º	97	101	108	117	125	139				
100º	95	99	105	110	120	132	144			
98º	93	97	101	106	110	125	132			
96º	91	95	98	104	108	120	128			
94º	89	93	95	100	105	111	122	128		
92º	87	90	92	96	100	106	115	122		
90º	85	88	90	92	93	100	106	114	122	130
88º	82	86	87	89	93	95	100	106	115	125
86º	80	84	85	87	90	92	96	100	109	111
84º	78	81	83	85	86	89	91	95	99	105
82º	77	79	80	81	84	86	89	91	95	96
80º	75	77	78	79	81	83	85	86	89	91
78º	72	75	77	78	79	80	81	83	85	86
76º	70	72	75	76	77	77	77	78	79	80

HUMITURE	**FCYFL RECOMMENDATION**
105º and up:	Recommend no outside activities. The individual club makes the decision.
95º to 104º:	Recommend no equipment (helmets, pads, etc) be used during activity.
90º to 94º:	Recommend equipment be removed as often as possible (during rest breaks, on sideline, etc). Careful monitoring of all athletes for signs of heat problems.
Below 89º:	Recommend adequate water supply at all practices and competitions with breaks every 20 to 30 minutes for rehydration.

FCYFL WILL POST APPLICABLE CODE ALERTS ON THE WEBSITE (www.fcyfl.org) and all clubs are required to monitor for compliance. In periods of hot weather, the website must be checked throughout the day up to 4:00pm for alerts and changing conditions. IF POSTED, CODE ORANGE GUIDELINES MUST BE FOLLOWED!

National Athletic Trainers Association's Recommendations on Fluid Replacement:

- Educate athletes on the effects of dehydration on physical performance.
- Inform athletes on how to monitor hydration status.
- Convince athletes to participate in their own hydration protocols based on sweat rate, drinking preferences, and personal responses to different fluid quantities.
- Encourage coaches to mandate rehydration during practices and competitions, just as they require other drills and conditioning activities.
- Have a scale accessible to assist athletes in monitoring weight before, during, and after activity.
- Provide the optimal oral rehydration solution (water, CHOs, electrolytes) before, during, and after exercise.
- Implement the hydration protocol during all practices and games, and adapt it as needed.
- Finally, encourage event scheduling and rule modifications to minimize the risks associated with exercise in the heat.

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Full text can be found on NATA's website: www.nata.org

Acclimatization to Heat:

Another way to help prevent heat stress is to become acclimatized to the weather. Acclimatization means becoming adapted to the weather or climate. The process takes 7 to 12 days. Studies have shown adolescents take longer to acclimatize to heat than adults. As a result of acclimatization, the sweating mechanism of a person is enhanced:

- onset of perspiration occurs earlier
- perspiration increases
- increase in blood volume with the more training an individual does
- improves supply of oxygen to the muscles
- heart rate decreases
- core body temperature does not rise as high during exercise

Other facts about heat illnesses and exercising in the heat:

- Dehydration of 1% to 2% of body weight begins to impact athletic performance
- Dehydration greater than 3% of body weight may increase an athlete's risk of heat illness.
- Sports drinks should contain less than 8% carbohydrate. Carbohydrate content greater than 8% compromises the rate of gastric emptying and should be avoided.
- Wear light weight and light colored clothing
- Avoid wearing articles that prevent water absorption
- Early morning commonly produces a humid environment and lower temperatures. Usually, as the sun rises, the temperature will increase and the humidity decreases. As the evening hours approach, the temperature decreases and the humidity will rise. Often, the most critical times to monitor athletes ability to exercise in hot weather occurs when the temperature rises quickly during the early morning prior to the sun burning off the humidity, or during storms when the humidity remains high due to cloud cover, etc.
- A mild breeze can reduce the humidity on a particular field, as well as improve the evaporative process.
- Field watering after practice sessions are complete can help reduce the ambient humidity on or near an athletic field, thus reducing the heat stress on athletes.

EXTREME HOT AND HUMID WEATHER TIPS for ADJUSTING PRACTICES

Duration	Attire	Fluid Consumption	Recommendations
2 hours	Full gear	Insist that adequate water be ingested	Never restrict water consumption
2 hours	Full gear	Insist that adequate water be ingested	Provide minimum of 2 water breaks per hour
2 hours	Full gear	Insist that 4 – 6 oz minimum water be ingested every 20 minutes	Provide minimum of 3 water breaks per hour
2 hours, every 45 minutes of work > 15 minutes of rest each hour	Remove helmets unless active in drill	Insist that 6 – 8	Remove helmet unless active in drill
2 hours, every 45 minutes of work > 15 minutes of rest each hour	Protective equipment removed for non-contact drills	Insist that 8 – 10 oz water be ingested every 15 minutes	Removal of helmet unless active in drill, removal of pads (ie: shoulder pads) when teaching or non-contact portions of practice exceed 10 minutes in length
2 hours, every 45 minutes of work > 15 minutes of rest each hour	Shirt, shorts only No helmets or equipment	Insist that 8 – 10 oz water be ingested every 15 minutes.	Reduce intensity of activity, no equipment or helmets
NO OUTDOOR PRACTICE	The Heat Policy also applies to indoor practice	Re-hydrate 24 oz for every pound of body weight loss per day.	Practices conducted indoors must follow the Heat Policy

RECOMMENDATIONS:

Fluid replacement should be at a rate of 24 oz for every pound of body weight lost after exercise.

- Light colored, loose clothing is suggested during activity in hot weather.
- Athletes are encouraged to wear sunscreen on exposed skin during hot, sunny conditions.
- Adequate fluid supply should be readily available at all times during activity in hot weather.
- Individuals poorly acclimatized, or poorly conditioned are at increased risk for heat related illness/injury and should be monitored closely or placed on a modified participation schedule.
- Athletes having a pre-existing dehydrated state (recent fever or gastro-intestinal illness) or pre-existing heat injury are at a much higher risk for heat related illness/injury and should be monitored closely or placed on a modified participation schedule.
- Medications including diuretics, antihistamines, beta-blockers and anti-cholinergics increase the risk of heat illness/injury.
- Overweight athletes are at increased risk for heat illness/injury and should be monitored closely.
- Energy, ergogenic, and dietary supplements such as Creatine may cause an increase in dehydration and heat related illness and/or injury.

RECOMMENDATIONS FOR HYDRATION TO PREVENT HEAT ILLNESS

TYPES OF SPORTS DRINKS

- **Fluid Replacers**
  - Examples: Water, Gatorade, 10K, Quickick, Max
  - These drinks are absorbed as quickly as water and typically are used for activities lasting less than 2 hours.

- **Carbohydrate loaders**
  - Examples: Gatorlode, Exceed High, Carboplex
  - These drinks replace more muscle glycogen to enhance greater endurance.
  - They should be used after ultra-endurance events to increase muscle glycogen resynthesis after exercise.

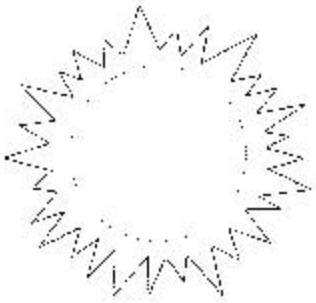
- **Nutrition Supplements**
  - Examples: Gatorpro, Exceed Sports, Ultra Energy
  - These supplements are fortified with vitamins and minerals and they help athletes maintain a balanced diet.
  - They can be used as a meal replacement supplement for athletes who wish to skip a high fat meal, or as extra calories for athletes who wish to gain weight.

WHAT NOT TO DRINK

- Drinks with Carbohydrate (CHO) concentrations of greater than eight percent should be avoided.
- Fruit juices, CHO gels, sodas, and sports drinks that have a CHO greater than six to eight percent are not recommended during exercise as sole beverages.
- Beverages containing caffeine, alcohol, and carbonation are not to be used because of the high risk of dehydration associated with excess urine production, or decreased voluntary fluid intake.

HYDRATION TIPS AND FLUID GUIDELINES

- Drink according to a schedule based on individual fluid needs.
- Drink before, during and after practices and games.
- Drink 17-20 ounces of water or sports drinks with six to eight percent CHO, two to three hours before exercise.
- Drink another 7-10 ounces of water or sport drink 10 to 20 minutes before exercise.
- Drink early — By the time you're thirsty, you're already dehydrated.
- In general, every 10-20 minutes drink at least 7-10 ounces of water or sports drink to maintain hydration, and remember to drink beyond your thirst.
- Drink fluids based on the amount of sweat and urine loss.
- Within two hours, drink enough to replace any weight loss from exercise.
- Drink approximately 20-24 ounces of sports drink per pound of weight loss.
- Dehydration usually occurs with a weight loss of two percent of body weight or more.

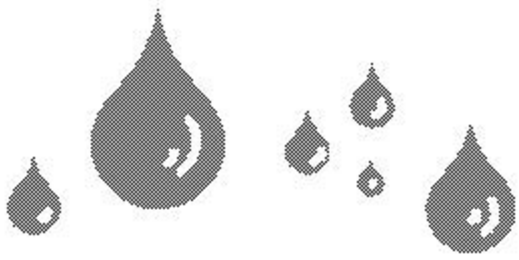


WHAT TO DRINK DURING EXERCISE

- If exercise lasts more than 45-50 minutes or is intense, a sports drink should be provided during the session.
- The carbohydrate concentration in the ideal fluid replacement solution should be in the range of six to eight percent CHO.
- During events when a high rate of fluid intake is necessary to sustain hydration, sports drinks with less than seven percent CHO should be used to optimize fluid delivery. These sports drinks have a faster gastric emptying rate and thus aid in hydration.
- Sports drinks with a CHO content of 10 percent have a slow gastric emptying rate and contribute to dehydration and should be avoided during exercise.
- Fluids with salt (sodium chloride) are beneficial to increasing thirst and voluntary fluid intake as well as offsetting the amount of fluid lost with sweat.
- Salt should never be added to drinks, and salt tablets should be avoided.
- Cool beverages at temperatures between 50 to 59 degrees Fahrenheit are recommended for best results with fluid replacement.

DEHYDRATION, ITS EFFECTS ON PERFORMANCE, AND ITS RELATIONSHIP TO HEAT ILLNESS

- Dehydration can affect an athlete's performance in less than an hour of exercise — sooner if the athlete begins the session dehydrated.
- Dehydration of just one to two percent of body weight (only 1.5-3 lb.. for a 150-pound athlete) can negatively influence performance.
- Dehydration of greater than three percent of body weight increases an athlete's risk of heat illness (heat cramps, heat exhaustion, heat stroke).
- High-body-fat athletes can have a harder time with exercise and can become dehydrated faster than lower-body-fat athletes working out under the same environmental conditions.
- Poor acclimatization/fitness levels can greatly contribute to an athlete's dehydration problems.
- Medications/fevers greatly affect an athlete's dehydration problems.
- Environmental temperature and humidity both contribute to dehydration and heat illnesses.
- Clothing, such as dark, bulky, or rubber protective equipment can drastically increase the chance of heat illness and dehydration.
- Wet bulb temperature measurements should be taken 10-15 minutes before practice, and the results should be used with a heat index to determine if practices or contests should be started, modified or stopped.
- Even dry climates can have high humidity if sprinkler systems are scheduled to run before early morning practices start. This collection of water does not evaporate until environmental temperatures increase and dew points lower. Dry climate areas should take wet bulb and temperature readings 10 to 15 minutes before practice or contests.
- A Heat Index chart should be followed to determine if practice/contests should be held.
- A Heat Index chart should come from a reputable source like the National Oceanic and Atmospheric Association.
- A relative humidity of 35 percent and a temperature of 95 degrees Fahrenheit are likely to cause heat illness, with heat stroke likely.
- A relative humidity of 70 percent and a temperature of 95 degrees Fahrenheit are very likely to cause heat illness, with heat stroke very likely.



Journal of Athletic Training: 35(2): 212-224; NFHS Handbook Heat Related Illness, Sandra Shultz Phd, ATC, CSCS, Steven Zinder MS, ATC

VIRGINIA HIGH SCHOOL LEAGUE
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MEDICAL-LEGAL CONSIDERATIONS

No one wants an athlete to be injured. In sports activities, however, there is always the possibility of injury no matter how careful we are in observing proper procedures. In like manner, no one wants to be involved in a law suit. Today we have an unprecedented number of sports-related litigation that concerns everyone associated with sports.

The fact that injury occurs does not necessarily mean that the coach is negligent or liable for damages. There are no sure criteria for determining what is negligent action since each case stands individually on its own merit. The following recommendations can help prevent situations that may lead to injuries or litigation.

1. *Require a thorough physical examination before the athlete engages in the sport.*
2. *Assign someone to make certain all equipment fits properly.*
3. *Assign someone to inspect equipment for defects and the facilities for hazards. Keep an accurate record of the inspection.*
4. *Obtain medical insurance coverage for the athletic and liability insurance for the coaches and other staff members.*
5. *Adopt a medical plan for emergency treatment for all athletes involved in physical contact or strenuous exercise.*
6. *Assign drills within the athlete's range of ability and commensurate with his size, skill and physical drills.*
7. *Prepare the athlete gradually for all physical drills and progress from simple to complex tasks in strenuous and dangerous drills.*
8. *Warn the athlete of all possible dangers inherent in the drills in which he is involved.*
9. *Follow the activities as designed. If the coach deviates from the prescribed drills, the decision to do so should be based on sound reasoning. Extra precautions for safety should be taken.*
10. *Adopt a policy regarding injuries. Do not attempt to be a "medical specialist" in judging the physical condition of an athlete under your care.*
11. *Require a physician's medical permission before permitting serious injured or ill athletes to return to normal practice.*
12. *Avoid moving the injured athlete until it is safe to do so. Whenever the athlete is moved, make certain he is taken away from potentially dangerous playing areas.*
13. *Conduct periodic medical - legal in-service training programs for all personnel.*

SOME SIGNS OF CONFUSION/CONCUSSION:

Confusion can be defined in many different ways and listed below are some of the signs and symptoms frequently associated with minor head trauma (a.k.a. "ding", "bell rung", dazed). Most categories of impairment appear to be deficits of attention, concentration, information processing speed and memory. We also have suggested some of the means of assessing these signs and symptoms to decide whether the athlete is "clear" to return to action.

1. **Thinking deficits:** Tests such as the Paced Auditory Serial Addition Task (PASAT), and Trails Making A & B Test have proven to be helpful in identifying post-head-trauma residual problems brain function.

2. **Lack of sustained attention:** Difficulty sustaining adequate focus to complete a task or persevere with a coherent stream of thought can be a sign of poor attention. Repeating digits forward and backward, stating the months of the year in reverse order or counting backwards by a certain interval are ways of identifying this lack of concentration ability.

3. **Confused mental status:** Disorientation to time, date, place, address and phone number may be helpful; however, recent studies suggest that information relating to the game such as opponent, score, quarter, play was injured on and individual assignment on the play are more relevant to identifying deficits after minor head trauma.

4. **Amnesia:** Retrograde amnesia usually represents a more serious deficit than post-traumatic amnesia.

5. **Dazed look or vacant stare.**

6. **Slurred or incoherent speech.**

7. **Vomiting and/or nausea.**

8. **Slow motor and verbal responses.**

9. **Emotional liability:** Reactions that seem out of proportion and inappropriate, as well as combative and/or aggressive behavior can be seen for a period of time after a concussion.

10. **Memory deficits (short-term and delayed memory):** A common manifestation is the repeated asking of the same questions over and over again. Asking for details of the contest, names of teams in prior contests, remembering three words or objects at 0 and 5 minutes and asking about significant recent news events are ways of evaluating memory status.

11. **Poor coordination:** A recent study indicated an individual's balance was abnormal for three to five days after a concussion even without other residual signs and symptoms. Tests of strength, coordination and agility, such as finger-to-nose testing and tandem gait observations, can be helpful in analyzing the athlete's state of coordination.

12. **Dizziness.**

13. **Headaches:** This is a very important symptom and has been one of the gold standards of clinical symptoms to help determine return to play.

14. **Restlessness:** Changing position frequently and having trouble resting or "finding a comfortable position" can be manifestations of post-head-trauma difficulties.

15. **Neurasthenia and hyperesthesias:** Neurasthenia, which is nervous weakness, exhaustion and irritability, and hyperesthesias, excessive sensitivity to various sensory stimuli such as touch, pain, light, sound, etc.

It is very important that these assessments be done both in the resting state and, if the individual appears "clear," to ask the athlete to perform many of them after sufficient exercise such as short sprints, push-ups, sit-ups and knee bends to raise the heart rate. If any abnormal signs return, the athlete should be withheld from participation.

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Prepared by Vito Perriello, M.D., a member of the NFHS Sports Medicine Advisory Committee.
6-02

SUGGESTED GUIDELINES FOR MANAGEMENT OF HEAD TRAUMA IN SPORTS

Head trauma is a common problem in sports that has the potential for serious complications if not managed correctly. Even what appears to be a "minor ding" or "bell ringer" without loss of consciousness, has the risk of catastrophic results in a youngster who is returned to action too soon. The medical literature and lay press are reporting instances of death from "second impact syndrome" even after mild concussions.

At many athletic contests across the country, there is a lack of trained and knowledgeable individuals making the decision to return concussed athletes to the game. Frequently, there is undo pressure from various sources (parents, player and coach) to return a valuable athlete to action A.S.A.P. In addition, often there is an unwillingness by the athlete who wants to play to report headaches and other symptoms that will prevent his/her return to play.

Outlined below are guidelines that may be helpful in establishing a protocol useful to those responsible for the return to play decision after a head injury, whether they are medically trained or not. These are general guidelines and are not meant to replace the judgment of a physician or certified athletic trainer present on the sideline. **IF THERE IS ANY OBVIOUS ABNORMALITY OR DETERIORATION OF SYMPTOMS, IMMEDIATE MEDICAL CARE SHOULD BE FOUND.** It is the relatively minor head injury with no obvious consequence where this protocol could be most helpful on the sideline.

SIDELINE MANAGEMENT OF ACUTE HEAD INJURY

Following a head injury, an athlete should be returned to practice or a game **ONLY** if he/she meets **ALL** of the following criteria. (See schematic)

1. Head injury did not result in any loss of consciousness;
2. Any "confusion" or altered mental status clears in less than 15 minutes;
3. The injured athlete has had no other concussion or significant head injury during the present season;
4. The athlete checks out "clear" on mental status, orientation, concentration and memory tasks before and after exertional provocative tests. (See reverse side)

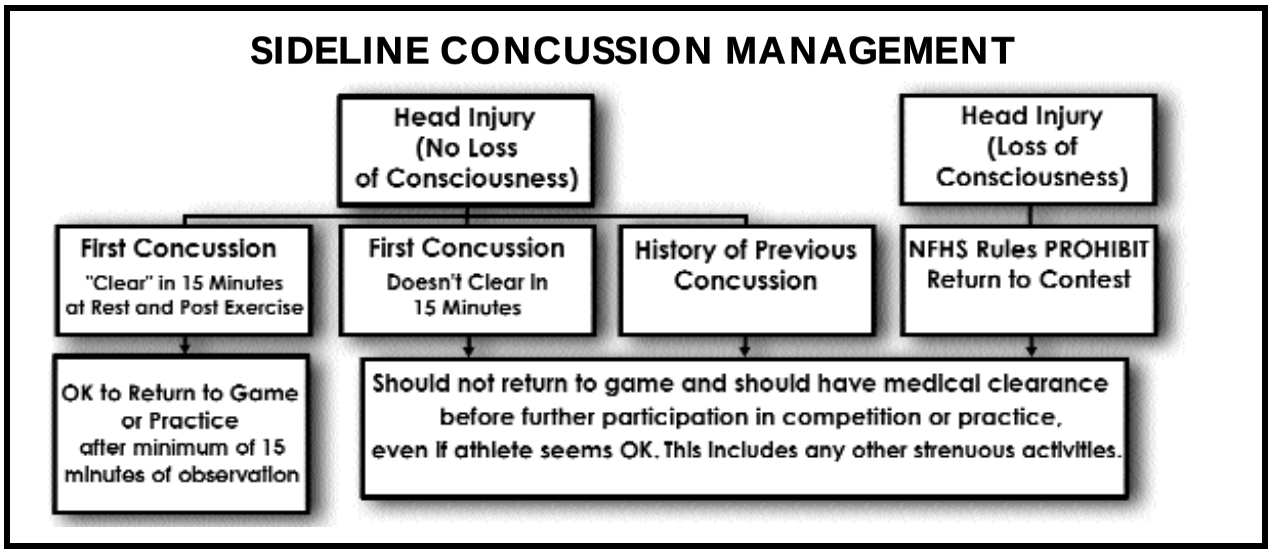
MANAGEMENT OF HEAD INJURIES THAT INTERRUPT RETURN TO PLAY

Any athlete whose concussion involves loss of consciousness, doesn't "clear" in 15 minutes or who has had previous concussions should not return to play or practice until medical clearance is obtained. Generally, an athlete is advised not to return to play or practice in a contact sport until he/she is asympotomatic and clear for at least one week. This has traditionally meant no headache, confusion or any of the problems listed below. These recommendations have been based on the awareness of the increased vulnerability of the brain to concussions occurring close together and of the cumulative effects of multiple concussions on long-term cognitive function. Research is now revealing some fairly objective and relatively easy-to-use tests which appear to identify the subtle residual effects of concussion not found by traditional evaluation. These identifiable deficits frequently persist after the obvious signs of concussion are gone and appear to have relevance to whether an athlete can return to the game with relative safety. The significance of these deficits is still under study and the evaluation instruments represent a work in progress. They may be helpful to the professional determining return to play in conjunction with consideration of the severity and nature of the injury; the interval since the last head injury and the level of play.

EXAMPLE OF A SPECIFIC INSTRUMENT THAT IS BEING USED TO DO SIDELINE ASSESSMENT OF ATHLETES WITH CONCUSSION:

Outlined in the included schematic is a fairly comprehensive list of signs, symptoms and observations that can be utilized to determine if an athlete is "clear" of any abnormalities that would prevent return to play. Several investigators have been working on quick and efficient checklists for sideline assessment that can be performed by individuals with varying degrees of training and could be an alternative if a professional is not on hand. Dr. Kutner and Dr. Barth are working on a Sideline Concussion Checklist (SCC) that looks very promising. Drs. McCrae, Kelly, Bartolic, et al have developed a Sideline Assessment of Concussion (SAC) instrument, which has been validated on hundreds of athletes. The test has a reasonable user-friendly system for grading concussions and utilizes tests that can be done on the sideline. In addition, a scoring system is included to serve as a guideline to help in decision-making and suggests a course of action to follow on return to play. A palm card, as provided by the Brain Injury Group and the Academy of Neurology, has summarized the experience and consensus of a number of researchers in this field. The palm card and a packet of test materials with information on scoring, etc. can be obtained from the Brain Injury Association, 800-321-7037.

The schematic below reflects the latest recommendations on concussion management in a form we believe should be helpful to schools, especially if no medically trained individual is available on the sideline.



THE UNCONSCIOUS ATHLETE

A comment by the National Federation of State High School Associations and the Committee on the Medical Aspects of Sports of the American Medical Association

The common definition of "first aid" is: the immediate emergency care of injury or illness until medical attention can be obtained. This is especially significant with regard to the player rendered unconscious during an athletic contest or practice.

Medical attention should be immediately available with a physician present or readily available at games and during practice sessions. This requires that plans be developed so that a physician can be reached quickly by phone. The unconscious player can pose a serious problem, and the physician, the coach and the athletic trainer must realize the importance of prompt and proper care.

There are a number of conditions that may cause unconsciousness. Some of these conditions and recommendations for care are listed below:

Heat Stroke - *Collapse* - with dry, warm skin - indicates seating mechanism failure and rising body temperature. THIS IS AN EMERGENCY: DELAYED COULD BE FATAL. Immediately cool athlete by the most expedient means (immersion in cool water is best method). Obtain medical care at once. Player should not return to participation without consent of a physician.

Heat Exhaustion - *Weakness* - with profuse sweating - indicates state of shock due to depletion of salt and water. Place in shade with head level lower than body. Give sips of diluted salt water. Obtain medical care at once. Player should not return to participation without consent of a physician.

Impact Blow to Solar Plexus - Rest athlete on back and moisten face with cool water. Loosen clothing around waist and chest. Do nothing else except obtain medical care if needed. Player may return to participation if further medical care is not indicated.

Impact Blow to Head - Head injuries in sports are usually subtle in nature. That is, the player may be briefly dazed or slow to get yp. He/she may be groggy or dizzy for only a few moments. Such a player should be benched for at least a half hour, preferable the day, and not returned to play until alert, fully in command mentally, and free of headache or mental confusion.

With a definite loss of consciousness, the player should be evaluated by a physician and observed hourly for a twenty-four hour period whether at a hospital or at home for any evidence of intracranial bleeding (e.g. headache, dilation of one pupil, nausea, dizziness, confusion). He/she should not be returned to sports in the interim, and subsequently only if he/she is completely free of symptoms such as headache or dizziness or mental confusion.

Any suspicion of intracranial bleeding must be followed by immediate medical attention. Beyond the complaints of the athlete such as headache or dizziness, the following simple observations can be conducted to determine if there is an expanding intracranial lesion:

1. State of consciousness -- How impaired are movements?
2. Pupils -- Inequality of size.
3. Heart - Unusual slowing.
4. Eye Movements -- Nystagmus (dancing eyes).
5. outstretched arms -- Drift unilaterally.
6. Finger to nose test (eyes closed) -- Asymmetry.
7. Heel to knee test (eyes closed) -- Asymmetry.
8. Romberg Test (standing with eyes closed) -- Falling.
9. Tandem walk (heel to toe walking a straight line) -- Inability to perform.

The three cardinal points to be stressed for successful emergency treatment are:

1. Communication - A "nonpay" telephone close to the sports arena for quick call for help.

2. Transportation - A vehicle must be readily available at the site to move the patient to the hospital when warranted.

3. Notification : The hospital must be informed of the patient's status so that medical and nursing in the proper facilities will be available on his arrival.

References:

1. First Aid Chart For Athletic Injuries, American Medical Association Committee on the Medical Aspects of Sports.
2. Schneider, R. C., M.D. and Kriss, F. G., Decisions Concerning Cerebral Concussion in Football Players, Medicine and Science in Sports, Vol. 1, No. 2, June, 1969
3. Van den Noort, G., M.D., Recognition and Early Management of Head and Neck Injuries in Football, Proceeding of the Seventh National Conference on the Medical Aspects of Sports, American Medical Association, November 28, 1965.

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BURNING HANDS MAY SIGNAL SERIOUS INJURY TO SPINE

Football players complaining of a burning sensation in the hands and fingers may have a spinal cord injury that, if not properly cared for immediately, could lead to more severe, even permanent damage. Coaches should be aware that the burning-hands syndrome may be just the tip of the injury iceberg.

To aid in diagnosis, a coach examining an injured player who has burning hands should always ask how the injury occurred. Although the player may not show other signs of weakness or serious injury, removing his helmet or moving him off the field improperly could be dangerous.

Burning hands may signal a partial and incomplete spinal lesion - an injury from which a complete recovery is possible. But improper handling of the injured player may result in the so-called "second accident," in which the spinal cord is further damaged.

To avoid additional injury to the spinal cord, the helmet should not be removed in cases where neck or spinal injury is a possibility. If it is necessary to gain access to the face, the facemask should be cut off. In addition, the player complaining of a burning sensation in his hands should be removed by stretcher or on a flat board carried by at least four people trained in this procedure. Rather than have the coaching staff remove the athlete by stretcher to the sideline, delay the game until an ambulance crew can be summoned to supervise transporting the athlete.

Sports Medicine: Heat Stress and Athletic Participation

Heat Stress and Athletic Participation

Early fall football, cross country, soccer and field hockey 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 2002 football season there have been 15 high school heat stroke deaths in football. This is not acceptable. There are no excuses for heatstroke deaths, if the proper precautions are taken. 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. According to the American Academy of Pediatrics Committee on Sports Medicine, heat related illnesses are all preventable.(Sports Medicine: Health Care for Young Athletes, American Academy of Pediatrics, July 2000). 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. State High School Associations recommendations should be followed.

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 twenty minutes 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 65 – Unlimited activity

65-73– Moderate risk

73-82 – High risk

82 plus – Very high risk

6. An alternative method for assessing heat and humidity is the weather guide or heat index. Refer to the Sports Medicine Handbook section on heat related illness published by the NFHS. Figure I is an example of a heat-humidity index table that defines low, moderate, high, and extreme risk zones.

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.

12. Warn your athletes about the use of any products that contain ephedra. Ephedra has been associated with two heat stroke deaths in athletes. Ephedra speeds metabolism and increases body heat, constricts the blood vessels in the skin preventing the body from cooling itself, and by making the user feel more energetic it keeps him/her exercising longer when they should stop. Do not use ephedra or ephedra products.

HEAT STROKE – THIS IS A MEDICAL EMERGENCY – DELAY COULD BE FATAL. Immediately cool body while waiting for transfer to a hospital. Remove clothing and immerse torso in ice/cold water. Immersion therapy has the best cooling rates. A plastic baby pool can be available at all practices and games, and can always be ready for immersion procedures. If not available apply ice packs in armpits, groin and neck areas. Continue cooling efforts until EMS arrives.

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.

Sports Medicine: Reducing Brain and Spinal Injuries in Football & other athletic activities

REDUCING BRAIN AND SPINAL INJURIES IN FOOTBALL AND OTHER ATHLETIC ACTIVITIES

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ROBERT C. CANTU, M.D.

Brain and spinal injuries in football have been dramatically reduced since the rules were changed in 1976 to prohibit butt blocking and face tackling, and any other technique in which the helmet and facemask purposely received the brunt of the initial impact. There are still a small number of football players (and fewer in other sports) that become paralyzed, but the lesson to keep the head and face out of blocking and tackling remains.

Generally, about 3 – 5% of the injuries experienced by participants in athletics are concussions, e.g., temporary dizziness, confusion, nausea, headaches, and perhaps unconsciousness. Concussions are given grades from Grade 1 (a hit that dazes for a few minutes to Grade 3 (unconscious). No concussion should be dismissed as minor until proven so by medical personnel. The task is to be sure that the athlete no longer has any post concussion symptoms at rest and exertion before returning to competition. What is now called “the second impact syndrome” with its high rate of morbidity if not mortality, is the result of returning to play too soon.

Several suggestions for reducing brain and spinal injuries follows:

1. Preseason physical exams for all participants. Identify during the physical exam those athletes with a history of previous brain or spinal injuries. If the physician has any questions about the athlete’s readiness to participate, the athlete should not be allowed to play.

2. A physician should be present at all games and practices. If it is not possible for a physician to be present at all games and practice sessions, emergency measures must be provided. The total staff should be organized in that each person will know what to do in case of a brain or spinal injury in game or practice. Have a plan ready and have your staff prepared to implement that plan. Prevention of further injury is the main objective.

3. Athletes must be given proper conditioning exercises which will strengthen their neck muscles in order for them to be able to hold their head firmly erect when making contact. Strong neck muscles may help prevent neck injuries.

4. Coaches should drill the athletes in the proper execution of the fundamentals of the football skills, particularly blocking and tackling. KEEP THE HEAD OUT OF FOOTBALL.

5. Coaches and officials should discourage the players from using their heads as battering rams. The rules prohibiting spearing should be enforced in practice and games. The players should be taught to respect the helmet as a protective device and that the helmet should not be used as a weapon.

6. All coaches, physicians and trainers should take special care to see that the players’ equipment is properly fitted, particularly the helmet.

7. Strict enforcement of the rules of the game by both coaches and officials will help reduce serious injuries.

8. When a player has experienced or shown signs of brain trauma (loss of consciousness, visual disturbances, headache, inability to walk correctly, obvious disorientation, memory loss) he/she should receive immediate medial attention and should not be allowed to return to practice or game without permission from the proper medical authorities. Coaches should encourage players to let them know if they have any of the above mentioned symptoms (that can’t be seen by others, such as headaches) and why it is important.

9. Both athletes and their parents should be warned of the risks of injuries.

10. Coaches should not be hired if they do not have the training and experience needed to teach the skills of the sport and to properly train and develop the athletes for competition.

Following is a list of Post Concussion Signs/Symptoms
Depression
Numbness/tingling

Dizziness
Poor Balance
Drowsiness
Poor Concentration
Excess Sleep
Ringing in the ears
Fatigue
Sadness
Feel “in fog”
Sensitive to Light
Headache
Sensitivity to Noise
Irritability
Trouble falling asleep
Memory Problems
Vomiting
Nausea
Nervousness