

# PARENT INFORMATION MANUAL

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**Dear Parent or Guardian:**

Welcome to the University Interscholastic League. The UIL is the governing body for 1,398 public high schools and nearly 2,100 middle and junior high schools in Texas. The UIL, which began in 1910, is the largest interschool organization of its kind in the world, offering 23 athletic activities to more than one million student-athletes.

The purpose of the UIL is to organize and properly supervise contests that assist in preparing students to become better citizens. Our aim is to provide healthy, character building, educational activities carried out under rules providing for good sportsmanship and fair play for all participants.

Contests could not exist without rules. Therefore, UIL rules are adopted and modified by public school administrators whose responsibility is the overall educational program of the local school district rather than individual contests. The superintendent ensures that contests remain strictly amateur and educational in nature.

The UIL athletic program is based on the premise that athletes are students first and that athletic participation is a privilege rather than a right. Students learn teamwork and group responsibility. They also learn to deal with success and to overcome adversity. Research shows those who participate in extra-curricular activities tend to make better grades and have fewer discipline problems than those who do not participate.

Throughout this publication you'll notice references to your "student athlete", rather than your "athlete" because we believe that your children are students first, and athletic participation is a privilege.

Here are some statistics to keep in mind:

- There are over one million high school football players and almost one million basketball players in grades 9-12 nationally. Of those numbers, about 250 make it to the NFL, and about 50 make an NBA team.
- The odds of a high school football player being selected to play for an NFL team are about 6,000 to 1.
- The odds of a high school athlete competing in the NBA are even greater.
- The NCAA is made up of 977 schools classified in three divisions, and less than 25,000 student athletes compete for NCAA titles annually, most of whom are not on athletic scholarships.

With this in mind, it is important to focus on your student's academic career in addition to their success on the playing field or court.

This manual is provided to assist in guiding you and your child through the UIL process. Please take time to read each section and feel free to visit our extensive web site at [www.uil-texas.org](http://www.uil-texas.org). Of course you may also call any of our staff members for clarification of any questions you may have.



Mark Cousins, Ph. D.  
UIL Director of Athletics

## MISSION OF EXTRACURRICULAR SCHOOL ACTIVITIES ~

One of the missions of extracurricular school activities is to serve as an extension of the classroom. There are strong lessons to be learned in athletics. One of those lessons is to set and maintain high standards of sportsmanship, ethics and integrity in our schools and our society. It is up to us to provide the direction and constant vigilance under which good sportsmanship can prosper and have a positive impact on our children, the leaders of tomorrow, and ourselves.

We feel the need to stress the type of exemplary behavior that should be exhibited by all players and spectators at our events.

The value of the lessons learned by exhibiting good sportsmanship will last a lifetime. If we ever lose sight of that, then athletics, or any co-curricular activity, is not worth sponsoring. The positive actions of a coach, athlete or spectator at an event can influence how any school is perceived in each of our communities and the communities of those schools that meet on the field of play.

We are asking for your support in this effort by emphasizing to your son or daughter what is expected of them at an athletic event as a competitor or spectator. After all, such events are an extension of the school day, and we should expect the same type of respectful behavior exhibited in the athletic arena as we do in the classroom. We urge you to ask your children to demonstrate self-control and self-discipline and at the same time, enjoy the games.

Finally, we ask you to set a good example when in the stands at an event. It is only through these efforts that we can clearly communicate what is acceptable behavior. We hope that your positive example will help set the tone for those around you so we may all enjoy the games our athletic teams are involved in.

Some sample guidelines of what we expect from our spectators are available later in this Manual. When you purchase a ticket to an athletic event, you are given the privilege to view the action and to voice your support of our teams. We want that support to be in a positive tone, so that the educational value of these events is completely developed and clearly communicated to our students.

## ~ THE DEFINITION OF SPORTSMANSHIP ~

Sportsmanship is character displayed through athletic competition. People of character live by the "Six Pillars of Character," universal values that can be used to define a good person: *trustworthiness, respect, responsibility, fairness, caring and citizenship*. This code applies to the parents of all student-athletes involved in interscholastic sports.

### TRUSTWORTHINESS

Always pursue victory with honor

– Demonstrate and demand scrupulous integrity— Observe and enforce the spirit and letter of rules – Don't compromise education and character-development goals – Don't engage in or tolerate dishonesty, cheating or dishonorable conduct.

### RESPECT

Treat the traditions of the sport and other participants with respect – Don't engage in or tolerate disrespectful conduct including verbal abuse of opponents and officials, profane or belligerent "trash talking," taunting and unseemly celebrations – Win with grace and lose with dignity.

### RESPONSIBILITY

Be a positive role model and require the same of your student athletes – Further the mental, social and moral development of athletes and teach life skills that enhance personal success and social responsibility.

### FAIRNESS

Adhere to high standards of fair play – Never take unfair advantage— Be open-minded.

### CARING

Assure that the academic, emotional, physical and moral well-being of athletes is always placed above desires and pressures to win.

**CITIZENSHIP**

Promote sportsmanship by honoring the rules and goals of the sport – Establish codes of conduct for coaches, athletes, parents and spectators – Safeguard the health of athletes and the integrity of the sport prohibiting the use of alcohol and Tabacco – Demand compliance with all laws and regulations, including those relating to gambling and the use of drugs.

~ CODE OF CONDUCT FOR THE PARENTS OF  
INTERSCHOLASTIC STUDENT-ATHLETES ~

*We believe that interscholastic athletic competition should demonstrate high standards of ethics and sportsmanship and promote the development of good character and other important life skills. We also believe that the highest potential of sports is achieved when participants are committed to pursuing victory with honor.*

**TRUSTWORTHINESS**

*Trustworthiness* – be worthy of trust in all you do.

*Integrity* – live up to high ideals of ethics and sportsmanship; do what's right even when it's unpopular or personally costly.

*Honesty* – live and act honorable; don't allow your children to lie, cheat, steal or engage in any other dishonest or unsportsmanlike conduct.

*Reliability* – fulfill commitments; do what you say you will do; be on time; when you tell your children you will attend and event, be sure to do so.

**RESPECT**

*Respect* – treat people with respect all the time and require the same of your children.

*Class* – live and cheer with class; be gracious in victory and accept defeat with dignity; compliment extraordinary performance; and show respect for all competitors.

*Disrespectful Conduct* – don't engage in disrespectful conduct of any sort including profanity, obscene gestures, offensive remarks of a sexual nature, trash-talking, taunting, boastful celebrations, or other actions that demean individuals or the sport.

*Respect Officials* – treat contest officials with respect; don't complain about or argue with official calls or decisions during or after an athletic event.

*Respect Coaches* – treat coaches with respect at all times; recognize that they have team goals beyond those of your child. Don't shout instructions to players from the stands; let the coaches coach.

**RESPONSIBILITY**

*Importance of Education* – stress that student-athletes are students first. Be honest with your children about the likelihood of getting an athletic scholarship or playing on a professional level. Place the academic, emotional, physical and moral well-being of your children above desires and pressures to win.

*Role-modeling* – Consistently exhibit good character and conduct yourself as a role model for your children.

*Self-Control* – exercise self-control; don't fight or show excessive displays of anger or frustration; have the strength to overcome the temptation to demean others.

*Integrity of the game*

– Protect the integrity of the game; don't gamble on your children's games.

*Privilege to Compete* – assure that you and your child understand that participation in interscholastic sports is a privilege, not a right, and that they are expected to represent their team, school and family with honor, on and off

the field.

### **FAIRNESS**

*Be Fair* – treat all competitors fairly; be open-minded; always be willing to listen and learn.

### **CARING**

*Encouragement* – encourage your children regardless of their play; offer positive reinforcement. Demonstrate sincere interest in your child's play.

*Concern for Others* – demonstrate concern for others; never encourage the injury of any player, officials or fellow spectator.

*Empathy* – consider the needs and desires of your child's teammates in addition to your own; help promote the team concept by encouraging all team members, understanding that the coach is responsible for determining playing time.

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## ~ PARENT / COACH RELATIONSHIPS ~

Both parenting and coaching are very difficult vocations. By establishing an understanding between coaches and parents, both are better able to accept the actions of the other and provide a more positive experience for everyone. Parents have the right to know, and understand, the expectations placed on them and their children. Coaches have the right to know that if parents have a concern, they will discuss it with the coach at the appropriate time and place.

### ***Communication parents should expect from their child's coach:***

- 1) Coach's philosophy.
- 2) Expectations the coach has for your son or daughter, as well as other players on the team.
- 3) Locations and times of practices and contests.
- 4) Team requirements, i.e., fees, special equipment needed, school & team rules, off-season expectations.
- 5) Procedures that will be followed if your child becomes injured during participation.

### ***Communication coaches expect from parents:***

- 1) Concerns regarding their son or daughter expressed directly to the coach at the appropriate time and place.
- 2) Specific concerns in regard to the coach's philosophy and/or expectations.
- 3) Notification of any schedule conflicts well in advance.

As your child becomes involved in interscholastic athletics, they will experience some of the most rewarding moments of their lives. It's important to understand there may be times when things do not go the way you or your child wishes. These are the times discussion with the coach is encouraged.

### ***Appropriate concerns to discuss with a coach:***

- 1) The mental and physical treatment of your child.
- 2) What your child needs to do to improve.
- 3) Concerns about your child's behavior.

It is very difficult to accept your child is not playing as much as you may hope. Coaches make decisions based on what they believe is in the best interests of all students participating. As you can see from the list above, certain things can and should be discussed with your child's coach. Other things, such as those listed next, must be left to the discretion of the coach.

### ***Issues NOT appropriate for discussion with your child's coach:***

- 1) How much playing time each athlete is getting.
- 2) Team strategy.
- 3) Play calling.
- 4) Any situation that deals with other student-athletes.

There are situations that may require a conference between the coach and parent. These are not discouraged, as it is important for each party to have a clear understanding of the others' position. When these conferences are necessary,

the following procedure is suggested to help promote resolution to the issue.

***If a parent has a concern to discuss with the coach, the following procedure should be followed:***

- 1) Call the coach to set up an appointment.
- 2) If the coach cannot be reached, call the athletic director and ask him or her to set up a meeting with the coach for you.
- 3) Think about what you expect to accomplish as a result of the meeting.
- 4) Stick to discussing the facts, as you understand them.
- 5) Do not confront the coach before, during or after a practice or contest. These can be emotional times for both the parent and coach. Meetings of this nature do not promote resolution of the situation, but often escalate it.

***What should a parent do if the meeting with the coach didn't provide satisfactory resolution?***

- 1) Call the athletic director to set up a meeting with the athletic director, coach, and parent present.
- 2) At this meeting, an appropriate next step can be determined, if necessary.

Students' involvement in co-curricular activities has been proven to increase their chances of success later in life. We hope the information contained in this handout helps make that experience more enjoyable for everyone involved.

*Information provided by the Iowa Athletic Council.*

### **~ BEHAVIOR EXPECTATIONS OF SPECTATORS ~**

Remember that you are at the contest to support and yell for your team, and to enjoy the skill and competition—not to intimidate or ridicule the other team or its fans.

Remember that school athletics are a learning experience for students and that mistakes are sometimes made. Praise student-athletes in their attempt to improve themselves as students, as athletes, and as people, just as you would praise a student working in the classroom.

A ticket is a privilege to observe the contest, not a license to verbally assault others or be generally obnoxious.

Learn the rules of the game, so that you may understand and appreciate why certain situations take place.

Show respect for the opposing players, coaches, spectators and support groups.

Respect the integrity and judgement of game officials. Understand that they are doing their best to help promote the student-athlete, and admire their willingness to participate in full view of the public.

Recognize and show appreciation for an outstanding play by either team.

Refrain from the use of any controlled substances (alcohol, drugs, etc.) before, during, and after the game on or near the site of the event (i.e. tailgating).

Use only cheers that support and uplift the teams involved.

Be a positive role model at events through your own actions and by censuring those around you whose behavior is unbecoming.

Parents and spectators should be aware that the school can (and should) remove them from the premises and can prohibit them from attending future contests due to undesirable behaviors.

Game officials can ask that school administrators have unruly fans removed from a contest facility.

There is no such thing as a “right” to attend interscholastic athletics. Interscholastic athletics are considered a “privilege” and the spectator who avails themselves of it is expected to conduct himself or herself accordingly.

Keep in mind that you are a guest of the school, and that while winning is certainly an admirable goal, it is hollow if it comes at the expense of morals, ethics, and just plain common sense.

The school is responsible for the behavior of their spectators. The school district can be and will be punished for actions of patrons in violation of UIL standards and rules.

## ~ PURSUING VICTORY WITH HONOR ~ Basic Philosophy

### **Winning Is Important**

Winning is important and trying to win is essential. Without the passionate pursuit of victory much of the enjoyment, as well as the educational and spiritual value, of sports will be lost.

### **Honor Is More Important**

Sports programs should not trivialize winning or the desire to win. To dismiss victory by saying, "It's only a game" can be disrespectful to athletes and coaches who devote their time to being the best they can be in the pursuit of individual victories, records, championships, and medals. But the greatest value of sports is its ability to enhance and uplift the character of participants and spectators.

### **Ethics Is Essential to True Winning**

The best strategy to improve sports is not to de-emphasize winning but to more vigorously emphasize that adherence to ethical standards and sportsmanship in the honorable pursuit of victory is essential to winning in its true sense. It is one thing to be declared the winner, it is quite another to really win.

### **There Is No True Victory Without Honor**

Cheating and bad sportsmanship are not options. They rob victory of meaning and replace the high ideals of sport with the petty values of a dog-eat-dog marketplace. Victories attained in dishonorable ways are hollow and degrade the concept of sport.

### **Ethics and Sportsmanship Are Ground Rules**

Programs that adopt Pursuing Victory With Honor are expected to take whatever steps are necessary to assure that coaches and athletes are committed to principles of ethics and sportsmanship as ground rules governing the pursuit of victory. Their responsibilities to demonstrate and develop good character must never be subordinate to the desire to win. It is never proper to act unethically in order to win.

### **Benefits of Sports Come From the Competition, Not the Outcome**

Quality amateur sports programs are based on the belief that vital lessons and great value of sports are learned from the honorable pursuit of victory, from the competition itself rather than the outcome.

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## ~ WARNING ABOUT THE INHERENT DANGERS OF ATHLETIC PARTICIPATION ~

Student athletes and parents should be aware that any athletic participation will always have inherent dangers. Although rare, death or catastrophic injury can result from participation in sports, and care should be taken by all concerned to minimize such dangers through the use of appropriate equipment, proper training methods and common sense.

The UIL encourages student athletes in all sports, and their parents, to discuss risks and risk minimization with coaches and school administrators.

## ~ GENERAL ELIGIBILITY RULES ~

Eligibility rules are found in Section 400 and 440 of the *Constitution and Contest Rules*. Any question regarding a student's eligibility, should be addressed to the school principal and/or superintendent. Residence requirements according to Sections 400 (d) 440, and 442 should be thoroughly investigated for any student new to school.

Students are eligible to represent their school in varsity interscholastic activities if they:

- are not 19 years of age or older on or before September 1 of the current scholastic year. (See 504 handicapped exception.)
- have not graduated from high school.
- are enrolled by the sixth class day of the current school year or have been in attendance for fifteen calendar days immediately preceding a varsity contest.
- are full-time day students in a participant high school.
- initially enrolled in the ninth grade not more than four calendar years ago.
- are meeting academic standards required by state law.
- live with their parents inside the school district attendance zone their first year of attendance. (Parent residence applies to varsity athletic eligibility only.) When the parents do not reside inside the district attendance zone the student could be eligible if: the student has been in continuous attendance for at least one calendar year and has not enrolled at another school; no inducement is given to the student to attend the school (for example: students or their parents must pay their room and board when they do not live with a relative; students driving back into the district should pay their own transportation costs); and it is not a violation of local school or TEA policies for the student to continue attending the school. Students placed by the Texas Youth Commission are covered under Custodial Residence (see Section 442 of the *Constitution and Contest Rules*).
- have observed all provisions of the Awards Rule.
- have not been recruited. (Does not apply to college recruiting as permitted by rule.)
- have not violated any provision of the summer camp rule. Incoming 10-12 grade students shall not attend a baseball, basketball, football, soccer, or volleyball camp in which a seventh through twelfth grade coach from their school district attendance zone, works with, instructs, transports or registers that student in the camp. Students who will be in grades 7, 8, and 9 may attend one baseball, one basketball, one football, one soccer, one softball, and one volleyball camp in which a coach from their school district attendance zone is employed, for no more than six consecutive days each summer in each type of sports camp. Baseball, Basketball, Football, Soccer, Softball, and Volleyball camps where school personnel work with their own students may be held in May, after the last day of school, June, July and August prior to the second Monday in August. If such camps are sponsored by school district personnel, they must be held within the boundaries of the school district and the superintendent or his designee shall approve the schedule of fees.
- have observed all provisions of the Athletic Amateur Rule. For purposes of competing in an athletic contest, a student in grades 9-12 is not an amateur if that individual, within the preceding 12 months received money or other valuable consideration for teaching or participating in a League sponsored school sport or received valuable consideration for allowing his or her name to be used in promoting a product, plan, or service related to a League contest or accepted money or other valuable consideration from school booster club funds for any non-school purpose. It is a violation of the athletic amateur rule for parents of student athletes to accept tickets to athletic contests where their children are participating. It is also a violation for parents of student athletes to accept free pass gate admission to athletic contests where their children are participating unless they are at the contest in another capacity, i.e., if the parent is an employee of the school or a board member, or working at a concession booth, etc.

If a student did not realize that accepting the valuable consideration was a violation of the amateur rule, and returns the valuable consideration within 30 days after being informed of the violation, that student may regain athletic eligibility as of the date the valuable consideration is returned. If a student fails to return it within 30 days, that student remains ineligible for one year from when he or she accepted it. During the period of time a student is in possession of valuable consideration, he or she is ineligible for varsity athletic competition in the sport for which the violation occurred. Any games or contests in which the student participated during that time would be forfeited as the minimum penalty.

This rule is sport-specific. For example if a student violates the rule in one sport, such as accepting a prize for winning a hole-in-one contest in golf, that student would be ineligible only for golf.

- did not change schools for athletic purposes.

### ~ UIL PARENT RESIDENCE RULE ~

*Excerpt from the UIL Constitution and Contest Rules*

#### Section 442: RESIDENCE IN SCHOOL DISTRICT AND ATTENDANCE ZONE

This section applies to the first calendar year of attendance in grades 9-12. Parent(s) in the context of this rule means parents or adoptive parents who adopted the student prior to the student's first entry in the ninth grade.

- (a) PRESUMPTION OF RESIDENCE OF STUDENT, PARENT(S), SPOUSE. The residence of a single, divorced or widowed student is presumed to be that of the parents of the student. The residence of a married student is presumed to be that of his or her spouse.
- (b) GUARDIAN OF PERSON. If a student's parents are alive but a guardian of his or her person was appointed by appropriate authority and recorded in the county clerk's office more than one year ago, the residence of the student is presumed to be that of the guardian if the student has continuously resided with the guardian for a calendar year or more. If no legal guardianship has been taken out, three years' residence with and support of a contestant establishes guardianship within the meaning of this rule.
- (c) GUARDIAN. If a student's parents are dead and a guardian of his or her person has been appointed by appropriate authority, the residence of the student is presumed to be that of the guardian.
- (d) RELATIVE; SUPPORTER. If a student's parents are dead and a guardianship of his or her person has not been appointed, the residence of the student is presumed to be that of the grandparent, aunt, uncle, adult brother or sister or other person with whom the student is living and by whom the student is supported.
- (e) CUSTODIAL. The residence of a student assigned by appropriate authority to a foster home or a home licensed by the state as a child care boarding facility, or placed in a home by the Texas Youth Commission, is presumed to be at the home. If a student's parent(s) move the student to a foster home in another school district, the student is not eligible, but may apply for a waiver.
- (f) DIVORCED PARENTS. The residence of a student whose parents are divorced is presumed to be that of either parent.
- (g) SEPARATED PARENTS.
  - (1) If a student's parents separate (and are not divorced), and if one parent remains in the attendance zone where the student has been attending school, the student's residence is presumed to be that of the parent who did not move.
  - (2) If a student transfers to a new school with a separated (but not divorced) parent, the student is ineligible for one calendar year, but may apply for a waiver.
- (h) CRITERIA OF RESIDENCE. The intent of this section is to insure that unless circumstances fit one of the exceptions above, any relocation of residence is a complete and permanent move for the family. The residence shall be the domicile which is a fixed, permanent and principal home for legal purposes. The residence is not bona fide under UIL rules unless it complies with all of the following criteria.
  - (1) Does the student's parent, guardian or other person whose residence determines the student's residence own a house or condominium or rent a house, apartment or other living quarters in the school district and attendance zone? *Parents must provide documentation to verify the purchase, lease or rental of a home located in the new attendance zone. A lease agreement or rental agreement should be for a reasonable duration.*
  - (2) Do the student and the parent or guardian have their furniture and personal effects in the district and attendance zone? *There should be no personal effects or furniture belonging to the family in the previous residence.*
  - (3) Do the student and the parent or guardian receive their mail (other than office mail) in the district and attendance zone? *The family should have submitted a change of mailing address to the Post Office.*
  - (4) Are the parents or guardians registered to vote in the district and attendance zone? *If either of the parents was registered to vote at the previous address, they should have applied for a new voter registration card at the new address.*
  - (5) Do the parents or guardians regularly live in the district and attendance zone and intend to live there indefinitely? *The new residence should accommodate the entire family. The former house should be on the mar-*

ket at a reasonable market price or sold, or the lease or rental agreement terminated. All utilities and telephone service should be disconnected or no longer in the family's name. All licensed drivers in the household should have complied with DPS regulations for changing their address.

- (6) Do parents live in the district and attendance zone for the first calendar year? *If the parents of a contestant move from the district or school zone before the student has been in attendance for one year, the student loses athletic eligibility in the school district from which the parents move, and remains ineligible there for varsity athletics until a year is up.*

### ~ CHANGING SCHOOLS FOR ATHLETIC PURPOSES ~

*Excerpt from the UIL Constitution and Contest Rules*

#### Section 443: CHANGING SCHOOLS FOR ATHLETIC PURPOSES

- (a) **DETERMINATION BY DISTRICT EXECUTIVE COMMITTEE.** The district executive committee is to determine whether or not a student changed schools for athletic purposes, when considering each student who changed schools and has completed the eighth grade, whether or not the student has represented a school in grades nine through twelve.
- (b) **COMMON INDICATORS.** District executive committees should look closely to determine if a student is changing schools for any athletic purpose. Some common indicators committees should include in their considerations include, but are not limited to: checking to see if a student was recruited; ascertaining whether a student was in good standing in the previous school, either academically or in a sports program; determining if a student was unhappy with a coach in the previous school; determining if a student played on a non-school team and is transferring to the school where members of the non-school team attend; determining if a student played on a non-school team and is transferring to the school where the non-school team coach or a relative of the non-school team coach, is the school coach; and determining if a student received individual or team instruction from a school coach and is transferring to the school of that coach.
- (c) **INELIGIBLE.** A student who changes schools for athletic purposes is not eligible to compete in varsity League athletic contest(s) at the school to which he or she moves for at least one calendar year, even if both parents move to the new school district attendance zone. See (e) below.
- (d) **LENGTH OF INELIGIBILITY.** The district executive committee for the district into which the student moves shall determine when or if a student who moves for athletic purposes becomes eligible. See (c) above and (f) (3) below.
- (e) **PREVIOUS ATHLETIC PARTICIPATION FORM (PAPF).** An individual is presumed to have changed schools for athletic purposes if he or she participated with his or her former school in any League athletic contest or practice in grades eight through twelve during any previous school year until:
- (1) the student's parents change their residence to the new school or attendance zone; (see Section 442 (g) for a student who changes residence with a separated parent); and
  - (2) the superintendent (or designated administrator) and principal and/or coach of the previous school sign a PAPF stating that the student was not recruited to the new school and did not change schools or attendance zones for athletic purposes; and
  - (3) the superintendent (or designated administrator) of the new school signs a PAPF stating that the student was not recruited and is not changing schools for athletic purposes; and
  - (4) the parents sign a PAPF either in front of the new school's administrator or a notary public that they reside in the new school district or attendance zone and the change was not made for their child's athletic purposes; and
  - (5) the district executive committee approves the completed PAPF.
- NOTE: The district executive committee is not bound to determining only the status of students who participated at another school the previous or current year, as it relates to changing schools for athletic purposes.
- (f) **ELIGIBILITY DETERMINATION BY DISTRICT EXECUTIVE COMMITTEE.**
- (1) If the district executive committee where the student attends school finds that the student did not change schools for athletic purposes and meets all the criteria listed in Section 442, it shall declare the student eligible if he/she meets all other eligibility requirements.
  - (2) If the district executive committee where the student now attends school finds that the student did

- not change schools for athletic purposes, it may declare that student eligible even though the school district from which he or she moved refused to sign the PAPF. (Extreme caution should be used in granting eligibility under this condition.)
- (3) If the district executive committee where the student now lives finds at any time that the change was made for athletic purposes, it shall declare that student ineligible to participate in athletic contests for one year. This may include a student who did not compete at the previous school. If the committee decides that the period of ineligibility should be longer than one year, the committee shall transfer the case to the State Executive Committee.
- (4) When officials from both the sending and receiving schools agree that a student changed schools for athletic purposes, the State Executive Committee will not hear or grant an appeal.
- (g) **MINIMUM PENALTY.** If a Previous Athletic Participation Form was not filed prior to competition and it was an inadvertent error and the student is actually eligible under Subchapter M of the Constitution, the district executive committee is not required to demand forfeiture or to rule the student ineligible. The committee may assess the minimum penalty of reprimand.
- (h) **NO PREVIOUS ATHLETIC PARTICIPATION FORM REQUIRED.** The Previous Athletic Participation Forms are not required if the student did not practice or participate with his or her former school in grades eight through twelve during any previous school year in any athletic activity or if the student was required to change schools because the school district or attendance zone lines were changed by the school board or other appropriate authority.
- NOTE: (d) and (f) above speak to the applicability of the Previous Athletic Participation Form as it relates to students who have or have not represented another school in grades nine through twelve in either varsity or subvarsity competition. Section 440 (d) prohibits students from changing schools for athletic purposes.

### ~ ATHLETICS BEYOND HIGH SCHOOL ~

#### Estimated Probability of Competing in Athletics Beyond the High School Interscholastic Level

<i>Student-Athletes</i>	<i>Men's Basketball</i>	<i>Women's Basketball</i>	<i>Football</i>	<i>Baseball</i>	<i>Men's Ice Hockey</i>	<i>Men's Soccer</i>
High School Student-Athletes	540,207	439,550	1,109,278	472,644	36,475	391,839
High School Senior Student-Athletes	154,345	125,586	316,937	135,041	10,421	111,954
NCAA Student-Athletes	17,008	15,423	66,313	30,365	3,945	21,770
NCAA Freshman Roster Positions	4,859	4,407	18,947	8,676	1,127	6,220
NCAA Senior Student-Athletes	3,780	3,427	14,736	6,748	877	4,838
NCAA Student-Athletes Drafted	44	32	250	600	33	76
Percent High School to NCAA	3.1	3.5	6.0	6.4	10.8	5.6
Percent NCAA to Professional	1.2	0.9	1.7	8.9	3.8	1.6
Percent High School to Professional	0.03	0.03	0.08	0.44	0.32	0.07

Note: These percentages are based on estimated data and should be considered approximations of the actual percentages.

Source: [www.ncaa.org](http://www.ncaa.org)

~ REGULATIONS FOR NON-SCHOOL PARTICIPATION/SCHOOL CAMPS ~

**I. The Constitution and Contest Rules state:**

**Section 1209**

**(A) REQUIRED PARTICIPATION PROHIBITED.** Students shall not be required to play on a non-school team in any sport as a prerequisite to playing on a school team.

**(B) OFF-SEASON SCHOOL FACILITY USE.** See Section 1206.

**(C) BASEBALL, BASKETBALL, FOOTBALL, SOCCER, SOFTBALL AND VOLLEYBALL CAMPS WHERE SCHOOL PERSONNEL WORK WITH THEIR OWN STUDENTS.** After the last day of the school year in May, June, July and prior to the second Monday in August, on non-school days, all students other than students who will be in their second, third or fourth year of high school may attend one camp in each team sport, held within the boundaries of their school district, in which instruction is given in that team sport, and in which a 7th-12th grade coach from their school district attendance zone works with them, under the following conditions:

(1) Number of Days. Attendance at each type of sports camp is limited to no more than six consecutive days.

(2) Prohibited Activities. Students shall not attend football camps where contact activities are permitted.

(3) Fees. The superintendent or a designee shall approve the schedule of fees prior to the announcement or release of any information about the camp. The Texas Education Code requires school districts to adopt procedures for waiving fees charged for participation if a student is unable to pay the fee, and the procedures must be made known to the public. Fees for all other students shall be paid by the students and/or their parents.

(4) School Equipment. Schools may furnish, in accordance with local school district policies, school-owned equipment, with the following restrictions:

(a) Schools may not furnish any individual baseball, basketball, football, soccer, softball or volleyball player equipment, including uniforms, shoes, caps, gloves, etc., but may furnish balls and court equipment including nets, standards, goals, etc., for volleyball, basketball and soccer camps.

(b) For football camps, schools may furnish hand dummies, stand-up dummies, passing and kicking machines and footballs. Use of any other football equipment, including contact equipment, is prohibited.

(c) For baseball and softball camps, schools may furnish balls, bats, bases, pitching and batting machines, batting helmets and catcher protective equipment. Use of any other baseball and/or softball equipment is prohibited.

**(D) BONA FIDE SUMMER CAMPS.** The provisions of the summer camp rules do not apply to bona fide summer camps giving an overall activity program to the participants.

**(E) CHANGE OF RESIDENCE FROM OUT OF STATE.** The provisions of the summer camp rules do not apply in the case of a person who attends an athletic training camp which is allowed under the rules of the state in which the student then lives, and then makes a bona fide change of residence to Texas, provided that there has been no deliberate attempt to circumvent the rule.

**(F) OFF-SEASON PARTICIPATION IN NON-SCHOOL TEAM SPORTS.**

(1) School coaches shall not coach 7-12 grade students from their own attendance zone on a non-school team or in a non-school camp or clinic, with the exception of their own adopted or birth children.

(2) School equipment shall not be used for non-school teams/leagues.

**(G) COACHING RESTRICTIONS.** For non-school competition, school coaches shall not schedule matched games for students in grades 7-12 from their attendance zone. School coaches may assist in organizing, selecting players and coaches, and may supervise school facilities for non-school league play. School coaches shall not coach or instruct 7-12 grade students from their school district attendance zone in the team sports of baseball, basketball, football, soccer, softball or volleyball. School coaches shall not supervise facilities for

non-school activities on school time. See Section 1201.

**(H) COLLEGE AND UNIVERSITY TRYOUTS.** UIL member school facilities shall not be used for college/university tryouts. Neither schools nor coaches shall provide equipment or defray expenses for students who are attending college tryouts. Neither schools nor coaches shall provide transportation for students with any remaining eligibility in the involved sport who are attending college tryouts. Any contest at which a higher admission fee is charged to college coaches than is charged to parents or other adults is considered to be a college tryout.

## **II. Team Sports**

**Football, Volleyball, Basketball, Soccer, Baseball, Softball**

**In accordance to Section 1201, 1206 and 1209 regarding non-school competition (leagues, camps, clinics, clubs, tournaments, 7 on 7) coaches:**

The C&CR prohibits the following:

- 1) Shall not instruct any student in 7th – 12th grade from his/her own attendance zone unless the student is his/her own biological or adopted child.
- 2) Shall not schedule matched games/scrimmages, practices, or contests.
- 3) Shall not transport students.
- 4) Shall not use school athletic equipment, school uniforms and school health/first aid supplies.
- 5) Shall not use school or booster funds for any expenses associated with the activity.
- 6) Shall not be the primary coordinator, primary director or point of contact.
- 7) Shall abstain from any practice which would bring financial gain to the coach by using a student's participation in a camp, clinic, league, or other non-school athletic event, such as a rebate for each player sent to a particular camp or from each player using a particular product (Section 1201 [b, 9]).
- 8) Shall abstain from any practice that makes a student feel pressured to participate in non-school activities (Section 1201 [b, 10]).
- 9) Should not handle any financial transactions.
- 10) Should not participate with their athletes in the athlete's sport (Section 1206 [i]).

**In accordance to Section 1209 regarding non-school competition (leagues, camps, clinics, clubs, tournaments, 7 on 7) coaches or a group of coaches:**

The C&CR allows the following:

- 1) Can supervise facilities.
- 2) Can assist with organization to include, but not limited to: assignment of officials, helping to secure facilities, development of schedules, scheduling of facilities, assisting with registration process, helping to secure equipment.
- 3) Can assist the primary coordinator or point of contact with the selection of coaches, but cannot assign coaches to teams.
- 4) Can assist the primary coordinator or point of contact with the selection of players, but cannot determine who can play on what teams.
- 5) Can distribute information regarding the details of the non-school event for informational purposes. Distribution of such materials should be in accordance to the policies and procedures of the local school district regarding non-school activities.

## **III. Individual Sports:**

**Individual Sports-Cross Country, Golf, Swimming, Tennis, Track and Field and Wrestling (Guidelines are also applicable to team sports)**

### **A. Preseason Practice Regulations-Activities Outside the School Year**

Pre season practice regulations for sports that begin practice prior to the school year (including summer for individual sports) are as follows:

1. Student-athletes shall not engage in more than three hours of practice activities on those days during which one practice is conducted.
2. Student-athletes shall not engage in more than five hours of practice activities on those days during which more than one practice is conducted.

3. The maximum length of any single practice session is three hours.
4. On days when more than one practice is conducted, there shall be, at a minimum, one hour of rest/recovery time between the end of one practice and the beginning of the next practice.
5. When determining how to count times spent as 'practice activities' please consult the following chart:

<i><b>What Counts</b></i>	<i><b>What Doesn't Count</b></i>
<i><b>Actual on field/court practice</b></i>	<i><b>Meetings</b></i>
<i><b>Sport specific skill instruction</b></i>	<i><b>Weight training</b></i>
<i><b>Mandatory conditioning</b></i>	<i><b>Film study</b></i>
	<i><b>Water breaks</b></i>
	<i><b>Rest breaks</b></i>
	<i><b>Injury treatment</b></i>
	<i><b>Voluntary conditioning</b></i>

In reference to the minimum one hour rest/recovery time between the end of one practice and the beginning of the next practice (on days when more than one practice is scheduled), there can be no practice activities at all during this time. This time is exclusively for students to rest/recover for the following practice session, whether that session is an actual on field/court practice or a mandatory conditioning period.

#### **B. During the school year**

1. Coaches of individual sports are allowed to work with student athletes from their attendance zone in non-school practice during the school year with limitations. Coaches should be aware that any time spent working with a student-athlete from their attendance zone in grades 7-12, whether in school or non-school practice, will count as part of the eight hours of practice allowed outside of the school day during the school week under state law.
2. Coaches should abstain from any practice which would bring financial gain to the coach by using a student's participation in a camp, clinic, league, or other non-school athletic event, such as a rebate for each player sent to a particular camp or from each player using a particular product (Section 1201 [b, 9]).
3. Coaches shall not charge a fee for private instruction to student-athletes during the school year. The restriction on charging fees for private instruction applies only to those students who are in grades 9-12, from the coach's attendance zone and participating in the sport for which the coach is responsible (Section 1201 [b, 9]).
4. Coaches should abstain from any practice that makes a student feel pressured to participate in non-school activities (Section 1201 [b, 10]).

#### **C. Outside of the school year**

1. Outside of the school year, the restrictions are somewhat reduced. Coaches are allowed to coach student-athletes from their own attendance zone.
2. The use of school funds, school equipment, school uniforms or school transportation is prohibited. Exception: School administrators may authorize the use of facilities, including scoreboards, implements, cross bars, poles, discus, shot puts, nets, etc. for school programs which are open to all students.
3. School coaches can work with students from his/her own attendance zone in summer recreational programs (i.e. They coach in meets and tournaments with permission from superintendent or superintendent's designee).
4. Coaches should abstain from any practice which would bring financial gain to the coach by using a student's participation in a camp, clinic, league, or other non-school athletic event, such as a rebate for each player sent to a particular camp or from each player using a particular product (Section 1201 [b, 9]).
5. Coaches should abstain from any practice that makes a student feel pressured to participate in non-school activities (Section 1201 [b, 10]).
6. The superintendent or superintendent's designee shall pre-approve all dates and times of summer workouts for high school individual sports conducted by any coach from the student's school attendance zone

(Section 21 [j]).

7. Workout sessions, which involve meals and/or overnight lodgings, are prohibited.

8. School-sponsored practices for middle school students shall not begin prior to the first day of school.

## QUESTIONS AND ANSWERS

**Q: May a school coach determine on which non-school team students from their attendance zone may participate?**

A: No. School coaches may recommend but not require or demand student-athletes to participate on any particular non-school team.

**Q: Can a school coach serve as a facility supervisor for non-school activities?**

A: Yes, provided they are there to monitor and open and close the facility.

**Q: Can a school coach officiate for non-school activities?**

A: Yes, however it is recommended they not officiate students in grades 7-12 from their own attendance zone.

**Q: Can school sponsored camps be held for students sixth grade and below from a school's own attendance zone during the school year?**

A: No. According to Section 1209, school camps can only be held after the last day of the school year in May, June, July and prior to the second Monday in August.

**Q: Can student-athletes in grades 9th-12th serve as camp coaches or instructors for school sponsored camps or leagues?**

A: No. Students can't receive direct instruction from their school coach.

**Q: Can student-athletes in grades 9th-12th serve as volunteers for non-school sponsored camps or leagues?**

A: Yes, as long as their school coaches are not involved. Students can't receive direct instruction from their school coach.

**Q: Can a school coach instruct a student-athlete in his/her sport in a non-school activity if that student has no remaining eligibility in that particular sport?**

A: No. According to Section 1209 (g), school coaches shall not coach or instruct any 7-12 grade students from their school attendance zone in team sports of baseball, football, soccer, softball or volleyball.

**Q: Are athletes permitted to play in non-school all-star contests?**

A: Yes. Student athletes who are selected for all-star teams based on participation in non-school competition may be provided lodging, meals, transportation, game jerseys, shoes, etc. in conjunction with these events. Student-athletes are responsible for protecting their own amateur status. Student athletes in grades 9-12 are prohibited from accepting anything other than symbolic awards (medals, ribbons, trophies, plaques) for winning or placing in non-school activities.

**Q: May students who have completed their high school eligibility in a particular sport compete in other all-star contests such as TABC, TGCA, and THSCA?**

A: Yes. Students who are selected for all-star may have items such as lodging, meals, transportation, game jerseys, and shoes provided for all-star team participation. Students who have completed eligibility in the involved sport, with school superintendent approval, may also use school individual player protective equipment in any all-star game.

**Q: Can an athlete receive a scholarship or collect donations for participation in a non-school activity?**

A: Yes, provided these funds are not from school funds or booster club funds.

**Q: Can schools or school booster clubs contribute to any of the athlete's expenses or equipment associated with a non-school activity?**

A: Schools and school boosters are prohibited from providing transportation, equipment, or funds for any non-school activities.

**Q: May schools or school booster clubs sponsor non-school all-star contests?**

A: Schools and school booster clubs are prohibited from sponsoring any non-school all-star contests.

**Q: Can a local business contribute to a student-athlete's expense for a non-school activity?**

A: Yes, a local business can provide money to cover expenses for a non-school activity.

**Q: Can coaches or school employees contribute to a student's non-school fundraiser?**

A: Yes, provided the contributions are from their own personal funds and not from booster funds, activity accounts, school soft drink accounts or any other accounts associated with the school.

**Q: Can an equipment company give athletic equipment or apparel to members of a school team?**

A: No, but a school may accept donations of money or equipment, and the equipment may in turn be used by student-athletes. These items should be presented with the principal's knowledge (or athletic director's knowledge in multiple-high school districts). All equipment becomes school property to be used accordingly.

**Q: Can student-athletes be provided with equipment by non-school organizations? (For example, equipment companies that provided tennis rackets or apparel to athletes who are ranked in a sport.)**

A: Yes, if receipt of these items is based on rankings and not specifically on winning or placing in a competition. It would be a violation for an athlete to accept merchandise for winning or placing in a specific tournament or competition.

**Q: What type of awards may a student in grades 9-12 receive for participation in school related activities?**

A: Symbolic awards student athletes may accept include medals, trophies, plaques, certificates, etc. Student athletes may not accept T-shirts, gift certificates, equipment or other valuable consideration for participation in school sponsored athletic events. (Refer to Section 480)

**Q: When may students take private instruction?**

A: A student may take private a lesson anytime except during the school day, including the athletic period or during school practice sessions. Schools shall not pay for these private lessons.

**Q: Can student-athletes raise funds for non-school activities?**

A: Yes, provided the fundraising activities are not related to the school and the student-athletes do all of the fundraising on their own or with the assistance of their parents.

## ~ BOOSTER CLUB GUIDELINES ~

### *Role of Competition*

Participation teaches that it is a privilege and an honor to represent one's school. Students learn to win without boasting and to lose without bitterness.

Self-motivation and intellectual curiosity are essential to the best academic participants. Artistic commitment and a desire to excel are traits found in music participants. Physical training and good health habits are essential to the best athletes. Interscholastic competition is a fine way to encourage youngsters to enrich their education and expand their horizons.

Leadership and citizenship experiences through interschool activities help prepare students for a useful and wholesome life. Plus, competition is fun!

### *Superintendent Responsible for UIL Activities*

UIL rules are made by the member schools and include penalties to schools, school district personnel, and student participants. The superintendent is solely responsible for the entire UIL program. All activities, events, and personnel are under the jurisdiction of the superintendent. It is imperative that booster clubs recognize this authority and work within a framework prescribed by the school administration.

### *Role of Booster Clubs*

Booster clubs are formed by school patrons to help enrich the school's participation in extracurricular activities. It is a violation of the UIL athletic amateur rule for booster club funds to be used for non-school purposes. The fund-raising role of booster clubs is particularly crucial in today's economic climate.

The majority of activities supported by booster clubs are related to UIL activities. Since UIL rules regulate what UIL participants, sponsors, and coaches may and may not accept, it is important that booster clubs are aware of these rules.

### *Relationship with the School*

- The superintendent or a designee has approval authority over booster clubs and should be invited to all meetings.
- Booster clubs do not have authority to direct the duties of a school district employee. The schedule of contests, rules for participation, method of earning letters, and all other criteria dealing with interschool programs are under the jurisdiction of the local school administration.
- All meetings should be open to the public.
- Minutes should be taken at each meeting and kept on file at the school.
- School administration should keep booster clubs informed concerning all school activities.

### *Expenditure of Funds*

- Booster club funds shall not be used to support athletic camps, clinics, private instruction, or any activity outside of the school.
- Booster groups or individuals may donate money or merchandise to the school with prior approval of the administration. These kinds of donations are often made to cover the cost of commercial transportation and to cover costs for out of town meals. It would be a violation for booster groups or individuals to pay for such costs directly.
- To avoid violation of the UIL athletic amateur rule, money given to a school cannot be earmarked for any particular expense. Booster clubs may make recommendations, but cash or other valuable consideration must be given to the school to use at its discretion.
- Coaches and directors of UIL academics, athletics and fine arts may not accept a petty cash fund or a miscellaneous discretionary fund. All funds must be given to the school administrator and spent at the discretion of the school, with the approval of the school board.
- Coaches and directors of UIL academics, athletics and fine arts may not accept more than \$500 in money, product, or service from any source in recognition of or appreciation for coaching, directing or sponsoring UIL activities. The \$500 limit is cumulative for a calendar year and is not specific to any one particular gift. The district may pay a stipend (fixed at the beginning of the year) as part of the annual employment contract.
- Booster clubs cannot give anything to students, including awards. Check with school administrators before giving anything to a student, school sponsor or coach. Schools must give prior approval for any banquet or get-together

given for students.

- Individuals should be informed of the seriousness of violating the athletic amateur rule. The penalty to a student athlete is forfeiture of varsity athletic eligibility in the sport in which the violation occurred for one calendar year from the date of the violation. Student athletes are prohibited from accepting valuable consideration for participation in school athletics (anything that is not given or offered to the entire student body on the same basis that it is given or offered to an athlete). Valuable consideration is defined as tangible or intangible property or service, including anything that is wearable, useable or saleable. Saleable food items or trinkets given to athletes by students, cheerleaders, drill team members, little/big sisters, school boosters, parents of other students, teachers, or others violate this rule.
- Homemade "spirit signs" made from paper and normal supplies a student purchases for school use may be placed on students' lockers or in their yards. Trinkets and food items cannot be attached. Yard signs made of commercial quality wood, plastic, etc., must be purchased or made by the individual player's parents or returned after the season.
- For purposes of competing in an athletic contest the school may continue to provide meals in association with contests held away from the home school. If the school does not pay for meals, then individual parents need to purchase their own child's food. Parents may purchase anything they wish for their own child, but may not provide food or other items of valuable consideration for their child's teammates without school approval.
- Parties for athletes are governed by the following State Executive Committee interpretation of Section 441:

**Interpretation of the UIL Athletic Amateur Rule, section 441 of the UIL Constitution and Contest Rules:**

(a) VALUABLE CONSIDERATION SCHOOL TEAMS AND ATHLETES MAY ACCEPT:

1. Pre-Season. School athletic teams may be given pre-season meals, if approved by the school.
2. Post-Season. School athletic teams may be given post-season meals if approved by the school.

Banquet favors or gifts are considered valuable consideration and are subject to the Awards and Amateur Rules if they are given to a student athlete at any time.

3. Other. If approved by the school, school athletic teams and athletes may be invited to and may attend functions where free admission is offered, or where refreshments and/or meals are served. Athletes or athletic teams may be recognized at these functions, but may not accept anything, other than food items, that is not given to all other students.

(b) Additional VALUABLE CONSIDERATION THAT SCHOOL TEAMS AND ATHLETES MAY ACCEPT:

Examples of additional items deemed allowable under this interpretation if approved by the school, include but are not limited to:

1. Meals, snacks or snack foods during or after practices;
2. Parties provided by parents or other students strictly for an athletic team

Local school district superintendents continue to have the discretion to allow student athletes to accept small "goodie bags" that contain candy, cookies or other items that have no intrinsic value and are not considered valuable consideration.

***Fund Raising***

- Funds are to be used to support school activities. To provide such funding for non-school activities would violate UIL rules and the public trust through which funds are earned.
- Fund raising projects are subject to state law. Non-profit status may be obtained from the IRS.
- Community-wide sales campaigns should be coordinated through the school administration to minimize simultaneous sales campaigns.
- Sales campaigns should be planned carefully to insure that the projects provide dollar value for items sold, and that most of the money raised stays at home; otherwise donations are often more rewarding than letting the major part of the money go to outside promoters.
- **The UIL reserves the right to sell game and tournament programs and merchandise at all UIL state championship events. Booster Clubs are not allowed to sell programs or merchandise at these events.**

Fund raising activities should support the educational goals of the school and should not exploit students. Activities and projects should be investigated carefully before committing the school's support.

**Written Policies**

Booster clubs should develop and annually review policies to cover the following areas:

- How to plan and publicize meetings.
- Methods of financing the club; compliance with tax laws; administering funds; method of bookkeeping.
- Election of officers.
- Taking, distributing and filing minutes.
- Effective communication — press releases, etc.
- Proper interaction with fine arts directors and academic and athletic coaches through the lines of authority as established by the school board.
- Sportsmanship code governing behavior of booster club members and fans at contests, treatment of officials, guests, judges, etc.
- Plans to support the school regardless of success in competition, keeping the educational goals of competition at the forefront of all policies.

**What Parents and Fans Can Do**

*Help* the school conduct fair and equitable competition: adhere to rules, uphold the law, and respect authority.

*Remember* that officials are human and make mistakes, and respect their decisions.

*Delegate authority* to the school, then back up the decisions made by the school.

*Set standards* by which you expect children to conduct themselves, and live by those standards yourself.

*Be aware* of capabilities and limitations of young people; don't have unrealistic expectations.

*Let* your children live their own lives — not relive your life.

*Be involved* in areas in which your own child is not involved, thus contributing to school unity and spirit.

*Show respect* to the opponents of your children.

*Praise* — don't criticize — all youngsters.

*Be attentive* to the needs of students.

*Help* your children and their friends develop integrity through the intensity of competitive activity.

*Remember* — The classroom comes first!

~ HEALTH AND SAFETY INFORMATION ~

The following information can also be found on the UIL website under Health and Safety - <http://www.uiltexas.org/health>.



**University Interscholastic League**  
**Implementation Guide for**  
**NFHS Suggested Guidelines for Concussions and**  
**Chapter 38, Sub Chapter D of the Texas Education Code**

**When In Doubt, Sit Them Out!**

**Introduction**

Concussions received by participants in sports activities are an ongoing concern at all levels. Recent interest and research in this area has prompted reevaluations of treatment and management recommendations from the high school to the professional level. Numerous state agencies throughout the U.S. responsible for developing guidelines addressing the management of concussion in high school student-athletes have developed or revised their guidelines for concussion management. The present document will update the UIL requirements for concussion management in student-athletes participating in activities under the jurisdiction of the UIL and will also provide information on compliance with Chapter 38, Sub Chapter D of the Texas Education Code (TEC).

**Definition of Concussion**

There are numerous definitions of concussion available in medical literature as well as in the previously noted “guidelines” developed by the various state organizations. The feature universally expressed across definitions is that concussion 1) is the result of a physical, traumatic force to the head and 2) that force is sufficient to produce altered brain function which may last for a variable duration of time. For the purpose of this program the definition presented in Chapter 38, Sub Chapter D of the Texas Education Code is considered appropriate:

"Concussion" means a complex pathophysiological process affecting the brain caused by a traumatic physical force or impact to the head or body, which may:

- (A) include temporary or prolonged altered brain function resulting in physical, cognitive, or emotional symptoms or altered sleep patterns; and
- (B) involve loss of consciousness.

**Concussion Oversight Team (COT):**

According to TEC Section 38.153:

‘The governing body of each school district and open-enrollment charter school with students enrolled who participate in an interscholastic athletic activity shall appoint or approve a concussion oversight team.

Each concussion oversight team shall establish a return-to-play protocol, based on peer-reviewed scientific evidence, for a student's return to interscholastic athletics practice or competition following the force or impact believed to have caused a concussion.’



In developing a Return to Play (RTP) Protocol as required under TEC section 38.153, at a minimum, the local COT shall adopt the UIL Concussion Management Protocol, based on the guidelines from the National Federation of State High School Associations which have been mandated by the UIL Legislative Council and the UIL Medical Advisory Committee (MAC). If the local COT determines that it wishes to be more restrictive than the UIL Concussion Management Protocol, that is within their local discretion.

**Additionally, there is nothing that would prohibit the governing body of any school district and open-enrollment charter school from adopting the UIL Medical Advisory Committee as the Concussion Oversight Team for purposes of satisfying TEC section 38.153.**

For additional information on the members of the required COT, including the requirement that a school district employed athletic trainer be a member of that team if the ISD employs an athletic trainer, consult TEC section 38.154.

**Responsible Individuals:**

At every activity under the jurisdiction of the UIL in which the activity involved carries a potential risk for concussion in the participants, there should be a designated individual who is responsible for identifying student-athletes with symptoms of concussion injuries. That individual should be a physician or an advanced practice nurse, athletic trainer, neuropsychologist, or physician assistant, as defined in TEC section 38.151, with appropriate training in the recognition and management of concussion in athletes. In the event that such an individual is not available, a supervising adult approved by the school district with appropriate training in the recognition of the signs and symptoms of a concussion in athletes could serve in that capacity. When a licensed athletic trainer is available such an individual would be the appropriate designated person to assume this role. The individual responsible for determining the presence of the symptoms of a concussion is also responsible for creating the appropriate documentation related to the injury event.

**Manifestation/Symptoms**

Concussion can produce a wide variety of symptoms that should be familiar to those having responsibility for the well being of student-athletes engaged in competitive sports in Texas. Symptoms reported by athletes may include: headache; nausea; balance problems or dizziness; double or fuzzy vision; sensitivity to light or noise; feeling sluggish; feeling foggy or groggy; concentration or memory problems; confusion.

Signs observed by parents, friends, teachers or coaches may include: appears dazed or stunned; is confused about what to do; forgets plays; is unsure of game, score or opponent; moves clumsily; answers questions slowly; loses consciousness; shows behavior or personality changes; can't recall events prior to hit; can't recall events after hit.



Any one or group of symptoms may appear immediately and be temporary, or delayed and long lasting. The appearance of any one of these symptoms should alert the responsible personnel to the possibility of concussion.

### **Response to Suspected Concussion**

According to TEC section 38.156, a student ‘shall be removed from an interscholastic athletics practice or competition immediately if one of the following persons believes the student might have sustained a concussion during the practice or competition:

- (1) a coach;
- (2) a physician;
- (3) a licensed health care professional; or
- (4) the student's parent or guardian or another person with legal authority to make medical decisions for the student.’

If a student-athlete demonstrates signs or symptoms consistent with concussion, follow the “Heads Up” 4-Step Action Plan:

- The student-athlete shall be immediately removed from game/practice as noted above.
- Have the student-athlete evaluated by an appropriate health care professional as soon as practicable.
- Inform the student-athletes parent or guardian about the possible concussion and give them information on concussion.
- If it is determined that a concussion has occurred, the student-athlete shall not be allowed to return to participation that day regardless of how quickly the signs or symptoms of the concussion resolve and shall be kept from activity until a physician indicates they are symptom free and gives clearance to return to activity as described below. A coach of an interscholastic athletics team may not authorize a student’s return to play.

### **Return to Activity/Play Following concussion<sup>1</sup>**

According to TEC section 38.157:

‘A student removed from an interscholastic athletics practice or competition under TEC Section 38.156 (suspected of having a concussion) may not be permitted to practice or compete again following the force or impact believed to have caused the concussion until:

- (1) the student has been evaluated; using established medical protocols based on peer-reviewed scientific evidence, by a treating physician chosen by the student or the student's parent or guardian or another person with legal authority to make medical decisions for the student;
  - (2) the student has successfully completed each requirement of the return-to-play protocol established under TEC Section 38.153 necessary for the student to return to play;
  - (3) the treating physician has provided a written statement indicating that, in the physician's professional judgment, it is safe for the student to return to play;
- and



(4) the student and the student's parent or guardian or another person with legal authority to make medical decisions for the student:

- (A) have acknowledged that the student has completed the requirements of the return-to-play protocol necessary for the student to return to play;
- (B) have provided the treating physician's written statement under Subdivision (3) to the person responsible for compliance with the return-to-play protocol under Subsection (c) and the person who has supervisory responsibilities under Subsection (c); and
- (C) have signed a consent form indicating that the person signing:
  - (i) has been informed concerning and consents to the student participating in returning to play in accordance with the return-to-play protocol;
  - (ii) understands the risks associated with the student returning to play and will comply with any ongoing requirements in the return-to-play protocol;
  - (iii) consents to the disclosure to appropriate persons, consistent with the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No. 104-191), of the treating physician's written statement under Subdivision (3) and, if any, the return-to-play recommendations of the treating physician; and
  - (iv) understands the immunity provisions under TEC Section 38.159.'

The UIL will provide standardized forms for the Return to Play procedure.

According to the UIL Concussion Management Protocol, following clearance and compliance with the above information, supervised progression of activities should be initiated utilizing the now standardized protocol:

- Student-athlete shall be symptom free for 24 hours prior to initiating the return to play progression.
- Progress continues at 24-hour intervals as long as student-athlete is symptom free at each level.
- If the student-athlete experiences any post concussion symptoms during the return to activity progression, activity is discontinued and the student-athlete must be re-evaluated by a licensed health care professional.
  - Phase 1:
    - No exertional physical activity until student-athlete is symptom free for 24 hours and receives written clearance from a physician and submission of the required documentation following the concussion injury.
  - Phase 2:
    - Step 1. When the athlete completes Phase 1, begin light aerobic exercise – 5 – 10 minutes on an exercise bike, or light jog; no weight lifting, resistance training, or any other exercise.



- Step 2. Moderate aerobic exercise - 15 to 20 minutes of running at moderate intensity in the gym or on the field without a helmet or other equipment.
- Step 3. Non-contact training drills in full uniform. May begin weight lifting, resistance training, and other exercises.
- Step 4. Full contact practice or training.
- Step 5. Full game play.

### **Subsequent concussion**

Any subsequent concussion requires further medical evaluation, which may include a physical examination prior to return to participation. Written clearance from a physician is required as outlined in TEC Section 38.157 before any participation in UIL practices, games or matches.

### **Potential Need for School/Academic Adjustments & Modification Following Concussion (Return to Learn)**

It may be necessary for individuals with concussion to have both cognitive and physical rest in order to achieve maximum recovery in shortest period of time. In addition to the physical management noted above, it is recommended that the following be considered:

- Notify school nurse and all classroom teachers regarding the student-athlete's condition.
- Advise teachers of post concussion symptoms.
- Student **may** need (only until asymptomatic) special accommodations regarding academic requirements (such as limited computer work, reading activities, testing, assistance to class, etc.) until concussion symptoms resolve.
- Student may only be able to attend school for half days or may need daily rest periods until symptoms subside. In special circumstances the student may require homebound status for a brief period.

### **Addendum:**

When evaluating an individual who has sustained concussion, always keep in mind that you are evaluating three separate domains of brain function: Physical/Motor, Cognitive, and Behavioral/Emotional. These represent functions of widely different anatomical regions in the brain (although there are cross over/dual function in some areas). Evaluation should focus on each domain separately; never assume that if one domain is symptom free the others will also be without symptoms. Separate evaluation protocols/instruments are employed to assess each domain. Documentation of the method of assessment is always helpful to have for subsequent examiners.



### EVALUATION DOMAINS

<b>Physical/Motor</b>	<b>Cognitive</b>	<b>Behavior/Emotional</b>
Dazed/stunned	Amnesia	Irritable
Balance difficulties	Confused/Disoriented	Emotionally Unstable/Explosive
Weakness	Slowed Verbal Responses	Depressed
Excessive Fatigue	Forgets easily	Sleep disturbances
Slowed Reactions	Difficulty Concentrating	Anxious
Lack of facial expressions	Short Attention Span	Lack of Interest

#### References:

1. National Federation of State High School Associations, Suggested Guidelines for the Management of Concussion in Sports; January 2011

National Federation of State  
High School Associations



## SUGGESTED GUIDELINES FOR MANAGEMENT OF CONCUSSION IN SPORTS

**National Federation of State High School Associations (NFHS)  
Sports Medicine Advisory Committee (SMAC)**

### Introduction

A concussion is type of traumatic brain injury that interferes with normal function of the brain. It occurs when the brain is rocked back and forth or twisted inside the skull as a result of a blow to the head or body. What may appear to be only a mild jolt or blow to the head or body can result in a concussion.

The understanding of sports-related concussion has evolved dramatically in recent years. We now know that young athletes are particularly vulnerable to the effects of a concussion. Once considered little more than a “ding” on the head, it is now understood that a concussion has the potential to result in short or long-term changes in brain function, or in some cases, death.

### What is a concussion?

You’ve probably heard the terms “ding” and “bell-ringer.” These terms were once used to refer to minor head injuries and thought to be a normal part of sports. There is no such thing as a minor brain injury. Any suspected concussion must be taken seriously. A concussion is caused by a bump, blow, or jolt to the head or body. Basically, any force that is transmitted to the head causes the brain to literally bounce around or twist within the skull, potentially resulting in a concussion.

**It used to be believed that a player had to lose consciousness or be “knocked-out” to have a concussion. This is not true, as the vast majority of concussions do not involve a loss of consciousness. In fact, less than 10% of players actually lose consciousness with a concussion.**

What exactly happens to the brain during a concussion is not entirely understood. It appears to be a very complex injury affecting both the structure and function of the brain. The sudden movement of the brain causes stretching and tearing of brain cells, damaging the cells and creating chemical changes in the brain. Once this injury occurs, the brain is vulnerable to further injury and very sensitive to any increased stress until it fully recovers.

Common sports injuries such as torn ligaments and broken bones are structural injuries that can be seen on MRIs or x-rays, or detected during an examination. A concussion, however, is primarily an injury that interferes with how the brain works. While there is damage to brain cells, the damage is at a microscopic level and cannot be seen on MRI or CT scans. Therefore, the brain looks normal on these tests, even though it has been seriously injured.

### Recognition and Management

If an athlete exhibits any signs, symptoms, or behaviors that make you suspicious that he or she may have had a concussion, that athlete must be removed from all physical activity, including sports and recreation. Continuing to participate in physical activity after a concussion can lead to worsening concussion symptoms, increased risk for further injury, and even death.

#### SYMPTOMS REPORTED BY ATHLETE

Headache

Nausea

Balance problems or dizziness

Double or fuzzy vision

Sensitivity to light or noise

Feeling sluggish

Feeling foggy or groggy

Concentration or memory problems

Confusion

Parents and coaches are not expected to be able to “diagnose” a concussion. That is the role of an appropriate health-care professional. However, you must be aware of the signs, symptoms and behaviors of a possible concussion, and if you suspect that an athlete may have a concussion, then he or she must be immediately removed from all physical activity.

#### SIGNS OBSERVED BY PARENTS, FRIENDS, TEACHERS OR COACHES

Appears dazed or stunned

Is confused about what to do

Forgets plays

Is unsure of game, score, or opponent

Moves clumsily

Answers questions slowly

Loses consciousness

Shows behavior or personality changes

Can't recall events prior to hit

Can't recall events after hit

**When in doubt, sit them out!**

When you suspect that a player has a concussion, follow the “Heads Up” 4-step Action Plan.

1. Remove the athlete from play.
2. Ensure that the athlete is evaluated by an appropriate health-care professional.
3. Inform the athlete’s parents or guardians about the possible concussion and give them information on concussion.
4. Keep the athlete out of play the day of the injury and until an appropriate health-care professional says he or she is symptom-free and gives the okay to return to activity.

The signs, symptoms, and behaviors of a concussion are not always apparent immediately after a bump, blow, or jolt to the head or body and may develop over a few hours. An athlete should be observed following a suspected concussion and should never be left alone.

Athletes must know that they should never try to “tough out” a suspected concussion. Teammates, parents and coaches should never encourage an athlete to “play through” the symptoms of a concussion. In addition, there should never be an attribution of bravery to athletes who do play despite having concussion signs or symptoms. The risks of such behavior must be emphasized to all members of the team, as well as coaches and parents.

If an athlete returns to activity before being fully healed from an initial concussion, the athlete is at risk for a repeat concussion. A repeat concussion that occurs before the brain has a chance to recover from the first can slow recovery or increase the chance for long-term problems. In rare cases, a repeat concussion can result in severe swelling and bleeding in the brain that can be fatal.

### Cognitive Rest

A concussion can interfere with school, work, sleep and social interactions. Many athletes who have a concussion will have difficulty in school with short- and long-term memory, concentration and organization. These problems typically last no longer than a week or two, but for some these difficulties may last for months. It is best to lessen the student’s class load early on after the injury. Most students with concussion recover fully. However, returning to sports and other regular activities too quickly can prolong the recovery.

The first step in recovering from a concussion is rest. Rest is essential to help the brain heal. Students with a concussion need rest from physical and mental activities that require concentration and attention as these activities may worsen symptoms and delay recovery. Exposure to loud noises, bright lights, computers, video games, television and phones (including texting) all may worsen the symptoms of concussion. As the symptoms lessen, increased use of computers, phone, video games, etc., may be allowed.

### Return to Play

After suffering a concussion, **no athlete should return to play or practice on that same day.** Previously, athletes were allowed to return to play if their symptoms resolved within 15 minutes of the injury. Newer studies have shown us that the young brain does not recover quickly enough for an athlete to return to activity in such a short time.

**An athlete should never be allowed to resume physical activity following a concussion until he or she is symptom free and given the approval to resume physical activity by an appropriate health-care professional.**

Once an athlete no longer has signs, symptoms, or behaviors of a concussion **and is cleared to return to activity by a health-care professional**, he or she should proceed in a step-wise fashion to allow the brain to re-adjust to exercise. In most cases, the athlete will progress one step each day. The return to activity program schedule **may** proceed as below **following medical clearance**:

#### **Progressive Physical Activity Program**

- Step 1:* Light aerobic exercise- 5 to 10 minutes on an exercise bike or light jog; no weight lifting, resistance training, or any other exercises.
- Step 2:* Moderate aerobic exercise- 15 to 20 minutes of running at moderate intensity in the gym or on the field without a helmet or other equipment.
- Step 3:* Non-contact training drills in full uniform. May begin weight lifting, resistance training, and other exercises.
- Step 4:* Full contact practice or training.
- Step 5:* Full game play.

**If symptoms of a concussion re-occur, or if concussion signs and/or behaviors are observed at any time during the return to activity program, the athlete must discontinue all activity and be re-evaluated by their health care provider.**

#### **Concussion in the Classroom**

Following a concussion, many athletes will have difficulty in school. These problems may last from days to months and often involve difficulties with short- and long-term memory, concentration, and organization. In many cases, it is best to lessen the student's class load early on after the injury. This may include staying home from school for a few days, followed by a lightened schedule for a few days, or longer, if necessary. Decreasing the stress on the brain early on after a concussion may lessen symptoms and shorten the recovery time.

#### **What to do in an Emergency**

Although rare, there are some situations where you will need to call 911 and activate the Emergency Medical System (EMS). The following circumstances are medical emergencies:

1. Any time an athlete has a loss of consciousness of any duration. While loss of consciousness is not required for a concussion to occur, it may indicate more serious brain injury.
2. If an athlete exhibits any of the following: decreasing level of consciousness, looks very drowsy or cannot be awakened, if there is difficulty getting his or her attention, irregularity in breathing, severe or worsening headaches, persistent vomiting, or any seizures.

#### **Suggested Concussion Management**

1. No athlete should return to play (RTP) or practice on the same day of a concussion.
2. Any athlete suspected of having a concussion should be evaluated by an appropriate health-care professional that day.
3. Any athlete with a concussion should be medically cleared by an appropriate health-care professional prior to resuming participation in any practice or competition.
4. After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based upon return of any signs or symptoms.

# Heat-related Illness

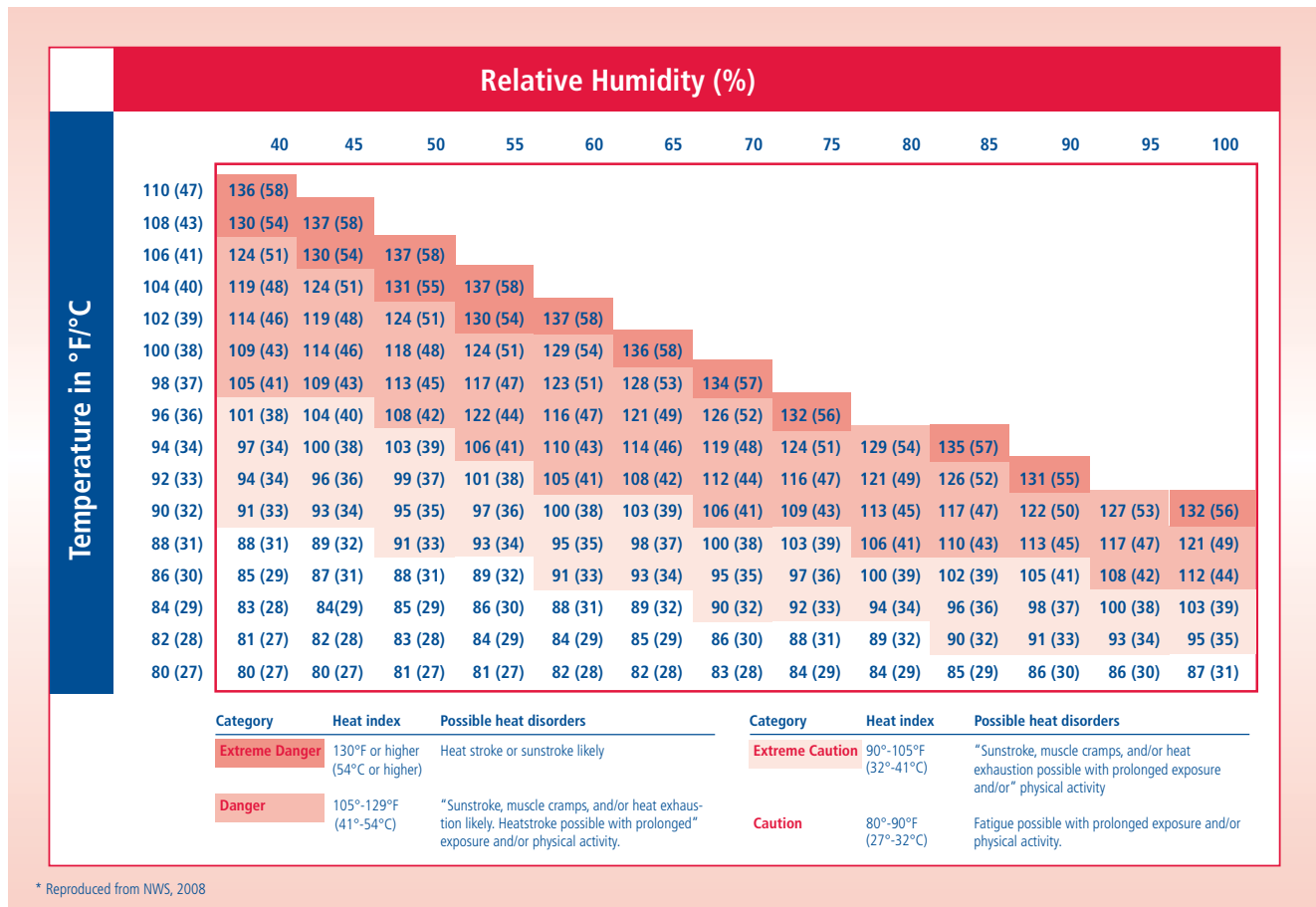
By Cary S. Keller, M.D., FACSM

- Thermoregulation depends primarily on the evaporation of sweat to dissipate the heat produced by exercise.
- Predisposing factors that increase an athlete’s risk for heat illness include: dehydration, heat acclimatization, clothing/equipment, fitness level, recent or current illness, medication use, obesity, age and prior heat illness.
- Prevention of heat illness includes designing an environmental action plan, modifying activity time (including intensity and duration) and increasing frequency and length of rest periods, providing and monitoring adequate hydration, minimizing clothing and equipment, ensuring adequate heat acclimatization, early recognition of signs and symptoms and appropriate sports medicine care.

### SIGNIFICANCE

Heat illness is the leading cause of preventable death in high school athletes. These heat stroke deaths mainly occur in the summer months, at the beginning of conditioning for fall sports. Heat production during intense exercise is 15 to 20 times greater than at rest and can raise body core temperature one to two degrees Fahrenheit every five minutes unless heat is dissipated.

Figure 10. Heat Index Chart.



## BACKGROUND

### Thermoregulation

Athletes lose heat by evaporation, conduction, convection and radiation. Heat is lost from the skin by evaporation of sweat. *Conduction* is passive transfer of heat from warmer to cooler objects by direct contact. Heat transfer from the core to the peripheral muscles and skin and from skin to an ice bag is by conduction. *Convection* is the warming of air next to the body and the displacement of that warm air by cool air. Wind accelerates convection. *Radiation* is the loss of heat from the warmer body to the cooler environment by electromagnetic waves. At rest, 20 percent of body heat loss is by evaporation and 50 percent by radiation. With exercise, up to 90 percent of heat loss is by evaporation. Thus, thermoregulation during exercise relies primarily on evaporation. Radiation becomes a more important source of heat loss during exercise as the air temperature falls significantly below body temperature.

The body normally maintains core temperature within the range of 95 to 104 degrees Fahrenheit. Brain temperature is always slightly higher than body temperature. The removal of body heat is controlled centrally by the hypothalamus and spinal cord and peripherally by centers in the skin and organs. The body compensates for the increased heat produced during exercise by increasing blood flow to the skin and increasing sweat production so as to increase heat loss by evaporation. Importantly, evaporation is less effective at high humidity and when sweat production decreases due to dehydration. When heat production exceeds the ability to dissipate the heat, then core temperature, along with brain temperature, rises excessively. The result is further decompensation of normal thermoregulation, decreased heat dissipation, decreased cerebral blood flow and decreased muscular strength. This sets the stage for heat illness.

### Acclimatization

An effective protection against heat illness is acclimatization. Proper acclimatization requires progressively increasing the duration and intensity of exercise during the first 10 to 14 days of heat exposure. However, full heat acclimatization may require up to 12 weeks of exposure. With repeated exposure to heat, there is an increase in skin blood flow rate, more rapid onset of sweating, an increase in plasma volume and a decrease in metabolic rate. Equipment and clothing should be minimized during acclimatization. Heat acclimatization can be lost over two weeks without ongoing heat exposure, but the loss may be slower in better-conditioned athletes.

### Measuring Environmental Risk of Heat Illness

As humidity increases, perspiration evaporates less readily. Heat loss by sweating can be dramatically impaired when the humidity is greater than 60 percent. The Heat Index is a calculation of the danger of heat illness based on ambient temperature and humidity. The Heat Index can be determined by entering the zip code at your location at this Web site: <http://www.osaa.org/heatindex/default.asp>. As the Heat Index rises, so does the risk of heat illness (Figure 10).

Wet bulb globe temperature (WBGT) is the most effective method for determining environmental heat risk, because it takes into account not only ambient temperature and humidity, but also solar radiation. WBGT employs a dry bulb thermometer that measures ambient temperature, a wet bulb thermometer that measures humidity and a black globe thermometer that measures radiant heat.

As WBGT increases, the risk for heat illness increases (Table 11). WBGT less than 65 is low risk. WBGT 65 to 73 is moderate risk, WBGT 73 to 82 is high risk, and WBGT greater than 82 is extreme risk of heat illness. Experts recommend that distance races should be cancelled if WBGT is 80 or above. Only acclimatized, fit, low-risk athletes should undertake limited exercise at WBGT 86 to 90. Exercise should absolutely be cancelled for everyone when WBGT is 90 or more. The WBGT Risk Indices were developed for athletes wearing only a T-shirt and light pants. Therefore, safe values should be adjusted downwards in the presence of equipment and clothing that inhibit evaporation.

## MANAGEMENT AND PREVENTION

### Practices and Contests

The greater the risk of heat illness, the more steps should be taken to safeguard the athletes, and the greater consideration should be given to cancellation or postponement of a practice or contest. An Environmental Action Plan should be in effect, covering every athletic practice and competition, and it must delegate responsibility for decision-making (see Emergency Action Planning chapter).

1. Measure the WBGT when possible. If not, then determine the heat index. Re-measure several times throughout the event or practice. Infrared thermometers can be used to measure playing surface temperature. The greater the intensity and duration of an event, the greater the risk of heat illness. Long-distance endurance events place athletes at more risk than sports that have frequent breaks during play. Consideration should be given to reducing playing time, extending rest periods and creating regular stoppage of play for rest and hydration. Practices and contests should not be scheduled during the hottest part of the day (commonly 11 a.m. to 6 p.m.).
2. Minimize clothing and equipment (football or lacrosse practice without shoulder pads and helmets).
3. Provide unlimited opportunities for hydration (see Fluid Replacement and Dehydration chapter). Provide extra water for wetting clothes, hair and face. Hydration should never be withheld as a punishment!
4. In multi-session or multi-day events, monitor for cumulative dehydration by repeated measurement of body weight.
5. Allow a minimum of three, and preferably six, hours for recovery and rehydration between exercise sessions during "daily doubles."
6. Assure acclimatization prior to high endurance/intensity exercise in heat.
7. Consider providing shade, air conditioning or fans on sidelines during contests and practices.
8. If at all possible, practices should be attended by an athletic trainer or team physician who is prepared to manage heat-related emergencies.
9. Identify athletes whose medical history places them at increased risk (see Risk Factors below).

**Table 11. Wet Bulb Globe Temperature and Risk of Heat Illness.**

<65°F	Low risk
65-73°F	Moderate risk
73-82°F	High risk
>82°F	Very high risk
>90°F	Cancel Activity



**RISK FACTORS FOR HEAT ILLNESS**

1. **Dehydration.** Fluid loss during exercise occurs primarily by perspiration and respiration. Dehydration during exercise occurs more rapidly in hot environments, when perspiration exceeds oral fluid replacement. Moderate dehydration (three to five percent body weight) reduces exercise performance and makes the athlete more susceptible to fatigue and muscle cramps. With severe dehydration, sweat production and cutaneous blood flow decrease and the athlete is less able to dissipate the heat produced by exercise. Water deficits of six to 10 percent can occur with exercise in hot environments, reducing exercise tolerance and heat dissipation by decreasing cardiac output, sweat production, and skin and muscle perfusion.

In addition to losing fluid with sweating, electrolytes (salt or sodium and chloride) are also lost. The percentage of salt lost in sweat usually decreases with an improving level of heat acclimatization. Salt depletion can be a significant factor in muscle cramps. While cold water is a good fluid replacement during short duration exercise, a sports drink with six to eight percent carbohydrate is preferable during continuous activity lasting 45 minutes or more. Regular, scheduled fluid replacement is important because athletes typically do not become thirsty until they have already lost two percent of body weight in fluid. (See Fluid Replacement and Dehydration chapter).

An athlete may begin an activity in a dehydrated state due to inadequate rehydration following previous exercise, attempts to lose weight rapidly, diuretic medication, febrile illness, or gastrointestinal illness with vomiting or diarrhea. Measurement of body weight before and after activity is a good estimate of hydration status changes. Rehydration should be with a fluid volume that meets the weight lost with activity, ideally not exceeding 48 ounces per hour. Urine volume and color are another means by which to estimate hydration with lower volume and darker color representing greater dehydration.

2. **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.
3. **Fitness.** Physical training and improved cardiovascular fitness reduce the risk of heat illness.
4. **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 WBGT is high. Athletes with a fever, respiratory illness, vomiting or diarrhea should not exercise, especially in a hot environment.
5. **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.
6. **Obesity.** 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.
7. **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 (see Sickle Cell Trait chapter).
8. **A prior episode of heat illness** is a risk factor for a subsequent heat illness. After an episode of heat stroke, most athletes demonstrate normal thermoregulation within two months, but the rate of recovery is highly variable and may require up to a year or more. Decreased heat tolerance may affect 15 percent of athletes with a history of previous heat illness.

## STAGES OF HEAT ILLNESS

1. **Exercise-associated Muscle Cramps (EAMC).** Painful muscle spasms following prolonged exercise, often, but not always, in a hot environment. These are sometimes called “heat cramps.”

**Recognition:** The cramps can occur without warning, can be excruciatingly painful, and may last several minutes or longer. They may be replaced by the onset of a cramp in another location. Severe episodes can last up to six to eight hours. Commonly, heat cramps affect the calf, but the thighs, hamstrings, abdomen and arms may be involved. Core temperature may be normal or increased and signs and symptoms of dehydration such as thirst, sweating and tachycardia may occur.

EAMC are usually associated with exercise-induced muscular fatigue, dehydration and a large loss of sodium through sweat. Sweat sodium losses that are incompletely replaced result in a total body sodium deficit. Low extracellular (outside of the cells in our body) sodium concentration is thought to alter nerve and muscle resting potential, resulting in EAMC. EAMC is more likely in athletes with high salt sweat content. Athletes with high salt sweat content or “salty sweaters” may be noticeable by salt staining on hats and clothing.

**Management:** EAMC usually responds to rest, prolonged stretching of involved muscle groups, and sodium replacement in fluid or food (e.g., one quarter teaspoon of table salt or one to two salt tablets in 500 ml of water or sports drink, tomato juice or salty snacks). In the case of severe full body cramps, the athlete should be transported by EMS to a hospital to receive intravenous fluids. Protracted cramping in the absence of signs of dehydration suggests dilutional hyponatremia (low sodium) and serum sodium levels should be measured prior to administering intravenous fluids.

2. **Heat Exhaustion.** Heat exhaustion is the inability to continue to exercise and can occur at any temperature, and is not necessarily associated with collapse. Heat exhaustion associated with dehydration is more common in a hot, humid environment.

During high intensity exercise, blood flow to organs and skin decreases as blood flow to exercising muscle increases. When exercise, dehydration and humidity combine to make evaporative heat loss ineffective, the core body temperature increases. As core temperature rises, central controls of blood flow distribution begin to fail and the body attempts to increase blood flow to the skin in an effort to increase radiant and convective heat loss. The result is a loss of the original decrease in blood flow to the internal organs and to the skin. Through a series of complex physiological events, the pooled blood in the skin and extremities is unable to transport heat from the core to the skin. Muscular fatigue, decreased urine output, decreased cerebral flow, increased core temperature and fainting (syncope) can result.

**Recognition:** Signs and symptoms of heat exhaustion include tachycardia, fatigue, weakness, piloerection (goose bumps), muscle cramps, nausea, vomiting, dizziness, syncope, headache, poor coordination and confusion. Rectal temperature is elevated, but below 104 degrees Fahrenheit (40 C). The skin may still be cool and sweating, or may be hot and dry. Decreased cerebral perfusion may produce confusion or syncope. Heat exhaustion can be confused with other causes of depressed mental status in the athlete, including concussion, cardiac causes, infection, drug use, hypoglycemia and hyponatremia. Heat exhaustion is characterized by an elevated core body temperature. Any athlete with altered mental state of unknown etiology must be removed from activity and further evaluated.

**Management:** While heat exhaustion may present similarly to other conditions, heat exhaustion should be assumed if any of the signs and symptoms are present. Elevate the legs to increase venous return and cardiac preload, rehydrate to correct volume depletion, and transfer to a cool, shaded location. Aggressive decrease in core temperature is indicated to prevent progression to heat stroke. If a team physician or athletic trainer is unavailable to assess the athlete, EMS should be activated so the athlete can be transported to an emergency facility. There should be no same-day return to activity for athletes with syncope, altered mental status, neurologic symptoms or core temperature greater than 104 degrees Fahrenheit. Adequate time for full recovery is necessary prior to returning to play.

- 3. Exertional Heat Stroke (EHS)** is defined by the presence of a rectal temperature greater than 104 degrees Fahrenheit (40C) combined with altered mental status. As heat production continues to exceed the body's capacity to dissipate the heat, then core temperature rises to a level that disrupts organ function.  
**Recognition:** There is usually sweat-soaked, pale skin. Hyperventilation, tachycardia, vomiting, diarrhea and shock frequently progress to arrhythmia, acute renal failure, rhabdomyolysis (the release of muscle potassium, acid and enzymes into the blood as muscle cells break open and die), pulmonary edema, disseminated intravascular coagulopathy (coagulation of blood throughout the vessels) and cardiac arrest. Often, central nervous system signs are the first to appear: altered mental status, confusion, seizures and coma.  
**Management:** EHS is a medical emergency and EMS must be activated. Successful treatment requires early recognition. Rapid reduction in core temperature is the key to prevention of organ failure. This is best accomplished by immersion in ice water. Less effective substitutes include ice packs to the groin and armpits, cool mist fans and alcohol rubs. If optimal cooling can be provided in the field, if there are no other life-threatening complications and if there is the ability to monitor the athlete during cooling, then cooling may be completed prior to transport. Otherwise, while efforts at cooling may be initiated in the field, they should not delay "load and go" EMS transport to a facility capable of comprehensive care.

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# Cold-related Illness

By Cary S. Keller, M.D., FACSM

- Cold temperature, especially in combination with wet conditions or wind, poses the risk for cold injuries such as frostbite and hypothermia.
- Treat frostbite by getting the affected individual to a warm place and re-warm the extremities.
- Suspected hypothermia calls for EMS activation.

## SIGNIFICANCE

Cold weather is typically not a barrier to outdoor practices and competitions. However, team and individual sports played in the late fall, winter and early spring place athletes at risk for cold injury. Environmental changes as simple as sunset, a rainstorm or an increase in wind speed can shift the body's thermal balance suddenly. As part or all of the body cools, there can be diminished exercise performance, frostbite, hypothermia, and even death.

## BACKGROUND

Athletes lose heat by evaporation, conduction, convection and radiation. Heat is lost from the skin by evaporation of sweat. Conduction is the passive transfer of heat from warmer to cooler objects by direct contact, such as through the loss of heat from the core to the peripheral muscles and skin and the gain of heat from a hand warmer to the fingers. Convection is the warming of the air next to the body and the displacement of that warm air by cool air. Insulating clothing decreases heat loss by convection, while wind accelerates heat loss by convection. Radiation is loss of heat from the warmer body to the cooler environment.

At rest, 20 percent of body heat loss is by evaporation and 50 percent by radiation. With exercise in a warm environment, up to 90 percent of heat loss is by evaporation. Thus, evaporation from wet clothing in a cold environment has great potential to upset thermoregulation during exercise. In the cold, radiation becomes a progressively more important source of heat loss during exercise as ambient temperature falls further below body temperature.

Cold exposure produces peripheral vasoconstriction, decreasing peripheral blood flow, and decreasing convective heat loss from the body's core to its shell (skin, fat, muscle). The peripheral vasoconstriction, therefore, predisposes to cold injury, especially in the fingers and toes. In response to this cooling of the extremities, there is cold-induced vasodilation (CIVD), a transient increase in blood flow and warming which helps to protect against peripheral cold injury. As the core body temperature falls, CIVD is suppressed, and frostbite becomes more likely.

Cold exposure also elicits increased heat production through skeletal muscle activity. This occurs through involuntary shivering (which can increase heat production up to six times basal metabolic rate) and through voluntary increased activity. Athletes exposed to cold repeatedly can exhibit cold acclimatization. The most common acclimatization pattern is habituation, in which both cold-induced vasoconstriction and shivering are blunted, sometimes actually predisposing to hypothermia. Compared to heat acclimatization, cold acclimatization is less pronounced, slower to develop and less effective in maintaining normal body temperature and preventing cold illness.

## RECOGNITION

**Frostbite**, the most common cold injury, occurs when tissue freezes. Frostbite can occur in exposed skin (nose, ears, cheeks), but also can affect the hands and feet, as peripheral vasoconstriction lowers peripheral tissue temperature significantly. Numbness or a "wooden" feeling is usually the first symptom of frostbite in the hands and feet. With frostbite to exposed facial skin, however, there can be a burning feeling. Both cooling and ischemia (decreased blood flow) result in numbing of the skin, so the freezing of the tissue is often relatively painless. Skin color is initially red and then becomes a waxy white. Re-warming is accompanied by sharp, aching pain and persistent loss of light touch sensation.

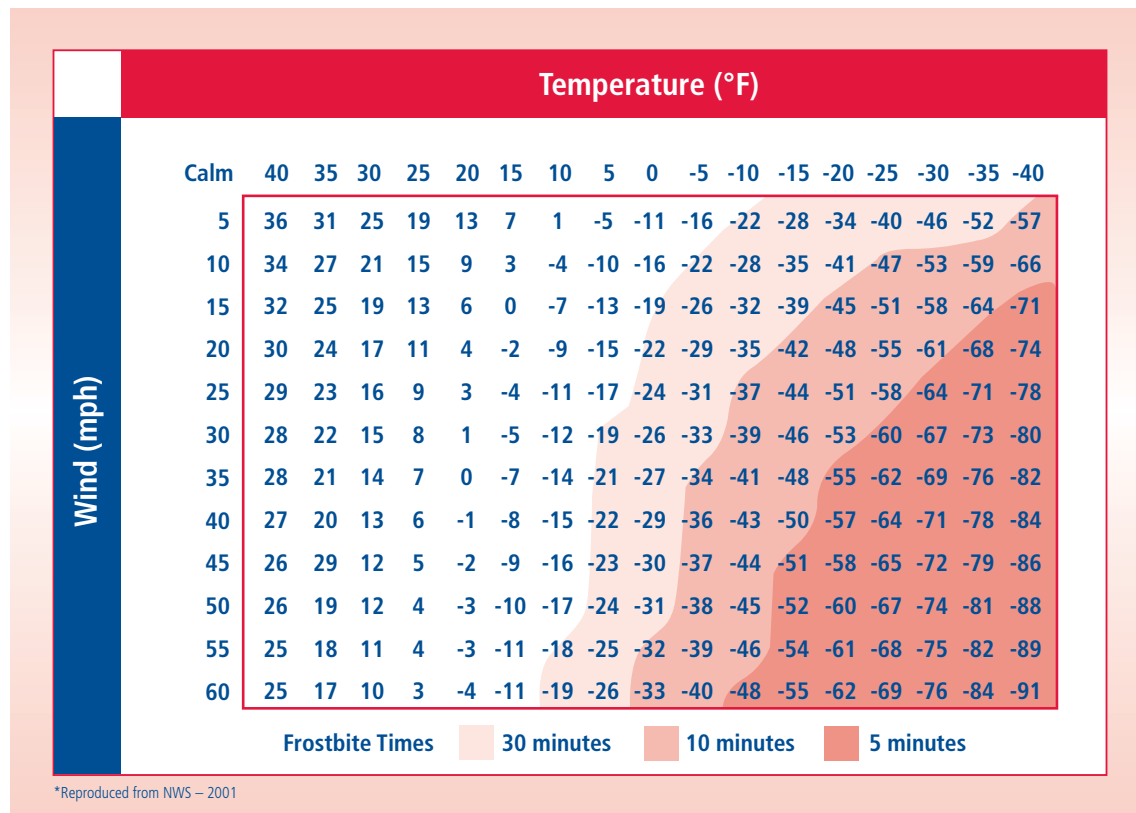
The risk of frostbite increases as temperature decreases. With appropriate precautions, the risk of frostbite can be less than five percent when ambient temperature is above 5 degrees F. But increased surveillance of athletes is appropriate when wind chill temperature (WCT) falls below minus 18 degrees F, as exposed facial skin then freezes in 30 minutes or less. At these temperatures, consideration should be given to postponing or cancelling athletic events. A

close approximation of the WCT should be available from your local weather station.

**Hypothermia** is defined by a core body temperature below 95 degrees F (35 degrees C). In mild hypothermia, an athlete feels cold, shivers, is apathetic and withdrawn, and demonstrates impaired athletic and mental performance. Coaches and athletes must recognize and respond to these early symptoms to avoid more severe hypothermia. As core temperature continues to fall, there is confusion, sleepiness, slurred speech, and irrational thinking and behavior. In severe hypothermia, the heart rate may become irregular and there is a risk of cardiac arrest. Efforts at resuscitation must persist until re-warming has been achieved.

Exercising athletes produce heat by muscular activity, which helps maintain core temperature, and are at less risk for cold exposure injury. At the end of an event, or when exercise stops due to injury, heat is no longer being generated by exercise, but heat loss continues, and rapid cooling may result. Dehydration may further impair maintenance of core temperature.

**Figure 9. Wind Chill Index.**



## Prevention of Cold Injury

### 1. EVENT MANAGEMENT

- a. **Assess environmental risk factors:** temperature, wind, rain, direct sunlight, altitude. Be alert to changes in these conditions so that athletes can be advised to modify clothing or seek shelter and event managers can consider shortening, moving or cancelling an event. The Wind Chill Index (WCI) integrates temperature and wind to estimate cooling power. The WCI predicts the risk of frostbite to exposed facial skin in a person moving at walking speed, but not the risk of frostbite in the extremities. The wind effect of the athlete moving at higher speed (run, ski, bike, skating) is not considered when calculating WCI.
- b. **Assess athletes' risk factors:** exercise demands, fitness, fatigue, health, body fat, age, and nutritional status. (see Table 10).

- c. **Prepare appropriately:** adequate training, clothing, water, food, scheduled clothing changes, provision of shelter and re-warming, planned monitoring of weather conditions and of athlete tolerance of the cold, and action plans to care for those who are having difficulty staying warm.

**Table 10. Risk factors for Hypothermia and Frostbite.**

1. Exercising in water, rain and wind significantly increases risk of hypothermia. Hypothermia can occur rapidly following unexpected immersion in cold water. The heat transfer coefficient of water is 70 times that of air.
2. Lean athletes have more difficulty maintaining core temperature and are at increased risk for cold injury. Athletes with a high body fat percentage and high muscle mass are better insulated and more protected against cold injury.
3. Individuals older than 60 years of age are at increased risk of hypothermia due to reduced vasoconstriction and sometimes decreased fitness.
4. Children and adolescents are at greater risk of hypothermia than adults due to greater surface-to-mass ratio and less subcutaneous fat.
5. Low blood sugar impairs muscular activity and shivering, decreases heat production, and predisposes to hypothermia. Fatigue, energy depletion, sleep deprivation and certain chronic medical conditions result in decreased heat production.
6. Some skin disorders, such as eczema, may increase heat loss.
7. Physical fitness and strength training do not improve thermoregulatory response to cold, but greater fitness allows longer exercise at high intensity and thereby longer muscular heat production and maintenance of core temperature. Poor fitness thereby predisposes to cold injury.

## 2. CLOTHING

Metabolic rate (exercise intensity) and ambient temperature determine clothing (insulation) requirements during exercise. Hats are useful, as up to 50 percent of heat loss at rest is from the head. Layering of clothing is highly recommended. The inner layer acts to wick perspiration, a middle insulating layer which allows moisture transfer, and an outer layer, worn when necessary, to repel wind and rain, but is capable of transfer of perspiration to the air. Layering allows adjustment in insulation to prevent overheating and sweating, while remaining dry in wet conditions. Glove liners can provide wicking and insulation for the hands. Mittens provide significantly more insulation than gloves. Clothing that constricts fingers or toes predisposes to cold injury in the hands and feet. Wet clothing should be removed quickly and replaced, including socks and gloves.

## 3. FOOD AND FLUID INTAKE

Exercise in cold environments can increase energy expenditure and fluid loss. Insufficient carbohydrate reserves to maintain core temperature risks cold injury. Dehydration affects neither shivering or vasoconstriction, but significant loss in volume decreases perfusion. In cold, as in all temperatures, carbohydrate availability and dehydration are limiting factors in performance. Athletes can sustain exercise in cold by ingesting six- to eight-percent carbohydrate beverages. Carbohydrate rich foods are appropriate for prolonged exercise in the cold.

# Management of Cold Injury

## 1. FROSTBITE

Seek shelter and insulation. Maintain core temperature and attempt to reverse vasoconstriction by re-warming. Re-warming is best accomplished with body heat of the afflicted individual or someone else's (e.g., placing the cold hand under the arm pit). Warm water at 104 to 109 degrees Fahrenheit (40 to 43 degrees C) can also be used for re-warming. Do not use warmer water as it produces greater injury, swelling and tissue death. Once re-warming begins, avoid additional freezing. It is better to tolerate some additional time with frozen tissue while awaiting transport to a medical facility than to re-warm and then suffer refreezing during extrication from the cold environment. Rubbing the injured body part adds mechanical damage to thermal damage, and is to be avoided.

## 2. HYPOTHERMIA

- a. **Conscious athlete.** Hypothermic athletes should have wet clothing removed and should be insulated with whatever warming material is available. If possible, evacuate to a warm building/bus/car/shower. Encourage the drinking of large volumes of warm, sweet liquids to improve circulating volume and available energy. Encourage exercise to promote heat production by muscular activity. Such athletes usually respond to peripheral re-warming, but transport to medical care is a precaution against further deterioration.
- b. **Unconscious athlete.** Hypothermic athletes should be insulated and transported by the emergency medical system (EMS). Field re-warming and field CPR are usually ineffective and should not delay transport to a medical facility for central re-warming. Warm intravenous fluids and positive pressure, warm, humidified oxygen can be useful but will, alone, be inadequate. The medical facility can provide rapid core re-warming, prevention of arrhythmia, respiratory support, and fluid and electrolyte management.

## COLD-INDUCED ASTHMA SYMPTOMS

Exercise-induced asthma (EIA) is a transient narrowing of the airways which is provoked by exercise (see Asthma chapter). Cold-weather athletes have an increased prevalence of EIA. High intensity exercise, high ventilation rate and exercise in indoor rinks predisposes athletes to EIA. EIA with cold exposure is believed to be due to a combination of breathing dry air and reflex response to facial cooling. Impaired air quality in indoor skating rinks is implicated as an additional factor (see Air Quality chapter).

## COLD ENVIRONMENT MODIFIES EMERGENCY ACTION PLANS

The assessment and management of the injured athlete in a cold environment follows basic First Aid and CPR/AED protocols. (See Emergency Action Plan chapter). This begins with the assessment of the safety of the scene of injury. In a cold environment, the scene is not safe by virtue of the cold itself. Depending on the severity of the cold, the risk it represents to the injured athlete and to the rescuers, and the availability of warm shelter, the protocol may be modified. The major difference in cold weather is that initial attempts at resuscitation can be delayed in order to get the athlete to a warmer place.

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# Asthma

By Gayathri Chelvakumar, M.D. and Paula Cody, M.D.

- Asthma is a chronic lung disease that affects many high school athletes.
- Exercise commonly triggers asthma symptoms.
- Coughing, wheezing and difficulty breathing can all be symptoms of asthma.
- Early recognition and treatment of asthma symptoms is essential.

## SIGNIFICANCE

Nearly 20 percent of high school students in the U.S. have been diagnosed with asthma. Asthma that is well-controlled should not prevent anyone from participating in organized sports or exercising, but early symptom recognition and treatment is essential. Uncontrolled asthma can be deadly. It is the responsibility of coaches, athletic trainers, parents and athletes to be knowledgeable about the different medications prescribed to treat and manage asthma and how those medications are to be used.

## BACKGROUND

Asthma is a chronic disease that affects the lungs. It is characterized by inflammation, airway reactivity/sensitivity and increased mucous production. Common symptoms include coughing, wheezing, chest tightness and shortness of breath (Table 27). Asthma can be triggered by respiratory infections (see Common Illnesses chapter), exercise, pollutants (see Air Quality chapter) and allergens (dust mites, animal dander, mold and pollen). Early recognition of the signs and symptoms of asthma can prevent serious complications and even death.

Asthma symptoms often worsen with exercise. Some athletes have symptoms only with exercise (exercise-induced asthma, EIA). Exercise-induced symptoms occur commonly and are often more intense in cold weather. Symptoms typically develop 10 to 15 minutes after a brief period of exercise or about 15 minutes into prolonged exercise. Symptoms usually resolve with rest for 30 to 60 minutes.

**Table 27. Signs and symptoms of asthma.**

- 
- High-pitched wheezing sounds when breathing out
  - Recurrent chest tightness, wheezing or difficulty breathing
  - Spasmodic or persistent coughing during or after exercise
  - Cough that is worse at night
  - Symptoms occur or get worse when the athlete exercises, or when exposed to various triggers that might include dust, mold, animals with fur, smoke, pollen, airborne pollutants, strong odors or changes in the weather
- More subtle symptoms associated with exercise-induced asthma may include:
- Perceived lack of endurance
  - Undue fatigue or perception of being "out of shape" or poorly conditioned
  - Symptoms triggered by some sports (i.e., running) but not by others (i.e., swimming)
- 

## RECOGNITION

Athletes with well-controlled asthma, by definition, will have no symptoms at rest or with activity. They should have no cough, wheeze, chest tightness or shortness of breath during the day or night and be able to do daily activities and exercise without problems.

When asthma symptoms worsen ("asthma attack"), the athlete may experience coughing, wheezing, chest tightness or shortness of breath (Table 28). He or she may also complain of coughing that is worse at night. Athletic performance and endurance is likely to be greatly affected. Asthma attacks that require medical attention occur when the person is very short of breath and unable to do usual activities, "rescue inhalers" are not helping, or symptoms last longer than 24 hours.

**Table 28. Recognition of an acute “asthma attack.”**

- 
- Wheezing or spasmodic/persistent coughing
  - Chest tightness or discomfort
  - Rapid and shallow respiration
  - Rapid pulse
  - Use of accessory muscles in shoulders and neck to aid breathing
  - Assuming tripod position (e.g., forward-leaning posture with hands on knees) to improve airflow
  - Cyanosis (blue lips and finger nails) if severe
  - Difficulty breathing out of proportion to activity intensity and aerobic fitness level
- 

**MANAGEMENT**

It is important that all athletes with asthma are known to the medical staff, coaches and athletic administration. Athletes who have been diagnosed with asthma or who have asthma symptoms should be identified during the pre-participation exam (see Preparticipation Physical Evaluation chapter). The athletes must work with their primary care provider or asthma specialist, sports medicine staff and coaches to understand their asthma treatment plan. It is also essential for schools to have an Emergency Action Plan addressing asthma and other chronic medical conditions (see Emergency Action Planning chapter) as symptoms can worsen at anytime.

There are several medications available to treat asthma. Most medications are inhaled into the lungs, but a few are taken as pills. Asthma medicines come in two types: quick-relief (rescue medications) and medications that provide long-term control. Everyone with asthma needs regular medical follow-up to maintain symptom control and reassess their management plan.

Certain people with asthma require long-term control medications to treat inflammation in the lungs and prevent symptoms and attacks. These anti-inflammatory medicines, typically inhaled corticosteroids, are most effective when taken daily, even if the person is not experiencing any symptoms. These medicines are not effective at treating acute asthma attacks. Asthma symptoms can usually be controlled and attacks prevented if the medications are taken exactly as prescribed.

The use of an albuterol inhaler 15 minutes prior to exercise will usually control the symptoms of EIA. There is also evidence that EIA can be controlled in some athletes without using medication. Many individuals have a “refractory period” during which constriction of the lungs appears to relax and breathing is easier for a period of time. This is similar to a “second wind.” If an athlete recognizes this, warm-ups can be designed to begin the intense exercise in advance of competition so that the refractory period coincides with the contest period. Monitoring air quality is also important (see Air Quality chapter)

For an asthma attack, a quick-relief rescue medicine is used, most commonly the quick-acting medicine albuterol. Proper use of the inhaler is essential to relieving asthma symptoms (Table 29). This medicine rapidly relaxes tightened muscles around the airways to improve airflow. A rescue medicine should be taken at the first sign of asthma symptoms. If symptoms quickly resolve, the athlete may return to activity. If symptoms do not resolve, or flare-up again during the same practice or contest, the athlete should be removed from activity and be told to contact his or her primary care provider, or asthma specialist. If the person has difficulty walking or talking due to shortness of breath or his or her lips are blue, this is indicative of a medical emergency and EMS must be activated (Table 28).

**Table 29. Proper use of a metered dose inhaler (from NIH Guidelines, 1997).**

- 
1. Remove cap and hold inhaler upright.
  2. Shake the inhaler.
  3. Tilt head back slightly and breathe out slowly through the mouth.
  4. Position the inhaler one to two inches away from the mouth or use a holding chamber or spacer.
  5. Press down once on the inhaler to release medication as the athlete begins to breathe in slowly.
  6. Continue to breathe in slowly and evenly for three to five seconds during and after pressing down on the inhaler.
  7. Hold breath for 10 seconds to allow the medication to reach deep into the lungs.
  8. Repeat puff as directed. It is recommended to wait one minute before second puff to allow for optimal penetration into the lungs.
  9. When possible, athletes should use a spacer when delivering medication to ensure optimal delivery. These chambers are hollow tubes or other reservoirs with the inhaler on one end and the athlete's mouth on the other end. Many times failure to improve with treatment can be reversed simply by the use of spacers and better technique. Recent studies have shown that "spacers" increase the amount of medication that reaches the lungs and decrease the amount of medication deposited in the mouth or throat.
- 

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# Sickle Cell Trait

By Dan Martin, Ed.D., ATC

- It is estimated that eight percent of the U.S. African-American population has sickle cell trait (SCT).
- SCT does not necessarily preclude an individual from sport participation.
- Signs and symptoms of a sickling crisis must be recognized early to prevent complications, including the risk of death.
- Basic precautions will greatly decrease the risk of a sickling crisis.

## SIGNIFICANCE

*Sickle cell trait* (SCT) is not a disease, but a description of a type of hemoglobin gene. Hemoglobin carries oxygen in the bloodstream. SCT differs from sickle cell anemia in that the trait is present when one gene for sickle hemoglobin is inherited from one parent while a normal hemoglobin gene is inherited from the other. If a sickle cell gene is inherited from each parent, the child will then have sickle cell anemia.

*Sickle cell anemia* is a serious disorder which typically causes severe medical problems early in childhood which continue into adulthood. People with SCT rarely have any symptoms of the condition. However, they may develop problems under extreme physical stress or with low oxygen levels (high-altitude).

People with ancestors from Africa, Mediterranean countries, India, South or Central America, and Saudi Arabia are at increased risk for having SCT. SCT occurs in about eight percent of the African-American population in the U.S.

SCT exercise-related deaths do occur in both athletics and in the military. Individuals with SCT participating in intense exercise are particularly vulnerable to the effects of heat and dehydration. The potential for a sickling collapse can be decreased if the athlete takes preventative measures. Early recognition of the signs and symptoms by the athlete, coaches and medical staff, with stopping all activity and initiating appropriate treatment will greatly reduce the potential for long-term consequences or death.

## BACKGROUND

The U.S. military first linked SCT to an increased risk of sudden death during extreme physical exertion decades ago. SCT has also been linked to several deaths which have occurred during off-season conditioning in collegiate football players over the past decade. Currently, SCT does not appear to be a prominent issue in high school athletes. This is likely due to the fact that the intensity and duration of physical activity in high school athletes does not reach that seen in collegiate conditioning drills.

SCT generally does not present problems with daily activities. The vast majority of athletes with the trait compete at the high school, college, and professional levels without complications. However, there is always the possibility that a sickling collapse can occur with intense exertion, potentially resulting in death.

## PHYSIOLOGY

During intense exertion, red blood cells can change from the typical donut-shaped appearance to a "sickle" or a "quarter-moon" shape. In this shape, these cells no longer carry oxygen efficiently and become rather stiff and sticky. These "sickle cells" can then stick together and block normal blood flow to any tissue or organ. This can produce pain, weakness, swelling of the arms or legs, muscle cramping and shortness of breath. Kidney and other vital organ function can also be affected.

Even what appears to be a mild exertional distress can turn lethal in an individual with SCT. The kidneys and spleen may be damaged and exercise-related rhabdomyolysis (skeletal muscle breakdown) may also occur. Asthma (see Asthma chapter), acute illness, dehydration (see Fluid Replacement and Dehydration chapter), heat stress (see Heat-related Illness chapter) and high altitude can predispose an individual with SCT to a sickling crisis during intense physical exertion.



### **IDENTIFYING THE ATHLETE WITH SICKLE CELL TRAIT**

The preparticipation evaluation form (see Preparticipation Evaluation chapter) should have a question about the athlete's sickle cell status. If the athlete or parents are unaware of the athlete's status, they may very likely be able to find the information from their primary care provider or state newborn screening records. The NCAA currently recommends that the SCT status of all athletes be determined. Most states in the U.S. have been conducting newborn SCT screening for more than 20 years, thus many athletes may already know, or be able to find out, their status. There is currently no medical organization calling for the universal screening of SCT in high school athletes. Parents who are interested in having their child screened for SCT should discuss it with their primary care provider.

When an athlete with SCT is identified, it is important that the athlete and his or her parents are educated about SCT. It is important to not discourage the athlete from sports participation. However, the athlete must be educated on preventive measures and the potential dangers. It is vital that coaches and the sports medicine staff be aware of the athlete's SCT status, but it is also important to protect the student's privacy as much as possible.

### **RECOGNITION**

If an athlete exhibits any signs or has symptoms of a sickling collapse, he or she must be removed from activity. Continuing to exercise will lead to worsening symptoms, additional serious internal organ damage, or even death. However, if the proper steps are taken, these symptoms are generally easy to manage and will normally subside within a few minutes. The athlete's symptoms typically resolve when he or she is hydrated and rests. During hot weather, the athlete should also be taken into a cool, controlled environment to prevent overheating. If at any time the athlete collapses, (sickling collapse) the episode must be treated as a medical emergency and Emergency Medical System activated (see Emergency Action Planning chapter).

#### **Signs and Symptoms of a pending sickling crisis**

- Appears dazed or confused
- Appears weak
- Not keeping up with other team members (undue fatigue)
- Having difficulty breathing
- Muscle pain, weakness and/or cramping

## MANAGEMENT

Athletes with SCT can generally perform at the same physical level as their teammates, but may not be able to do it for an extended amount of time. For example, athletes with SCT should not run timed, sustained 100-yard sprints, or timed, sustained “suicides” or shuttle runs. The athlete with SCT can still run sprints and suicides, but must be given rest breaks between sprints. Coaches and the athlete with SCT must be aware of his or her physical limits. If the athlete is feeling exhausted, or is showing symptoms of physical distress, he or she must immediately stop, hydrate and rest.

If an athlete is known to have SCT, the following precautions are suggested during physical activity:

- Set own pace
- Engage in slow and gradual preseason conditioning regimen
- Use adequate rest and recovery between intense drills
- Stop activity immediately upon struggling or experiencing muscle pain, abnormal weakness, undue fatigue, or shortness of breath
- Stay well hydrated
- Seek prompt medical care when experiencing unusual distress

Though caution must be taken, the athlete with SCT should always be allowed to compete in all sports and should be treated the same as the other athletes. It needs to be emphasized that athletes with SCT normally do not have problems, except if put under extreme physical duress. The precautions and training modifications discussed in this chapter are intended to allow the athlete with SCT to participate in athletics as safely as possible.

## References

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- National Collegiate Athletic Association. Guideline 3c: The student-athlete with sickle cell trait. 2010-11 Sports Medicine Handbook (21st edition).
- National Athletic Trainer’s Association. <http://www.nata.org/sites/default/files/SickleCellTraitAndTheAthlete.pdf>

## Resources

- National Heart Lung and Blood Institute: [http://www.nhlbi.nih.gov/health/dci/Diseases/Sca/SCA\\_WhatIs.html](http://www.nhlbi.nih.gov/health/dci/Diseases/Sca/SCA_WhatIs.html)
- Sickle Cell Disease Association of America: [https://www.sicklecelldisease.org/about\\_scd/index.phtml](https://www.sicklecelldisease.org/about_scd/index.phtml)
- Sickle Cell information center: [www.scinfo.org](http://www.scinfo.org)

## Chemical Abuse Programs

Schools are strongly encouraged to develop alcohol and drug prevention education programs. The UIL staff will provide assistance to coaches, sponsors and administrators in developing educational programs and referral procedures.

## Illegal Steroid Use and Random Anabolic Steroid Testing

- Texas state law prohibits possessing, dispensing, delivering or administering a steroid in a manner not allowed by state law.
- Texas state law also provides that body building, muscle enhancement or the increase in muscle bulk or strength through the use of a steroid by a person who is in good health is not a valid medical purpose.
- Texas state law requires that only a medical doctor may prescribe a steroid for a person.
- Any violation of state law concerning steroids is a criminal offense punishable by confinement in jail or imprisonment in the Texas Department of Criminal Justice.
- As a prerequisite to participation in UIL athletic activities, student-athletes must agree that they will not use anabolic steroids as defined in the UIL Anabolic Steroid Testing Program Protocol and that they understand that they may be asked to submit to testing for the presence of anabolic steroids in their body. Additionally, as a prerequisite to participation in UIL athletic activities, student-athletes must agree to submit to such testing and analysis by a certified laboratory if selected.

Also, as a prerequisite to participation by a student in UIL athletic activities, their parent or guardian must certify that they understand that their student must refrain from anabolic steroid use and that the student may be asked to submit to testing for the presence of anabolic steroids in his/her body. The parent or guardian also must agree to submit their child to such testing and analysis by a certified laboratory if selected.

The results of the steroid testing will only be provided to certain individuals in the student's high school as specified in the UIL Anabolic Steroid Testing Program Protocol which is available on the UIL website at [www.uiltexas.org](http://www.uiltexas.org). Additionally, results of steroid testing will be held confidential to the extent required by law.

## Health Consequences Associated with Anabolic Steroid Abuse (source: National Institute on Drug Abuse)

- *In boys and men*, reduced sperm production, shrinking of the testicles, impotence, difficulty or pain in urinating, baldness, and irreversible breast enlargement (gynecomastia).
- In girls and women, development of more masculine characteristics, such as decreased body fat and breast size, deepening of the voice, excessive growth of body hair, and loss of scalp hair.
- In adolescents of both sexes, premature termination of the adolescent growth spurt, so that for the rest of their lives, abusers remain shorter than they would have been without the drugs.
- In males and females of all ages, potentially fatal liver cysts and liver cancer; blood clotting, cholesterol changes, and hypertension, each of which can promote heart attack and stroke; and acne. Although not all scientists agree, some interpret available evidence to show that anabolic steroid abuse—particularly in high doses—promotes aggression that can manifest itself as fighting, physical and sexual abuse, armed robbery, and property crimes such as burglary and vandalism. Upon stopping anabolic steroids, some abusers experience symptoms of depressed mood, fatigue, restlessness, loss of appetite, insomnia, reduced sex drive, headache, muscle and joint pain, and the desire to take more anabolic steroids.
- In injectors, infections resulting from the use of shared needles or nonsterile equipment, including HIV / AIDS, hepatitis B and C, and infective endocarditis, a potentially fatal inflammation of the inner lining of the heart. Bacterial infections can develop at the injection site, causing pain and abscess.

## Emergency Medical Procedures

Schools should have written procedures for medical emergencies at athletic contests. All schools cannot have physicians present. This makes it mandatory that emergency procedures be understood by administrators and coaches. Such procedures include:

1. Immediate, on-the-spot first aid by an adequately trained individual.
2. A telephone or other communication device to contact a doctor, ambulance, or emergency clinic.
3. A designated emergency vehicle. If an ambulance is not available, another suitable vehicle should be ready for quick utilization.
4. Notification of parents of injured player.
5. Proper arrangements at hospital or clinic to insure complete care of injured student.

Any plan of action should be carefully covered in advance with responsibilities of each party specified. Trainers, coaches, vehicle drivers, school administrators, and local law officers should function as an informed, effective team. Communication is the key to an effective athletic emergency care plan. Everyone - school personnel, medical professionals, transportation staff - must know exactly what is to be done in an emergency and who is responsible for each task.

If a definite procedure is adopted and followed, everyone will know that the health, safety and welfare of participants is a top priority.

### **Lightning Safety**

Lightning may be the most frequently encountered severe storm hazard endangering physically active people each year. Millions of lightning flashes strike the ground annually in the United States, causing nearly 100 deaths and 400 injuries. Three quarters of all lightning casualties occur between May and September, and nearly four fifths occur between 10:00 am and 7:00 pm, which coincides with the hours for most athletic events.

#### *RECOMMENDATIONS FOR LIGHTNING SAFETY*

1. Establish a chain of command that identifies who is to make the call to remove individuals from the field.
2. Name a designated weather watcher (A person who actively looks for the signs of threatening weather and notifies the chain of command if severe weather becomes dangerous).
3. Have a means of monitoring local weather forecasts and warnings.
4. Designate a safe shelter for each venue. See examples below.
5. Use the Flash-to-Bang count to determine when to go to safety. By the time the flash-to-bang count approaches thirty seconds all individuals should be already inside a safe structure. See method of determining Flash-to-Bang count below.
6. Once activities have been suspended, wait at least thirty minutes following the last sound of thunder or lightning flash prior to resuming an activity or returning outdoors.
7. Avoid being the highest point in an open field, in contact with, or proximity to the highest point, as well as being on the open water. Do not take shelter under or near trees, flagpoles, or light poles.
8. Assume that lightning safe position (crouched on the ground weight on the balls of the feet, feet together, head lowered, and ears covered) for individuals who feel their hair stand on end, skin tingle, or hear "crackling" noises. Do not lie flat on the ground.
9. Observe the following basic first aid procedures in managing victims of a lightning strike:
  - Activate local EMS
  - Lightning victims do not "carry a charge" and are safe to touch.
  - If necessary, move the victim with care to a safer location.
  - Evaluate airway, breathing, and circulation, and begin CPR if necessary.
  - Evaluate and treat for hypothermia, shock, fractures, and/or burns.

10. All individuals have the right to leave an athletic site in order to seek a safe structure if the person feels in danger of impending lightning activity, without fear of repercussions or penalty from anyone.

#### DEFINITIONS

##### *Safe Shelter:*

1. A safe location is any substantial, frequently inhabited building. The building should have four solid walls (not a dug out), electrical and telephone wiring, as well as plumbing, all of which aid in grounding a structure.
2. The secondary choice for a safer location from the lightning hazard is a fully enclosed vehicle with a metal roof and the windows completely closed. It is important to not touch any part of the metal framework of the vehicle while inside it during ongoing thunderstorms.
3. It is not safe to shower, bathe, or talk on landline phones while inside of a safe shelter during thunderstorms (cell phones are ok).

##### *Flash-to-Bang:*

To use the flash-to-bang method, begin counting when sighting a lightning flash. Counting is stopped when the associated bang (thunder) is heard. Divide this count by five to determine the distance to the lightning flash (in miles). For example, a flash-to-bang count of thirty seconds equates to a distance of six miles. Lightning has struck from as far away as 10 miles from the storm center.

Postpone or suspend activity if a thunderstorm appears imminent before or during an activity or contest (irrespective of whether lightning is seen or thunder heard) until the hazard has passed. Signs of imminent thunderstorm activity are darkening clouds, high winds, and thunder or lightning activity.



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