Maine Principals' Association

Coaches' Handbook

July 2021

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Who taught you to throw a ball? To shoot baskets? To swing a bat? To run correctly? Chances are good that you remember those first coaches by name, even if they were not parents or family members. If you were lucky, your early coaches were patient and encouraging. They didn't give up on you when the ball seemed too large or when you thought you had failed. They made sure you were safe, but they let you make the mistakes you needed to make, and they applauded your successes.

We never outgrow the need for supportive coaches, but at no time is that need more intense than during the adolescent years. It is during those years that boys and girls become young men and women; it is during those years that they will decide the kind of people they will become. Too many students lack the family and community support they need to make good choices. For many young people, coaches are the most stable, positive, and significant role models in their lives. It is a position of great trust and responsibility, one not to be entered lightly.

For this reason, the Maine Principals' Association administers a set of guidelines to ensure that coaches meet minimum standards, that they are prepared to ensure the safety of student athletes, that the interscholastic program available to Maine students is of the highest quality. We believe that through these guidelines, we are putting into action our belief that coaches are teachers of students' first and coaches of a sport second.

These guidelines are contained in this Coaches' Handbook, along with other material helpful to coaches, athletic administrators, and principals. It is also important for you to review the MPA Handbook as stipulated in the coaches' eligibility policy. Please take some time to review the contents of both handbooks and reflect on the importance of your role. Yours is a high calling, and I hope that this Coaches' Handbook will be useful in helping you be the best coach you can be. < R X student athletes deserve no less.

Sincerely,

Michael R. Burnham
Executive Director | Interscholastic Division

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MPA is an Equal
Opportunity Organization.

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This handbook serves two purposes. First, it addresses important sports medicine issues such as concussions, heat stress, and ways to avoid neck injuries in football. The sport season policy and eligibility rules are clarified through the frequently asked questions which illustrate the interpretation of these rules.

The handbook also contains information on important topics such as ethics, safety, and media relations that can make your coaching experience more satisfying and productive. It is not intended to be an exhaustive resource containing all the information that Maine coaches need; rather, it is a primer that can serve to remind coaches of their important responsibilities and advise them where to get further information as needed.

MISSION STATEMENT OF THE MAINE PRINCIPALS' ASSOCIATION

To assure a quality education for all students, the Maine Principals' Association will:
(1) promote the principalship;
(2) support principals as educational leaders; and
(3) promote and administer interscholastic activities in grades 9-12.

MPA Staff

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The MPA is an association whose membership includes public school principals, assistant principals, private school headmasters, assistant headmasters, technical and career center directors. The MPA has, in part, grown out of a group formed in 1921 to eliminate some of the confusion surrounding high school athletic tournaments in Maine. Since that time, the MPA has joined with elementary and middle schools to develop two goals that shape its activities: (1) to encourage professional improvement and cooperation among principals, and (2) to promote and regulate all educationally sound student activities in Maine high schools.

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The Professional Activities Division of the MPA is responsible for the first goal of encouraging professional improvement and cooperation among principals. This division has committees made up of Maine principals who are concerned with educational policies, curriculum, middle level education, supervision and evaluation of staff members and programs, and legislative activities. In addition, the MPA is a sponsor of the Maine Principals 'Academy and supports the Maine Education Leadership Consortium, an educational collaboration made up of major organizations and associations promoting K-12 public education. The MPA publishes two monthly newsletters for its members -- 7KH 0DLQH $GPLQLVWUDWRU /DZ IRU 3ULQFLSDOV and Several conferences and workshops are held each year, designed specifically to meet the professional needs of school building administrators.

The Interscholastic Activities Division is responsible for the promotion and regulation of interscholastic activities in Maine. The MPA sponsors nine regional and two statewide One Act Play Festivals, and the Maine State Debate Championship. The MPA also supports student councils and the National Honor Society by providing staff and funds to help organize these activities.

The MPA also sponsors invitational championships or tournaments in the whole range of high school sports— cross country, field hockey, football, golf, soccer, volleyball, basketball, cheerleading, ice hockey, skiing, swimming, indoor track, wrestling, baseball, lacrosse, softball, tennis, and outdoor track.

Thanks to the work of the MPA Interscholastic Division, each year 152 Maine high schools from Kittery to Madawaska enjoy the benefits of participation in fair, well-regulated, and educationally sound athletic competition. Plus, thousands of Maine parents, friends, relatives, and neighbors enjoy the special excitement of regular season and post-season play in each of the sports mentioned above.

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The MPA receives money from tournament activities, institutional dues, and individual professional dues. The moneys received from tournament activities help defray the costs of activities that don't bring in enough revenue to offset their expenses. For example, the income from the state basketball tournament will be used to pay tournament-related expenses but will also be used to fund non-income producing students' activities. Of the twenty-three activities sponsored by the MPA, a few show a profit, some have income but not enough to cover expenses, and others have no income at all.

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We are happy to answer any questions you have about the MPA and its activities. Please write to us at 50 Industrial Drive, Augusta, ME 04330, call us at 622-0217, or email us at mpa@mpa.cc.

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More about the MPA!

SCOPE

We sometimes forget why high school sports exist. The mission of educational athletics is just that – to educate. To that end, MPA member schools develop and agree to enforce essential standards for student-athletes and other regulations. Local school districts are welcome to establish stricter guidelines.

Over 35 committees, made up of principals, assistant principals, athletic administrators, coaches and officials liaisons, impact the MPA's rules process. The association's 12-member Interscholastic Management Committee is its member school-elected legislative body.

The Management Committee, entirely independent of any governmental agency, meets four times annually to pass and modify regulations and to hear rule appeals from member schools.

Member schools, leagues, and allied organizations, such as associations of coaches, administrators, and officials, are welcome to submit proposals for new or modified regulations to be discussed by the membership.

The association's executive staff, part of the seven-person team working for member schools at its headquarters office in Augusta, interpret rules daily. All rule appeals, however, are heard and granted by the Management Committee.

EDUCATION

Over 6,827 coaches are registered with the MPA. Within twelve (12) months of their hire or appointment, all coaches are required to successfully complete a Coaching Eligibility Course, a Sport First Aid Program, and a CPR/AED Certification Program, NFHS "Concussion in Sports" and NFHS "Heat Illness Prevention" videos.

Athletic administrators take part each year in an orientation program for new athletic administrators designed to better prepare them for the "best practices" in their profession.

In most sports, mandated rules clinics are conducted annually across the state for coaches.

The MPA's educational efforts serve to better everyone involved in interscholastic athletics.

SAFETY

An on-going concern of member schools is the wellbeing of their young athletes – on and off the playing field.

The MPA also provides schools with educational materials to better acquaint them about communicable diseases in athletics, and how-to best deal with them.

A leadership role is also taken by the MPA nationally to help develop competition rules which help keep injuries at a minimum and the levels of competition high.

ACADEMIC

Athletic participation is a critical component in the education of most students attending the 152 MPA member schools.

Research indicates:

- 95% of corporate officers recently surveyed had participated in high school athletics;
- Student athletes have better grades than non-athletes; and
- Student athletes have higher attendance rates and higher graduation rates than non-participants.

SOCIAL

For many students, high school sport programs provide the most stable environment in their lives.

These programs often represent the best practices in:

- Dropout prevention
- Crisis intervention
- Supervised activity
- Drug prevention programs

That a community can provide. The cost is minimal (1%-3% of the local school budget) while the benefits are priceless.

CHARACTER

Within high school sport programs, young people learn the value of discipline, teamwork, sacrifice, respect, loyalty, time management, accountability, citizenship, and sportsmanship. They also learn the value of organizational skills, confidence, leadership, commitment, effort, and the importance of a good work ethic. They enjoy team activities which will benefit their future.

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The authority of the MPA to organize and regulate interscholastic activities is derived from the responsibility each school assumes when it applies for and receives membership status. At that time, the school agrees to abide by the Constitution, Bylaws, rules, regulations, and procedures of the MPA. The principal is ultimately held responsible for the athletic programs within his/her school.

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A. Any participant school by its representative, or MPA committee by majority vote of its members, or any game official or supervisor may, for good cause, file with the MPA executive director a complaint alleging violation of the association's Code of Ethics or Rules Relating to Interscholastic Activities. Complaints made on behalf of student participants shall be made by the representative school system. The complaint — made in writing and addressed to the MPA Interscholastic Management Committee — must set forth the names of the complainant and the party or parties complained against; a concise statement of the nature of the complaint or violation; the date and place of occurrence; and the code or rule provisions alleged to have been violated. The complaint may be mailed or delivered to the MPA headquarters in Augusta.

What happens next? Upon receiving a complaint, the MPA executive director will record the date and time of receipt and will proceed to investigate the facts. The director will present the complaint and his/her summary statement at the next Management meeting or any special meeting called for that purpose.

If the complaint is believed to be negotiable, the executive director or any designee appointed by the Management Committee will meet with the parties, arbitrate the claim, and report the outcome to the committee.

If the attempt at a negotiated settlement fails, the complaint will be set for an adversarial hearing. Note: The Recruitment Policy has an additional process for negotiating recruitment violations.

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A. Whenever a determination is made that a violation of the Code of Ethics or Rules Relating to Interscholastic Activities has occurred, the Management Committee may penalize the offending parties, according to the gravity of the offense, in the following manner:

- Issuance of a letter of admonition or reprimand.
- Placement of the offender on probationary status for a period of up to one year.
- Loss or withdrawal of awards related to the area of the offense.
- Suspension from participation in MPA-sponsored interscholastic activities up to 365 calendar days.
- Any combination of the above.

Summaries of all actions wherein a violation of the Code of Ethics or Rules Relating to Interscholastic Activities has occurred shall be published in the MPA newsletter.

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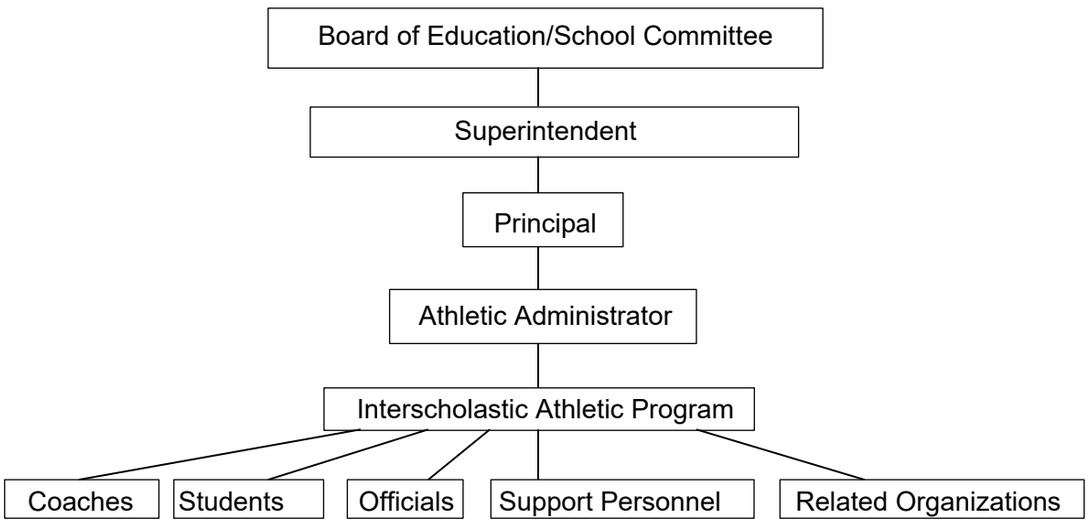
While the MPA has authority to organize and regulate interscholastic activities at the state level, local decision makers establish policies and regulations which apply to their student athletes. Local lines of authority in Maine districts generally follow this pattern:



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A. Schools shall adhere to the playing rules adopted by the MPA to govern games and meets in baseball, basketball, competitive cheer, cross country, field hockey, football, golf, ice hockey, lacrosse, soccer, softball, skiing, swimming and diving, tennis, track and field, volleyball, and wrestling.

B. The National Federation of State High School Associations publishes playing rule books for baseball, basketball, competitive cheer, cross country, field hockey, football, ice hockey, boys' lacrosse, soccer, softball, swimming and diving, track and field, volleyball, and wrestling, and those codes shall be official. Unless modified in these regulations, the official rules for golf shall be those of the United States Golf Association; women's lacrosse, U.S. Lacrosse endorsed by the NFHS; skiing, MPA's Interscholastic Skiing Rules; and tennis, United States Tennis Association, supplemented by the MPA Tennis Rule Book.

C. Coaches or representatives of the school, as indicated in each sport bulletin, in baseball, basketball, competitive cheer, field hockey, football, ice hockey, lacrosse, soccer, softball, swimming and diving, volleyball, and wrestling must attend a scheduled mandatory rules clinic. The penalty for non-attendance is explained in each sport bulletin and varies from a $35 fine to non-participation in the tournament.

D. Recommendation forms for tournament officials submitted by the coaches are extremely important. Whether or not a team is going to qualify for the tournament, a school should complete the form so that the very best officials may be selected.

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The Code of Ethics for Secondary School Activities has been developed for the purpose of stating the behavioral expectations of everyone involved with (secondary) school activities programs.

Adherence to the Code is expected at all MPA sponsored or sanctioned activities. Reported consistent and/or flagrant violations of the Code may result in punitive action by the MPA Interscholastic Management Committee if charges are substantiated at a hearing convened for that purpose.

In order to promote desirable behavior and enhance the overall quality of secondary school activities programs for which the MPA has assumed responsibility, the following Code of Ethics shall be in effect:

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1. Cultivate awareness that participation in school activities is part of the total activity-based experience. No one should either seek or expect academic privileges for the participants.
2. Emphasize sportsmanship, ethical conduct, and fair play as they relate to the lifetime impact on participants and spectators.
3. Develop an awareness and understanding of the rules and guidelines governing competition and comply with them in all activities.
4. Recognize the purpose of activities in school programs is to develop and promote physical, mental, moral, social, and emotional well-being of participants.
5. Avoid any practice or techniques which endanger the present or future welfare of a participant.
6. Avoid practices that encourage students to specialize or that restrict them from participation in a variety of activities.
7. Refrain from making disparaging remarks to opponents, officials, coaches, or spectators.
8. Encourage the development of proper health habits and discourage the use of chemicals.
9. Exemplify self-control and accept adverse decisions without public display of emotion.
10. Encourage everyone to judge the success of the activity's programs based on the attitudes of participants and spectators, rather than based on a win or loss.

Adopted by the MPA Membership: April 29, 1988; Revised: April 29, 1999

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The Successful Coach

Learning is more important than winning. But your attention to the information in this book and your cooperation with the administrators of your school will help your teams be successful in the upcoming season.

It is important that you see yourself as the teacher of students more than the coach. Your support of coaches of other sports and your encouragement that "your athletes" participate in other sports and school activities will help these students receive a complete educational experience that will serve them better than any one-dimensional experience.

The high school coaching profession is a unique calling to men and women who are interested in the total education of high school students. Boys and girls entering high school are placed in charge of their coaches, and soon graduate from high school as adults to be challenged by the adult world.
Although the high school coach may occasionally contribute to the development of that rare athlete who will derive substantial future benefits from his or her skills, the overwhelming number of student athletes will leave organized sport upon graduation from high school. They will leave school armed with the "lessons of life" provided by their high school coaches.
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Like any profession, coaching has its highs and lows, but if you are well prepared, they can be mostly highs. You can be a successful coach experiencing all the highs without capturing a championship. Successful coaching is about much more than just winning games. Successful coaches help athletes master new skills, enjoy competing with others, and feel good about themselves. Successful coaches not only are well versed in the techniques and skills of their sport; they know how to teach those skills to young people. Successful coaches not only teach athletes sport skills, they also teach and model the skills needed for successful living in our society. Being a successful coach is an enormous challenge and places a heavy burden on the person serving as a coach. It demands a lot from each individual.

Your success as a coach will depend more on the beliefs and principles that guide the actions you take than on any factor. The decisions you make will determine how much success and enjoyment you and your athletes will have. The athletic environment and the coach's influence over his or her students will often exceed the intensity that exists within the classroom and in the traditional relationship between student and teacher. Coaches must be professional in the way that they teach and behave. They must recognize that they are always "on stage" and student-athletes look to them for examples of how to act.

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National Federation Coaches Association

The function of a coach is to educate students through participation in interscholastic competition. An interscholastic program should be designed to enhance academic achievement and should never interfere with opportunities for academic success. Each student-athlete should be treated as though he or she were the coaches' own, and his or her welfare should always be uppermost. Accordingly, the following guidelines for coaches have been adopted by the NFCA Board of Directors.

7KH FRDFK be aware that he or she has a tremendous influence, for either good or ill, on the education of the student-athlete and, thus, shall never place the value of winning above the value of instilling the highest ideals of character.

7KH FRDFK uphold integrity and respect of the profession. In all personal contact with student-athletes, officials, athletic directors, school administrators, the state high school athletic association, the media, and the public, the coach shall strive to set an example of the highest ethical and moral conduct.

7KH FRDFK take an active role in the prevention of drug, alcohol, and tobacco abuse.

7KH FRDFK avoid the use of alcohol and tobacco products when in contact with players.

7KH FRDFK promote the entire interscholastic program of the school and direct his or her program in harmony with the total school program.

7KH FRDFK master the contest rules and shall teach them to his or her team members. The coach shall not seek an advantage by circumvention of the spirit or letter of the rules.

7KH FRDFK exert his or her influence to enhance sportsmanship by spectators, both directly and by working closely with cheerleaders, pep club sponsors, booster clubs, and administrators.

7KH FRDFK respect and support contest officials. The coach shall not indulge in conduct which would incite players or spectators against the officials. Public criticism of officials or players is unethical.

%HIRUH DQG DIWHU WKH FRQWHVW coaches from competing teams should meet and exchange cordial greetings to set the correct tone for the event.
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$ F R Dsh Fk not exert pressure on faculty members to give student athletes special consideration.

$ F R Dsh Fk not scout opponents by any means other than those adopted by the league and/or state high school athletic association.

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The greatest responsibility of any coach is to ensure the safety of the student athletes under his/her care. The following articles have been included to provide coaches with some basic rules and guidelines to help protect their team. Many of these articles may be found in the National Federation of State High School Associations' Sports Medicine Handbook, Fourth Edition.

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The understanding of sports-related concussions has evolved dramatically in recent years. We have learned that young athletes are particularly vulnerable to the effects of concussion. Although once considered little more than a minor “ding” to the head, we now understand that a concussion has the potential to result in short- and long-term changes in brain function, or in some cases, even death.

A concussion is a type of traumatic brain injury that interferes with normal brain function. 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 symptoms of a concussion typically last for two to three weeks. However, in some cases, symptoms may last for many weeks, or even months. Symptoms such as headache, memory problems, poor concentration, and mood changes can interfere with school, work, and social interactions (Table 24). The potential for serious short- and long-term consequences underscores the need for careful management of all suspected concussions.

Table 24. Common Signs and Symptoms of concussion.

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x Appears dazed or stunned x Is confused about what to do x Forgets plays x Is unsure of game, score, or opponent x Moves clumsily	x Answers questions slowly x Loss of consciousness x Shows behavior or personality changes x Can’t recall events prior to hit x Can’t recall events after hit	x Headache x Nausea x Balance problems or dizziness x Double or fuzzy vision x Sensitivity to light or noise x Feeling sluggish x Feeling foggy or groggy x Concentration or memory problems x Confusion

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You've probably heard the terms "ding" and "bell-ringer." These used to be thought of as minor head injuries and even a normal part of sports. 7KHUH LV QR VXFK WKLQJ DV DQ\PLQRU EUD suspected concussion must be taken seriously. A concussion is caused by a bump, blow, or jolt to the head or body. Any force that is transmitted to the head causes the brain to literally bounce around or twist within the skill, 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 many concussions do not involve a loss of consciousness. In fact, less than five percent of players lose consciousness with a concussion.

Concussion Physiology

What exactly happens to the brain during a concussion is not entirely understood. In the past, medical professionals used the analogy that a concussion was a "bruise to the brain." It is actually a very complex physiologic event. The sudden movement of the brain causes stretching and tearing of brain cells, damaging the cells, and creating chemical changes in the brain. Once the injury occurs, the brain is vulnerable to further injury and sensitive to any increased stress until it fully recovers. Studies suggest that it usually takes brain cells about two weeks to regain normal function, but it may take even longer.

Common sports injuries such as torn ligaments and broken bones are structural injuries that can be seen on MRIs and x-rays or felt 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.

Table 25. Concussion incidence in select sports.

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x Football	77
x Boys Ice Hockey	63
x Boys Lacrosse	47
x Girls Soccer	33
x Girls Lacrosse	31
x Field Hockey	27
x Wrestling	24
x Boys Basketball	22
x Boys Soccer	21
x Girls Basketball	19
x Softball	16
x Cheerleading	14

High School RIO 09-10

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If a player exhibits any signs or symptoms of a concussion, the athlete must be removed from the activity, be it a game or practice. Continuing to participate in physical activity after a concussion can lead to worsening concussion symptoms, increased risk for more serious injury, and even death. Non-medically trained individuals (coaches, parents, athletes, etc.) are not expected to be able to "diagnose" a concussion, as that is the job of a medical professional. However, they must be aware of the signs and symptoms of a concussion and if they are suspicious, then the athlete must be made to stop all activity. :KHQ LQ GRXEW VLW WKHP RXW

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If a player returns to activity before he or she has fully recovered from a concussion, there is a risk for a repeat concussion. A repeat concussion that occurs before the brain has a chance to recover from the first concussion 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.

If you suspect that a participant 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 the athlete is symptom-free and gives the OK to return to activity.

Although rare, there are some situations in which you may 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 a 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 their attention, irregularity in breathing, severe or worsening headaches, persistent vomiting, or any seizures.

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 symptoms and the risks of such behavior must be emphasized.

Cognitive Rest

A concussion can interfere with school, work, and social interactions. Many players with a concussion will have difficulty in school with short- and long-term memory, concentration, and organization. These problems typically last no longer than one to two weeks, but for some these difficulties may last for months. It is best to lessen the student's class load early on after his or her injury. Most students with concussions recover fully within a few weeks; however, returning to sports and other regular activities too quickly can prolong the recovery time.

The best treatment for a concussion is rest. There are no medications that can speed the recovery. Exposure to loud noises, bright lights, computers, video games, television, and phones (including text-messaging) all may worsen the symptoms of a concussion. The injured athlete should be allowed to rest as much as possible in the days following a concussion. As the symptoms lessen, increased use of computers, phones, video games, etc. can be allowed, but the access must be lessened if symptoms worsen.

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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 stepwise protocol with provisions for delayed RTP based upon return of any signs or symptoms.

Academic Accommodations

In many cases it is best to lessen the student's class load early on following injury. This may include staying home from school for a few days, followed by a lighter class schedule for a few days, or longer, if needed. Decreasing the stress on the brain early on after a concussion may lessen symptoms and shorten the recovery time. Once symptoms resolve, the student should try reading for short periods of time. When 15 to 30 minutes of studying can be done without symptoms developing, the athlete may return to school for short periods, gradually increasing until a full day of school is tolerated without return of symptoms.

Return to Activity

After suffering a concussion, QR DWKOHWH VKRXOG UHWXUQ WR SOD\In the past, athletes could return to play if their symptoms resolved within 15-minutes of the injury. 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.

Once an athlete no longer has symptoms of a concussion (must be without any headache medications), is no longer in need of academic accommodations, and is cleared to return to activity by health-care professional knowledgeable in the care of sports concussions, he or she should proceed with activity in a step-wise fashion to allow the brain to re-adjust to exertion. On average, the athlete will complete a new step each day. The return to activity schedule should proceed as listed in Table 25 following medical clearance. The athlete must discontinue activity immediately if signs or symptoms of a concussion return at any time. He or she should then be re-evaluated by a health-care professional.

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Step 1: Light aerobic exercise – 5 to 10 minutes on an exercise bike or light jog: no weightlifting, 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 weightlifting, resistance training, and other exercises.
Step 4: Full contact practice or training.
Step 5: Full game play.

Balance Testing

Assessment of postural stability can be a very useful and objective tool to aid in concussion assessment and return-to-play decisions. This can be done on expensive and sophisticated systems or with a very simple tool such as the Balance Error Scoring System (BESS).

Computerized Neuropsychological Testing

Computerized tests that can evaluate brain function are now being used by many medical professionals at all levels of sports. These tests provide an additional tool to assist physicians and neuropsychologists in making the often-difficult determination of when a concussed athlete is ready to return to school and begin the graduated Return to Activity protocol. While computerized neuropsychological testing can be helpful, it should never be used without the assistance of a physician or neuropsychologist experienced in both concussion management and the interpretation of such tests.

Prevention

While not all concussions can be prevented, there are interventions that will minimize risks of experiencing an injury. Proper coaching techniques, enforcement of existing rules of the sport, and the use of properly fitted helmets can minimize the risk of concussion. For example, football would likely see a significant reduction in concussions if all helmet-to-helmet contact was eliminated. Such contact was the mechanism of injury in nearly 65 percent of all reported concussions in the sport in 2009 (High School RIO). Significant reduction in helmet-to-helmet contact will only occur with coaches teaching proper and safe tackling and blocking techniques couples with enforcement during games through officials consistently penalizing illegal helmet contact.

Although the NFHS advocates the use of mouth guards to protect against dental injury, there is no convincing scientific data that their use will prevent concussions. Additionally, there is little evidence available to support the use of special headgear in soccer to prevent concussion and no evidence supports that any specific brand or style of football helmet will prevent, or reduce, the risk of a concussion.

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- Everyone involved with athletics must learn to recognize the “Signs and Symptoms” of concussion as listed above. Coaches and other school personnel should view “Concussion in Sports—What You Need to Know” available free of charge at www.nfhslearn.com.
- Instruct athletes to tell the coaching staff if they experience the symptoms of a concussion.
- Emphasize to administrators, coaches, teachers, and parents your concerns and expectations about concussions and safe play.

- Develop specific policies and procedures regarding suspected concussions, academic accommodations, and return to activity.
- Develop and regularly practice an Emergency Action Plan.
- Instruct athletes to tell their coaches if they suspect that a teammate has a concussion.
- Monitor sports equipment for safety, fit, and proper maintenance.
- Ask teachers to monitor and decrease in grades or changes in behavior that could indicate a concussion.
- Report concussions that occur during the school year to appropriate school staff. This will help in monitoring injured athletes as they move to the next season's sports.

There is no "magic number" of concussions that determine when an athlete should no longer participate in contact or collision sports. The circumstances surrounding each individual injury, such as how the injury happened and length of symptoms following the concussion, are very important and must be considered when assessing an athlete's risk for further and potentially more serious concussions. The decision to "retire" from sports is a decision best reached following a complete evaluation by the athlete's health-care provider and consultation with a physician or neuropsychologist who specializes in treating sports concussion.

The occurrence of Chronic Traumatic Encephalopathy (CTE) in several former NFL players has received a great deal of media attention likely. Very little is known about what may be causing dramatic abnormalities in the brains of these unfortunate retired football players. Currently, we have very little knowledge of the long-term effects of concussions that happen during high school athletics.

In the cases of retired NFL players, it appears that most had long careers in the NFL after playing in high school and college. In most cases, they played football for more than 20 years and suffered multiple concussions in addition to hundreds of other blows to their heads. Obviously, the average high school athlete does not come close to suffering the total number of sheer force of head trauma seen by professional football players. However, the fact that we know very little about the long-term effects of concussions in young athletes is further reason to very carefully manage each suspected concussion.

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Heads Up: Concussion in High School Sports. www.cdc.gov/concussion/headsup/high_school.html
NFHS. Concussion in Sports-What You Need to Know.
www.nfhslearn.com/electiveDetail.aspx?courseID=15000

--------National Federation of State High School Associations and the NFHS Sports Medicine Handbook, Fourth Edition.

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The Sports Medicine Committee of the Maine Principals' Association (MPA) feels there needs to be standardized guidelines to be used by all providers in the pre-hospital care of spine-injured athletes. The MPA has reviewed and is in complete agreement with the guidelines and recommendations published by the National Athletic Trainer's Association (NATA) in 2001, and updated in 2007*, concerning the pre-hospital care of the spine-injured athlete.

Controversy exists regarding helmet removal in spine-injured football players. In part, this controversy stems from the accepted practice of helmet removal from motorcycle riders who suffer injuries to the spine. Generally, these helmets are removed by medical personnel after an accident to ensure control of the airway. Motorcycle helmets usually do not have a removable facemask, are not worn with shoulder pads, and do not snuggly fit the head. Therefore, they are removed prior to transportation to achieve neutral spine alignment and insure adequate stabilization of the injured motorcyclist on a spine board with obstructed access to the airway. In contract, a properly fitted football helmet will hold the head in a position of neutral spine alignment, provided the athlete is wearing shoulder pads. Access to the airway is easily obtained by removing the facemask. Therefore, the MPA and Intra-Association Task Force of the NATA recommend that neither the football helmet nor shoulder pads be removed prior to transportation of a spine-injured athlete, unless the airway cannot be controlled and/or spine immobilized with the helmet and shoulder pads in place. This recommendation agrees with the Maine EMS Prehospital Treatment Protocols**.

* Kleiner DM, Almquist JL, Bailes J, Burruss P, Feuer H, Griffin LY, Herring, S, McAdam C, Miller D, Thorson D, Watkins RG, Weinstein S. Prehospital Care of the Spine-Injured Athlete: A Document from the Inter-Association Task Force for Appropriate Care of the Spine-Injured Athlete. Dallas, Texas, National Athletic Trainers' Association, March 2001. www.NATA.org.

** Protective Headgear removal; Section Gray, Article 27; Mfaine EMS Prehospital Treatment Protocols. Maine Emergency Medical Services, 152 State House Station, Augusta, ME 04333. Effective July 1, 2005.

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- 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.

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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 the body cools, there can be diminished exercise performance, frostbite, hypothermia, and even death.

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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
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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.

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)URVWEL WH, 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.

+\SRWKHUPLD 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.

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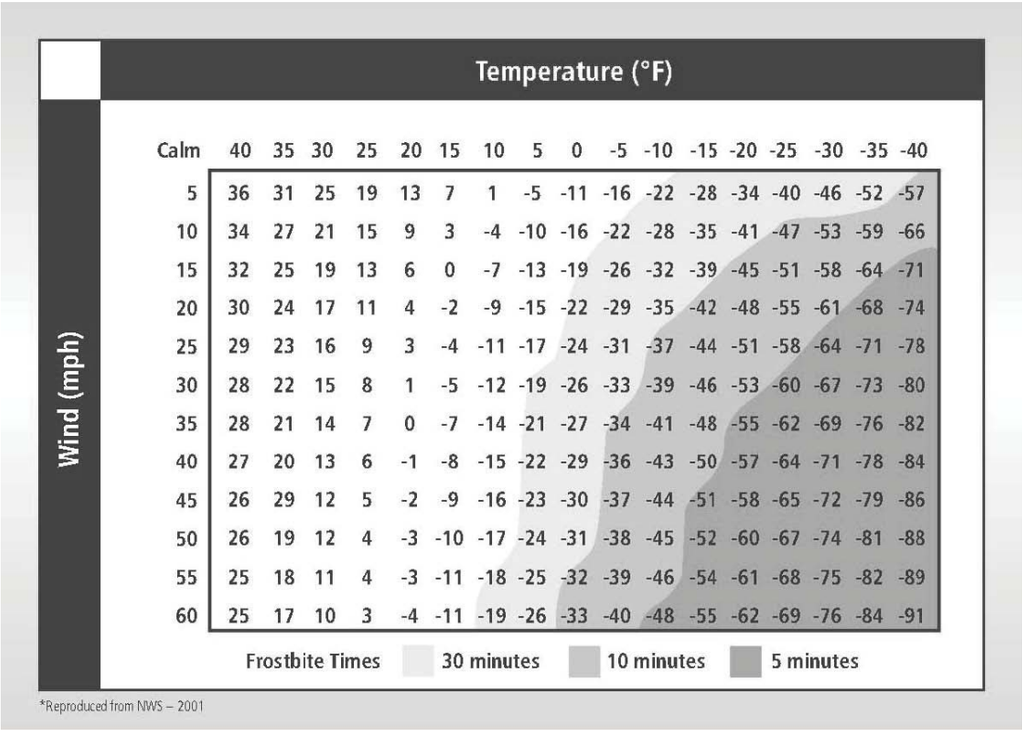

*Reproduced from NWS – 2001

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a. $VVHVV HQYLURQPHQWDO conditions: 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. $VVHVV DWKOHWH YXOQHUDELOLWLHV, including exercise demands, fitness, fatigue, health, body fat, age, and nutritional status. (see Table 10).
c. 3UHSDUH DSSURSULDWH SODQV, including 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.

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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 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 muscle heat production and maintenance of core temperature. Poor fitness thereby predisposes to cold injury.

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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.

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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.

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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 no 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.

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a) &RQVFLRXV 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) 8 Q F R Q V F L R X V 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.

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Exercise-induced asthma (EIA) is a transient narrowing of the airways which is provoked by exercise. 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.

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The assessment and management of the injured athlete in a cold environment follows basic First Aid and CPR/AED protocols. 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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