



# FIRST AID

BOOK **1** ONE

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**PLAY SAFE SERIES PRODUCED IN  
PARTNERSHIP WITH:**



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American Red Cross

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## FROM THE SERIES EDITOR

Football is America's passion, so it is not surprising that football is the number-one high school participatory sport among boys. And increasingly, girls are enjoying the game as well.

For youth, high school, and college players alike, it is a game loved for its challenge and competition. Parents watch their children play, and coaches help teach the game. But no matter the level of involvement, all agree that football must be played safely.

The NFL and the NFL Players Association have developed this Youth Football Health and Safety series to promote the awareness of health issues related to sports participation and to maximize the safety of young athletes. *Play Safe!* is a series of four books containing relevant and practical articles, along with instructional posters distributed to school programs and youth football organizations. It is designed to help parents and coaches maximize the benefits of football for young competitors while minimizing the risk to participants.

Four subject areas are discussed in this series:

*First Aid*

*Communication and Psychological Health*

*Strength and Conditioning*

*Health Concerns For Young Athletes*

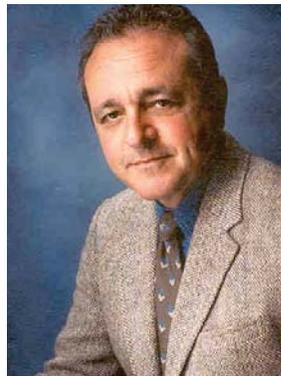
Respectively, the information for this series is provided by highly respected experts from:

- The American Red Cross,
- The Institute for the Study of Youth Sports at Michigan State University,
- The National Athletic Trainers Association, and
- The American College of Sports Medicine.

In developing this program, the National Football League and NFL Players Association are proud to have enlisted the expertise of these four leading organizations in the field of health and medicine. For the first time, these nationally renowned organizations have pooled their knowledge and informational resources to create an aggressive and exciting series to help educate young football players, coaches, and parents on the subjects of health and safety in football. The information will allow coaches and parents to properly advise players how to *Play Safe!* as well as optimize their enjoyment and performance.

Topics include important areas such as: immediate recognition of injury and response to emergencies, psychological management, instructional techniques, training and conditioning techniques, pregame meal preparation, and proper nutrition.

All of us involved with this worthwhile project appreciate the enthusiastic support and love of the game expressed by its fans. We are committed to working with our partners to ensure that young football players continue to *Play Safe!*



**BARRY GOLDBERG, M.D.,  
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Red Cross chapters across the country are teaching people the skills they need to save lives. Health and Safety courses include first aid, CPR and automated external defibrillation (AED), lifeguarding, babysitting, and blood-borne pathogens. For more information, contact your local chapter of the American Red Cross or visit [www.redcross.org](http://www.redcross.org).

This injury prevention and management book is intended to provide football coaches with the basic information needed to provide players with an environment that is as injury free as possible, as well as how to manage many common or serious injuries that may occur. Some of the topics covered include: suggested contents for a first aid kit; preparing for and documenting your emergency processes; dealing with muscle, bone, and joint injuries; and preventing and caring for weather-related emergencies. This information is not intended to replace formal first aid and CPR training courses such as Sport Safety Training. Coaches are encouraged to contact their local chapter of the American Red Cross to enroll in a Sport Safety Training or other first aid, CPR, or AED course.

The American Red Cross is committed to saving lives and easing suffering. The Red Cross provides health and safety training to the public to help them prevent, prepare for, and respond to emer-

gencies. The Red Cross also provides emergency social services to U.S. military members and their families, and to those affected by earthquakes, tornadoes, floods, fires, hurricanes, or other disasters, as well as providing relief services to communities across the country. This diverse organization serves humanity and is responsible for half of the nation's blood supply and blood products.

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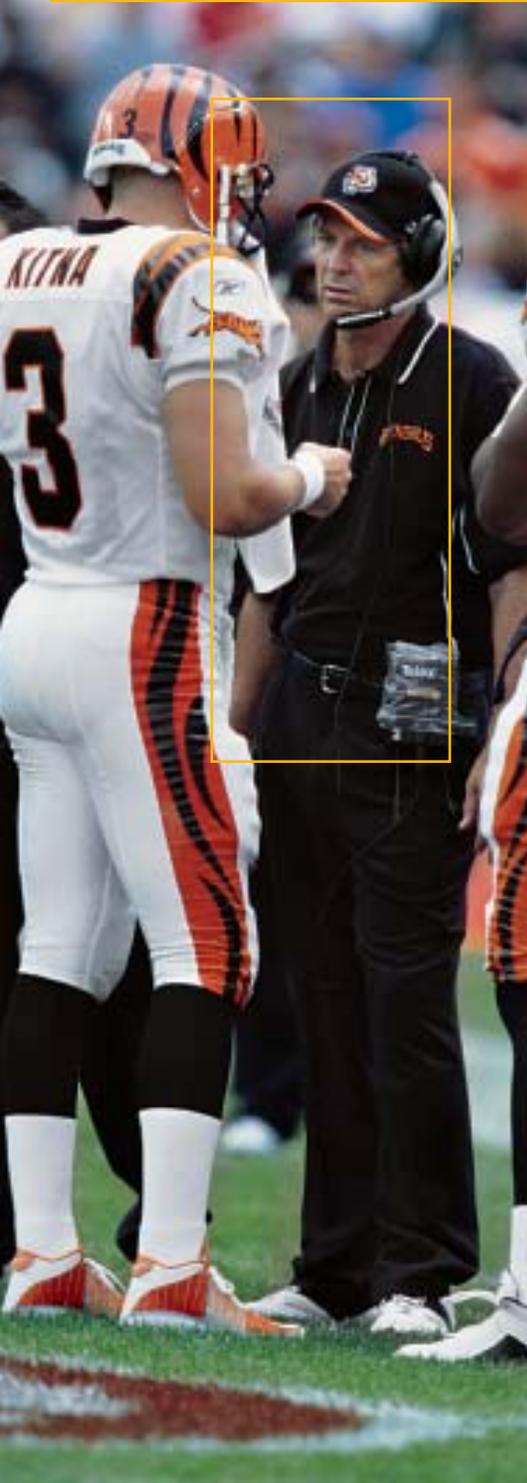


# PREPARING FOR EMERGENCIES

# CHECK-CALL-CARE

USING THE CHECK-CALL-CARE SYSTEM GIVES PLAYERS AND COACHES A DEFENSIVE STRATEGY TO TACKLE EMERGENCY SITUATIONS.

EMERGENCY ACTION STEPS: CHECK THE SCENE FOR SAFETY AND CHECK THE ILL OR INJURED ATHLETES, CALL 9-1-1 OR THE LOCAL EMERGENCY NUMBER WHEN NEEDED, AND CARE FOR INJURED OR ILL PLAYERS UNTIL EMS PERSONNEL ARRIVE.



AGGIE SKIRBALL

## WHAT COACHES SHOULD KNOW



- THE FIRST STEP IS TO CHECK FOR SAFETY HAZARDS AND CHECK ANY INJURED PLAYERS.
- THE SECOND STEP IS TO CALL 9-1-1 OR THE LOCAL EMERGENCY NUMBER TO GET ADVANCED MEDICAL HELP. CALLING FOR HELP IS OFTEN THE MOST IMPORTANT ACTION TO HELP THE ATHLETE IN NEED OF CARE.
- THE THIRD STEP IS TO CARE FOR THE INJURED.
- BEFORE APPLYING FIRST AID OR TRANSPORTING AN INJURED PLAYER, GET THE PLAYER'S PERMISSION OR THE PERMISSION OF THE PLAYER'S PARENTS. THIS PERMISSION SHOULD BE OBTAINED IN ADVANCE WITH MEDICAL RELEASE FORMS.
- CALL A MEDICAL PROFESSIONAL TO MOVE A SERIOUSLY INJURED PLAYER UNLESS THERE IS AN IMMEDIATE DANGER.

In an emergency situation, feelings of panic and dismay are normal. For a coach, the situation can be even more bewildering if there is an injured player involved. The emergency action steps, Check-Call-Care, are a simple process players and coaches can use to assist injured players on the field or in the locker room.

The first step when arriving at the scene of an emergency is to check for safety hazards and then check the injured player. Clues may be found on the ground or locker room floor that point to the problem. For example, the player may have tripped over something on the ground causing him or her to bleed. If possible, ask the injured player and bystanders to explain what happened. Once the area has been surveyed, check the injured athlete for consciousness and look for signals of life-threatening injuries, such as trouble breathing, no breathing, or signs the player's heart has stopped.

The second step is to call 9-1-1 or the local emergency number. The person on the scene should call 9-1-1 if the athlete shows the following signs:

- Unconsciousness
- Trouble breathing
- Pain, pressure, or discomfort in the chest
- Severe bleeding
- Vomiting or passing of blood
- Seizing from a diabetic emergency
- Severe headache
- Injuries to the back, neck, or head
- Possible broken bones
- Other signals that give the appearance that the athlete is at risk.

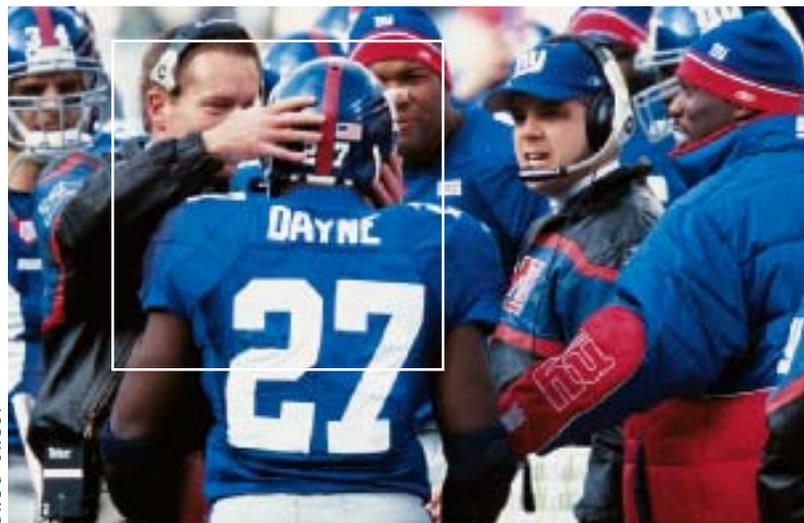
If there is only one person on the scene, that person needs to shout for help or the team physician. If no one arrives, call 9-1-1 before caring for the injured player. The person should call EMS before caring for the injured player because he or she needs advanced medical support more than attention immediately.

The third step is to care for the injured player. If the injured player is not breathing, begin rescue breathing. If the injured player's heart has stopped,

begin CPR. In some cases, the player may need first aid. The player must give consent before first aid is performed. To obtain permission, the person must identify himself or herself and discuss the emergency training he or she has. When the player is a minor, the person must receive consent from the parent or guardian of the player before giving first aid. For example, if a player is cut and bleeding, ask that person if he or she wants first aid. However, consent is implied if a parent or guardian is not present and the condition is life threatening. Permission is also implied if the player is unconscious or unable to respond. Coaches should have an Emergency Care Permission Form (page 15) for each player that gives the coach permission to provide care in an emergency.

Coaches should learn how to respond to emergencies, including life-threatening conditions. Contact your local American Red Cross to enroll in a first aid, CPR, and automated external defibrillator course.

Using the three emergency action steps, players and coaches have a strategy to tackle emergency situations. The steps keep players and coaches calm in an emergency situation and able to help an injured player. They also allow those included to gather information about the incident to help EMS personnel treat the injured player.



GREG CRISP

## MORE READING

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

American National Red Cross. (2002). *Taking action: Emergency action steps. Community first aid and safety.* San Bruno, California: StayWell.

American National Red Cross and United States Olympic Committee. (1997). *Emergency action steps. Sport safety training handbook.* San Bruno, California: StayWell.

# EMERGENCY ACTION PLAN

**AN EMERGENCY ACTION PLAN HELPS COACHES DEVELOP A WINNING PLAN TO SAVE LIVES. BE PREPARED FOR POTENTIAL EMERGENCIES.**

## WHAT COACHES SHOULD KNOW



- **AN EMERGENCY ACTION PLAN IS A WRITTEN PLAN THAT EVERY PROGRAM AND FACILITY SHOULD HAVE IN CASE OF EMERGENCY.**
- **EMERGENCY ACTION PLANS SHOULD DEFINE THE RESPONSIBILITIES OF EVERYONE WHO MAY BE INVOLVED.**
- **AN EMERGENCY ACTION PLAN SHOULD INCLUDE THE LAYOUT OF THE BUILDING, EQUIPMENT THAT CAN BE USED IN AN EMERGENCY, SUPPORT PERSONNEL AND STAFF RESPONSIBILITIES, COMMUNICATION METHODS, AND FOLLOW-UP METHODS.**
- **THE COACHING STAFF SHOULD PRACTICE THE EMERGENCY ACTION PLAN SO THAT EVERYONE KNOWS WHAT TO DO IN THE EVENT OF AN EMERGENCY.**

An Emergency Action Plan is a written plan that every program and facility should have to prepare for potential emergencies. Certain types of emergencies, such as natural disasters, are more likely in some locations than in others. Emergencies, however, can occur anywhere.

In addition to injuries, emergencies can result from fire, violent winds, tornadoes, and lightning. The facility's Emergency Action Plan should address

all relevant categories of emergencies. Such plans should define the responsibilities of everyone who may be involved.

It is important that each person knows what to do in the event of an emergency. Just as the team practices their plays on the field, the coaching staff should practice putting the Emergency Action Plan in motion.

# SAMPLE CONTENTS OF AN EMERGENCY ACTION PLAN

## LAYOUT

- EMS PERSONNEL ACCESS AND ENTRY/EXIT ROUTES
- LOCATION OF RESCUE AND FIRST AID EQUIPMENT
- LOCATION OF TELEPHONES WITH EMERGENCY TELEPHONE NUMBERS POSTED
- LOCATION OF KEYS TO REACH TELEPHONES OR EQUIPMENT
- EXITS AND EVACUATION ROUTES

## EQUIPMENT

- RESCUE EQUIPMENT
- FIRST AID SUPPLIES
- EMERGENCY EQUIPMENT (FLASHLIGHTS, FIRE EXTINGUISHERS, ETC.)

## SUPPORT PERSONNEL WITHIN FACILITY

- COACHES
- ATHLETIC TRAINERS
- ATHLETIC OFFICIALS AND REFEREES
- FACILITY ADMINISTRATORS
- MANAGEMENT PERSONNEL
- TEACHERS
- SCHOOL NURSE/PHYSICIAN
- ATHLETIC DIRECTOR
- CLERICAL PERSONNEL
- MAINTENANCE PERSONNEL

## EXTERNAL SUPPORT

(PROVIDE TELEPHONE NUMBERS)

- EMS PERSONNEL
- POLICE
- FIRE

- HAZARDOUS MATERIALS (HAZMAT) TEAM
- POISON CONTROL CENTER
- HOSPITALS
- POWER AND GAS COMPANIES
- HEALTH DEPARTMENT
- WEATHER BUREAU

## STAFF RESPONSIBILITIES

(ASSIGN EACH STAFF MEMBER A DUTY)

- PERSON TO PROVIDE CARE
- PERSON TO CONTROL BYSTANDERS AND SUPERVISE OTHER ATHLETES
- PERSON TO MEET EMS PERSONNEL
- PERSON TO TRANSPORT INJURED ATHLETE WHEN APPROPRIATE

## COMMUNICATION

- HOW AND WHEN TO CALL 9-1-1 OR THE LOCAL EMERGENCY NUMBER
- CHAIN OF COMMAND
- PERSON TO CONTACT—PARENTS OR GUARDIANS
- PERSON TO DEAL WITH MEDIA

## FOLLOW-UP

- COMPLETE APPROPRIATE DOCUMENTATION (INCIDENT REPORT, ACCIDENT REPORT, ETC.)
- REPLACE EQUIPMENT AND SUPPLIES
- EMERGENCY ACTION PLAN EVALUATION
- STAFF DEBRIEFING
- CRITICAL INCIDENT STRESS DEBRIEFING (IF NECESSARY)
- CHECK ON CONDITION OF INJURED ATHLETE

## MORE READING

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

American National Red Cross and United States Olympic Committee. (1997). Emergency action steps. *Sport safety training handbook*. San Bruno, California: StayWell.

# WHEN AND HOW TO CALL FOR EMERGENCY HELP

KNOWING WHEN AND HOW TO CALL FOR EMERGENCY MEDICAL HELP (9-1-1 OR THE LOCAL EMERGENCY NUMBER) CAN SAVE LIVES.

## WHAT COACHES SHOULD KNOW



- THE MOST IMPORTANT STEP A COACH CAN TAKE FOR AN INJURED PLAYER WHO IS UNCONSCIOUS OR HAS SOME OTHER LIFE-THREATENING CONDITION IS TO CALL FOR EMERGENCY MEDICAL HELP.
- MAKE THE CALL QUICKLY AND RETURN TO THE INJURED PLAYER. IF POSSIBLE, SEND SOMEONE ELSE TO MAKE THE CALL.
- BE SURE THAT YOU OR ANOTHER CALLER FOLLOWS THESE FOUR STEPS:
  - CALL THE LOCAL EMERGENCY NUMBER. THE NUMBER IS 9-1-1 IN MANY COMMUNITIES. DIAL 0 (THE OPERATOR) IF YOU DO NOT KNOW THE NUMBER IN THE AREA.
  - GIVE THE DISPATCHER THE NECESSARY INFORMATION. ANSWER ANY QUESTIONS THE DISPATCHER MIGHT ASK.
  - DO NOT HANG UP UNTIL THE DISPATCHER HANGS UP. THE EMS DISPATCHER MAY BE ABLE TO TELL YOU HOW BEST TO CARE FOR THE INJURED PLAYER.
  - RETURN AND CONTINUE TO CARE FOR THE INJURED PLAYER.

## MORE READING

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

American National Red Cross. (2002). *Community first aid and safety*. San Bruno, CA: StayWell.

If a player seems ill or complains about feeling ill, or has been injured, the coach needs to assess the player to determine if a medical team is needed. If the coach suspects the situation warrants it, he should call for emergency medical help (9-1-1 or the local emergency number).

The most important step a responder can take in an emergency is to call for medical help. To determine if this is necessary, look for several signs, including unconsciousness; trouble breathing; pain; pressure or discomfort in the chest; severe bleeding; vomiting or passing of blood; seizing from a diabetic emergency; severe headache; injuries to the back, neck, or head; possible broken bones; or any other signals that the athlete is at risk. If one or more of these signs exist, have someone call while the coach cares for the injured player.

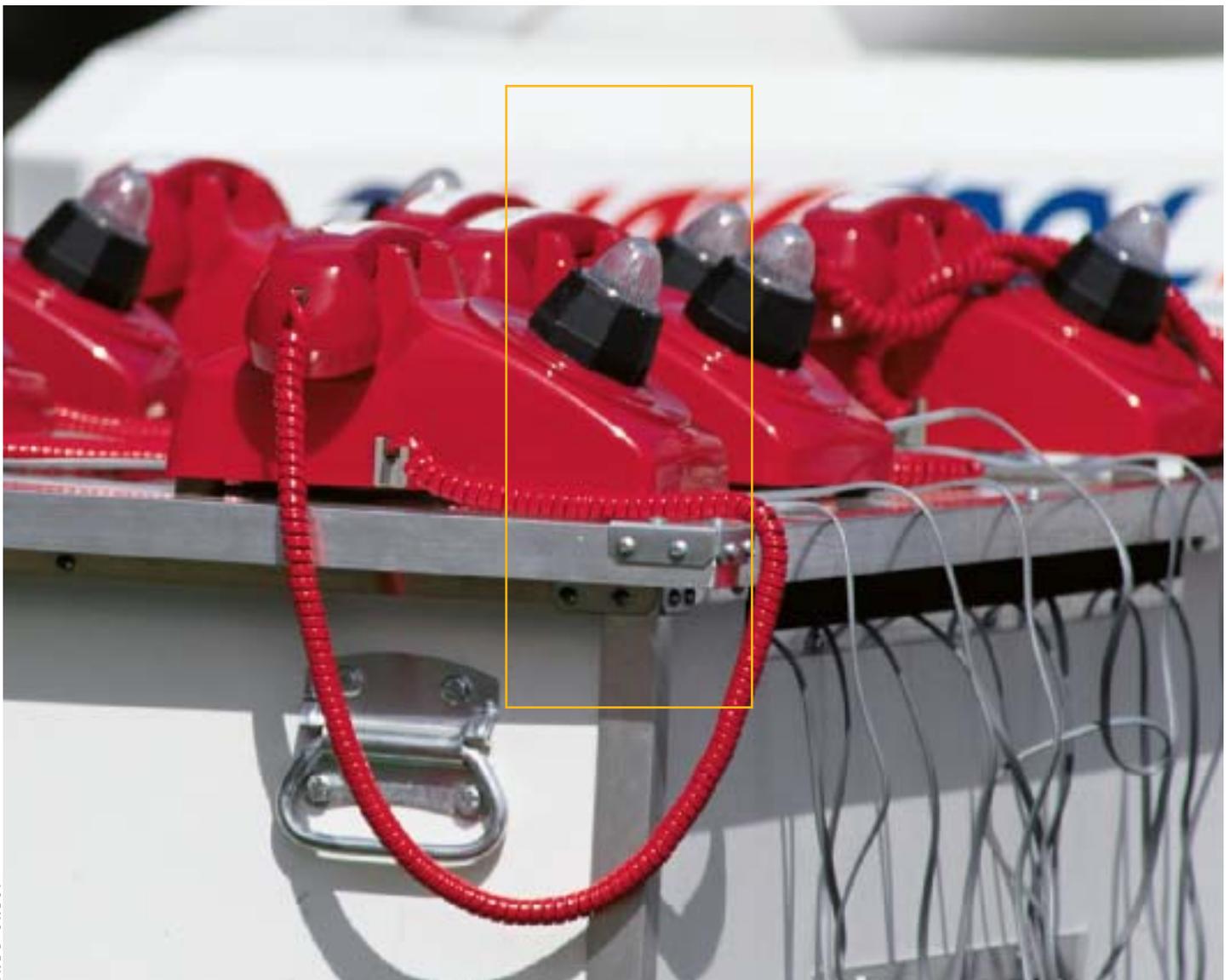
When calling 9-1-1 or the local emergency number, give the dispatcher the necessary information.

Answer any questions the dispatcher might ask. The dispatcher needs to know:

- The location of the injured player
- The name of the responder
- What happened
- Number of people involved
- The condition of the injured player
- What help has been given.

Do not hang up the phone until the dispatcher hangs up. Many dispatchers are also trained to give instruction before EMS arrival, so they can assist with certain life-saving skills, such as rescue breathing or the use of an AED (automated external defibrillator).

Coaches need to know the signs of an emergency. Once it is determined that help is needed, the coach or responder should call 9-1-1 for help and give the proper information. This simple call can save an injured player's life.



GREG CRISP

# DOCUMENTING INJURIES

COMPLETING FORMS FOR MEDICAL EMERGENCIES IS THE PROPER PLAY FOR COACHES.



## WHAT COACHES SHOULD KNOW

- **PRIOR TO THE FIRST DAY OF PRACTICE, PLAYERS MUST COMPLETE AN ATHLETE'S MEDICAL INFORMATION FORM AND AN EMERGENCY CARE PERMISSION FORM TO BE HELD IN THE POSSESSION OF THE COACH AND KEPT ACCESSIBLE.**
- **AFTER THE INJURED PLAYER IS RELEASED TO EMERGENCY MEDICAL PERSONNEL, THE COACH SHOULD COMPLETE THE INCIDENT REPORT FORM.**
- **AT THE END OF THE SEASON, THE COACH SHOULD COMPLETE A SUMMARY OF INJURIES FORM TO SEE IF THERE ARE ANY TRENDS. BASED ON THAT INFORMATION, THE COACH CAN MAKE ADJUSTMENTS TO REDUCE FUTURE INJURIES.**

Keeping players in their best shape also means making sure they fill out medical forms. These forms will be essential if players need medical attention.

Prior to the first day of practice, players must complete an Emergency Care Permission Form to be held in the possession of the coach. The information form provides the names of emergency contact persons and a comprehensive overview of past and current medical conditions that may have implications for coaches and emergency care. The Emergency Care Permission Form from parents or a guardian gives the coach or someone else permission to provide emergency care and to seek medical attention for the injured player. If the parents or guardians are not available, the person(s) designated on the Emergency Care Permission Form (usually the

coach or someone on the coaching staff) must accompany the injured athlete to the medical center.

After the incident has been resolved, the coach should complete the Incident Report Form (see page 14). The report form is a record of the incident that occurred. This information may be helpful to guide later care or medical treatment. If any legal problems develop, the report form contains the names of witnesses and an explanation of the incident. Usually, these records should be kept for several years. Each state has specific legal requirements for how long such records should be kept. At the end of the season, the coach should total each type of problem in a summary of injuries form to see if there are any trends. By analyzing the information, the coach can work to reduce future injuries.

## MORE READING

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

Cvengros, J. (Ed.). (1992). *Youth football: A complete handbook*. Carmel, Indiana: Cooper Publishing Group.

Petersmarck, K. (1998). *The prevention of injuries in amateur football*. Michigan Department of Community Health.

# EMERGENCY CARE PERMISSION FORM (SAMPLE)

NAME \_\_\_\_\_

LEAGUE \_\_\_\_\_

AS PARENT OR GUARDIAN OF THE ABOVE NAMED ATHLETE, I ACKNOWLEDGE THAT THERE IS A RISK OF INJURY OR THE APPEARANCE OF MEDICAL PROBLEMS THAT CAN RESULT FROM PLAYING FOOTBALL. I HEREBY AUTHORIZE THE STAFF OF \_\_\_\_\_ TO PROVIDE CARE, INCLUDING AUTHORITY FOR MEDICAL TRANSPORTATION IN THE EVENT OF INJURY OR ILLNESS. I ALSO AUTHORIZE QUALIFIED MEDICAL PERSONNEL TO PROVIDE EMERGENCY MEDICAL CARE IN THE EVENT OF AN EMERGENCY.

PARENT/GUARDIAN \_\_\_\_\_

STREET \_\_\_\_\_ CITY \_\_\_\_\_ ZIP \_\_\_\_\_

DAYTIME PHONE \_\_\_\_\_ EVENING PHONE \_\_\_\_\_

## ALTERNATIVE AUTHORIZED PERSON

NAME \_\_\_\_\_ RELATIONSHIP \_\_\_\_\_

DAYTIME PHONE \_\_\_\_\_ EVENING PHONE \_\_\_\_\_

FAMILY DOCTOR \_\_\_\_\_ PHONE \_\_\_\_\_

## MEDICAL HISTORY

ALLERGIES \_\_\_\_\_

MEDICATION \_\_\_\_\_

MEDICATION THAT MAY BE GIVEN AT THE FIELD \_\_\_\_\_

MEDICAL CONDITIONS \_\_\_\_\_

PRIOR SIGNIFICANT INJURIES \_\_\_\_\_

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

# INCIDENT REPORT FORM (SAMPLE)

DATE OF INCIDENT \_\_\_\_\_ SITE \_\_\_\_\_ DATE OF REPORT \_\_\_\_\_

INJURED PLAYER

NAME \_\_\_\_\_ AGE \_\_\_\_\_ SEX \_\_\_\_\_

## INCIDENT

DESCRIPTION OF INCIDENT OR MEDICAL PROBLEM \_\_\_\_\_

TYPE OF INJURY \_\_\_\_\_

WAS CARE  PROVIDED  NOT PROVIDED  REFUSED

PERSON(S) PROVIDING CARE

NAME \_\_\_\_\_ POSITION \_\_\_\_\_

DESCRIBE CARE PROVIDED \_\_\_\_\_

WERE UNIVERSAL PRECAUTIONS TAKEN?  YES  NO

EMS CALLED  YES  NO TIME CALLED \_\_\_\_\_ TIME ARRIVED \_\_\_\_\_

## DISPOSITION

TO EMERGENCY CENTER \_\_\_\_\_ HOME \_\_\_\_\_

REMAINED AT THE FIELD \_\_\_\_\_ RETURNED TO PLAY \_\_\_\_\_

OUT OF PARTICIPATION FOR \_\_\_\_\_ DAYS

PHYSICIAN'S FINAL DIAGNOSIS \_\_\_\_\_

## SIGNATURE

PARENT/GUARDIAN \_\_\_\_\_

PERSON PREPARING REPORT \_\_\_\_\_

## CONTENTS OF A FIRST AID KIT

BEING PREPARED FOR FOOTBALL EMERGENCIES MEANS HAVING A FIRST AID KIT.



### WHAT COACHES SHOULD KNOW

- COACHES SHOULD HAVE READY ACCESS TO A WELL-STOCKED FIRST AID KIT THAT CONTAINS THE BASIC ITEMS NEEDED FOR APPROPRIATE CARE.
- ICE IS IMPORTANT FOR PROPER, IMMEDIATE CARE OF MANY MINOR INJURIES AND SHOULD BE READILY AVAILABLE.
- CHECK THE KIT REGULARLY TO MAKE SURE IT CONTAINS ALL THE NECESSARY SUPPLIES. REPLACE ANY ITEMS THAT HAVE EXPIRED OR BEEN USED.
- PARENTS SHOULD NOTIFY COACHES, IN WRITING, THAT A PLAYER MAY REQUIRE SPECIAL MEDICATION (INHALER, EPIPEN, INSULIN/SUGAR, ETC).

A well-stocked first aid kit is an essential piece of equipment for a football team. The kit should contain the basic items needed for appropriate care for emergencies related to playing football. The kit should be able to handle bruises, small cuts, strains, and sprains. First aid kits come in a variety of sizes and shapes and are available commercially. However, a coach or the team's physician can design one that relates to the team's needs.

The suggested checklist details supplies for a first aid kit for athletes. A coach can add and subtract from the kit on the basis of past experiences, local policies, and guidelines. Though ice is not on the list, it is important in caring for minor injuries and should be readily available. Coaches need to arrange for ice to be stored on the grounds.

A first aid kit is a good way to provide assistance to an injured player. However, it should not replace

medical attention when needed. If it does not fully address the problem, call for medical assistance.

Whether you buy a first aid kit or put one together, be certain to consider the items listed. Check the kit regularly to make sure that it contains all necessary supplies. Replace any items that have expired or been used.

Parents should notify coaches, in writing, that a player may require special medication (inhaler, EpiPen, insulin/sugar, etc). If such medication is needed on hand, it should be brought to the field by the player. It should not be the responsibility of the coach to maintain such medication in the team's first aid kit.

To help injured players at a moment's notice, coaches need to have first aid kits ready and well stocked. Preparing and maintaining a first aid kit is a program necessity.

### MORE READING

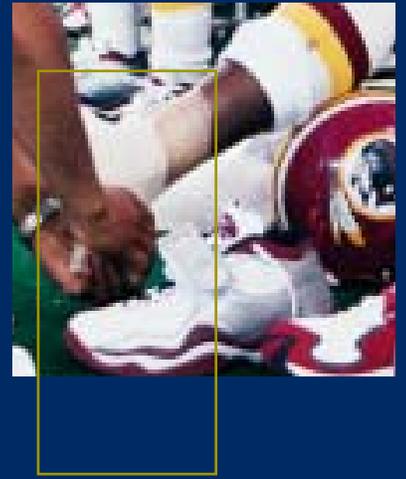
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Cvengros, J. (Ed.). (1992). *Youth football: A complete handbook*. Carmel, Indiana: Cooper Publishing Group. Emergency Response. Boston, Massachusetts: StayWell.

American National Red Cross and The United States Olympic Committee. (1997). *First aid kit. Sport safety training handbook*. San Bruno, California: StayWell.

## A GENERIC SPORTS FIRST AID KIT CAN INCLUDE THE FOLLOWING:

- ADHESIVE BANDAGES WITH GAUZE PADS
- ALCOHOL PREPS
- ANTIBACTERIAL OINTMENT
- ANTI-INFECTIVE SOLUTION
- ANTISEPTIC TOWELETTES
- ARM SLING
- BANDAGE SCISSORS
- BREATHING BARRIERS
- BUTTERFLY CLOSURES
- COTTON SWABS
- ELASTIC TAPE
- ELASTIC WRAPS
- EMERGENCY BLANKET
- EYE PATCH
- EYE WASH
- FACE MASK REMOVAL TOOL
- FLASHLIGHT AND BATTERIES
- FOAM PADDING
- HYDROGEN PEROXIDE
- LATEX/NITRIDE GLOVES
- LIST OF EMERGENCY PHONE NUMBERS
- MOLESKIN
- NAIL CLIPPERS
- NONSTICK WOUND DRESSING PADS
- PETROLEUM JELLY
- PLASTIC BAGS
- PLASTIC BAGS FOR ICE/ INSTANT ICE PACKS
- POWDER RESUSCITATION MASK
- RESCUE BREATHING MASK
- ROLLER GAUZE
- SAFETY PINS
- SPLINTS
- STERILE GAUZE PADS
- TAPE ADHERENT
- TAPE REMOVER
- TAPE UNDERWRAP
- THERMOMETER
- TONGUE BLADES
- TWEEZERS
- WHITE TAPE



**INJURY**

**PREVENTION**

# INJURY PREVENTION CHECK LIST

ENSURE THAT ALL THE FOLLOWING SAFETY STEPS HAVE BEEN TAKEN BEFORE THE SEASON BEGINS, DURING TRAINING AND COMPETITION, AND AFTER THE SEASON ENDS.

## BEFORE THE SEASON

- UPDATE POLICIES AND REGULATIONS
- MEDICAL EXAMINATION/APPROVAL
- PARENTAL PERMISSION FORMS SIGNED
- TEAM/GROUP MATCHING (SIZE, SKILL)
- PRESEASON CONDITIONING
- TRAINING PROGRAM PREPARATION
  - STAFF SKILL TRAINING
  - INSTRUCTIONAL MATERIALS
  - PRACTICE PLANS
- EMERGENCY ACTION PLANS
- FIRST AID KIT STOCKED AND AVAILABLE
- EMERGENCY NUMBERS
- SPORTS SAFETY TRAINING HANDBOOK
- ALL COACHES PROPERLY TRAINED AND CERTIFIED
  
- PROPER ORIENTATION ARRANGED FOR NEW COACHES
  
- FACILITY INSPECTION
- EQUIPMENT INSPECTION
- COMMUNICATION EQUIPMENT AVAILABLE, WITH BACKUP SYSTEM AVAILABLE
  
- PARENT ORIENTATION PROGRAM
- ATHLETE ORIENTATION
  - RISKS
  - SAFETY PROCEDURES
  - INJURY PREVENTION
  - CHANGES IN RULES, TECHNIQUES
  - EQUIPMENT USE AND MAINTENANCE INSTRUCTION
  
- FACILITY USE INSTRUCTION
- DOCUMENTATION THAT ATHLETES HAVE BEEN ORIENTATED

## DURING TRAINING AND COMPETITION

- TRAINING PROGRAM ASSESSMENT AND REVISION
  
- GENERAL SUPERVISION
  - PROGRAM IMPLEMENTATION
  - EQUIPMENT USE
  - ENVIRONMENT (HEAT, COLD, HAZARDOUS WEATHER)
  
- PERIODIC FACILITY INSPECTION AND MAINTENANCE (DOCUMENT DATES AND RESULTS)
  
- PERIODIC EQUIPMENT INSPECTION AND MAINTENANCE (DOCUMENT DATES AND RESULTS)

## AFTER THE SEASON

- OFFSEASON CONDITIONING
- PROGRAM ASSESSMENT AND REVISION
- STAFF SKILL-TRAINING ASSESSMENT
- INJURY CAUSE AND RESPONSE EVALUATION
  
- FACILITY INSPECTION
- EQUIPMENT INSPECTION

# PREVENTING OVERUSE INJURIES

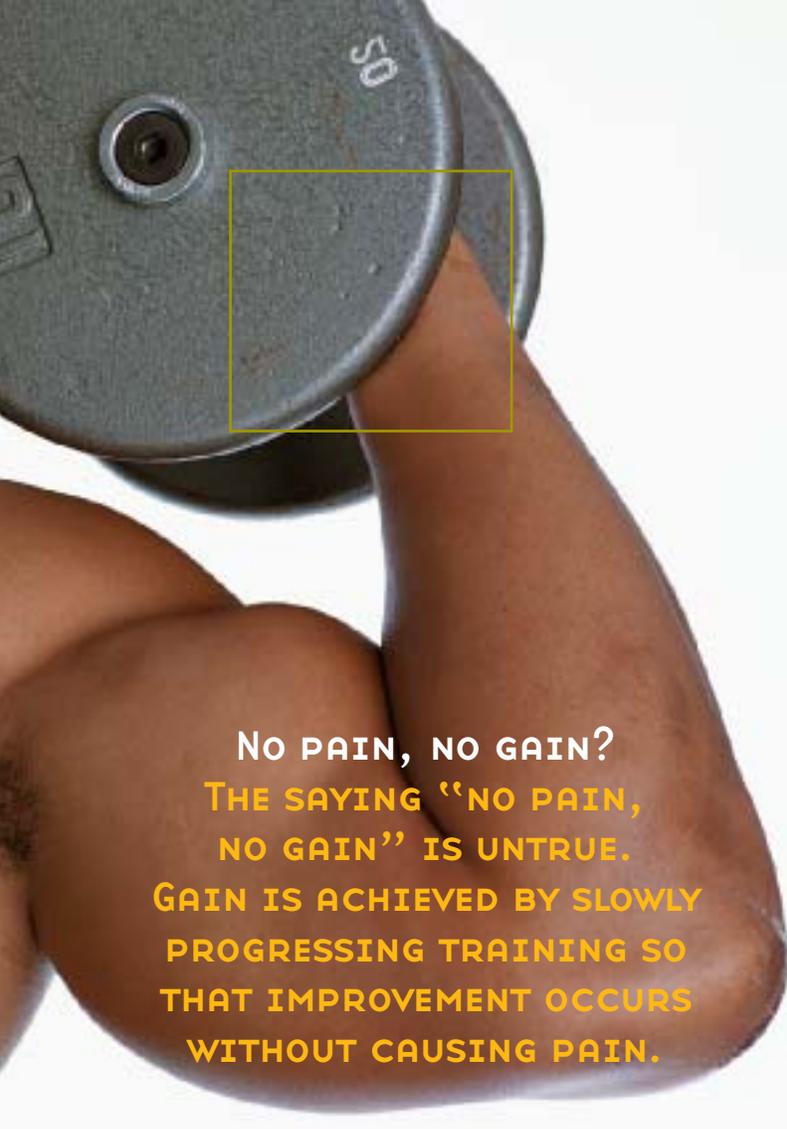
MICHELE D. PESCASIO, M.D., LAWRENCE J. LEMAK, M.D., AMERICAN SPORTS MEDICINE INSTITUTE

**PREVENTION IS THE KEY TO OVERUSE INJURIES; AVOID TOO MUCH TOO SOON.**



## WHAT COACHES SHOULD KNOW

- **OVERUSE INJURIES OCCUR FROM OVERLOAD OR REPETITIVE MICROTRAUMA.**
- **BY HAVING PLAYERS WARM UP PRIOR TO ACTIVITY AND COOL DOWN AFTER ACTIVITY, A COACH CAN HELP PREVENT OVERUSE INJURIES.**
- **OVERUSE INJURIES MAY RESULT FROM SPECIFIC PHYSICAL FEATURES OF THE PLAYER, SUCH AS BONE STRUCTURE, MUSCLE-TENDON IMBALANCE, OR GROWTH SPURTS. THE ATHLETE SHOULD BE SEEN BY A PHYSICIAN TO ADDRESS THESE ISSUES.**
- **A COACH CAN MINIMIZE OVERUSE INJURIES BY IMPLEMENTING SOUND TRAINING TECHNIQUES AND PRINCIPLES INVOLVING THE FREQUENCY, VOLUME, AND INTENSITY OF TRAINING; USING PROPER AND WELL-FITTED EQUIPMENT (ESPECIALLY SHOES); PLAYING AND TRAINING ON APPROPRIATE PLAYING SURFACES; AND TEACHING PROPER BIOMECHANICS.**
- **OVERUSE INJURIES OCCUR AT TWO DISTINCT TIMES IN TRAINING: THE BEGINNING OF AN EXERCISE PROGRAM, AND WHEN THE ATHLETE IS AT PEAK PERFORMANCE AND IS STRIVING FOR IMPROVEMENT.**
- **TO PREVENT OVERUSE INJURIES, INCREASE THE VOLUME AND INTENSITY OF TRAINING BY LESS THAN 10 PERCENT PER WEEK.**
- **INFLAMMATION (GENERALLY IDENTIFIED BY REDNESS, SWELLING, AND PAIN) IS AN EARLY SIGN OF AN OVERUSE INJURY.**
- **TO CARE FOR INFLAMMATION, STOP THE ACTIVITY. IF SYMPTOMS OF PAIN AND SWELLING IN A LOCALIZED AREA PERSIST FOR MORE THAN 3-5 DAYS, A PHYSICIAN SHOULD EXAMINE THE ATHLETE.**



## NO PAIN, NO GAIN?

THE SAYING “NO PAIN,  
NO GAIN” IS UNTRUE.

GAIN IS ACHIEVED BY SLOWLY  
PROGRESSING TRAINING SO  
THAT IMPROVEMENT OCCURS  
WITHOUT CAUSING PAIN.

NFL PHOTOS

coach can minimize overuse injuries by implementing sound training techniques and principles involving the frequency, volume, and intensity of training; using proper and well-fitted equipment (especially shoes); playing and training on appropriate playing surfaces; and teaching proper biomechanics.

Overuse injuries generally occur at two distinct times in training. The beginning of an exercise program produces the most injuries because the athlete is not in proper condition for the activity. Injuries can also occur when the athlete is at peak performance and is striving for improvement. It is best to increase the volume and intensity of training by less than 10 percent per week to prevent overuse injuries.

Inflammation is an early sign of overuse injuries. Signals of inflammation include swelling, redness, warmth, and impaired function. As a result, it is painful to move the affected body part. An athlete with pain in a localized part of the body that lasts for more than 3–5 days should see a physician. If inflamed body parts are not allowed to rest, more significant tissue breakdown can develop leading to chronic injury, disability, and pain. To treat inflammation, a physician may advise the player to stop the activity. Treatment may include RICE (rest, ice, compression, and elevation), anti-inflammatory medication, and physical therapy or rehabilitative exercises.

Prevention is key to avoiding overuse injuries. Warming up prior to activity and cooling down after activity is essential. Training should be varied to prevent repetitive activities that can cause microtrauma to the musculoskeletal system. In addition, training should gradually progress, and there should be gradual adaptation to new conditions such as playing surfaces. Equipment appropriate to the sport should be adjusted to fit each individual. Footwear is especially important. A good athletic shoe with a proper fit is mandatory. Athletes should also be given a day of rest after three or four consecutive days of training or conditioning. Appropriate biomechanics should be taught. If all of the above measures are taken into consideration, overuse injuries can be kept to a minimum.

When a player is hit on the field and hurts his leg, the damage is easy to see and treat. However, there are injuries related to football that are not visible. Overuse injuries occur from overload or repetitive microtrauma. There are several overuse injuries, such as tendinitis, shin splints, stress fractures, and bursitis, among others. Coaches need to be aware of the various factors at play in these conditions and set up a line of defense.

Specific physical features of the player, such as bone structure, muscle-tendon imbalance, or growth spurts may put a player at increased risk for overuse injury. Other causes include training errors and poor biomechanics. Many times, however, a

## MORE READING

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

Birrer, R.B. (Ed.). (1994). *Sports medicine for the primary care physician*, (2nd ed.). Boca Raton, FL: CRC Press.

Micheli, L.J., & Outerbridge, A.R. (1995). Overuse injuries in the young athlete. *Clinics in Sports Medicine*, 14, 3.

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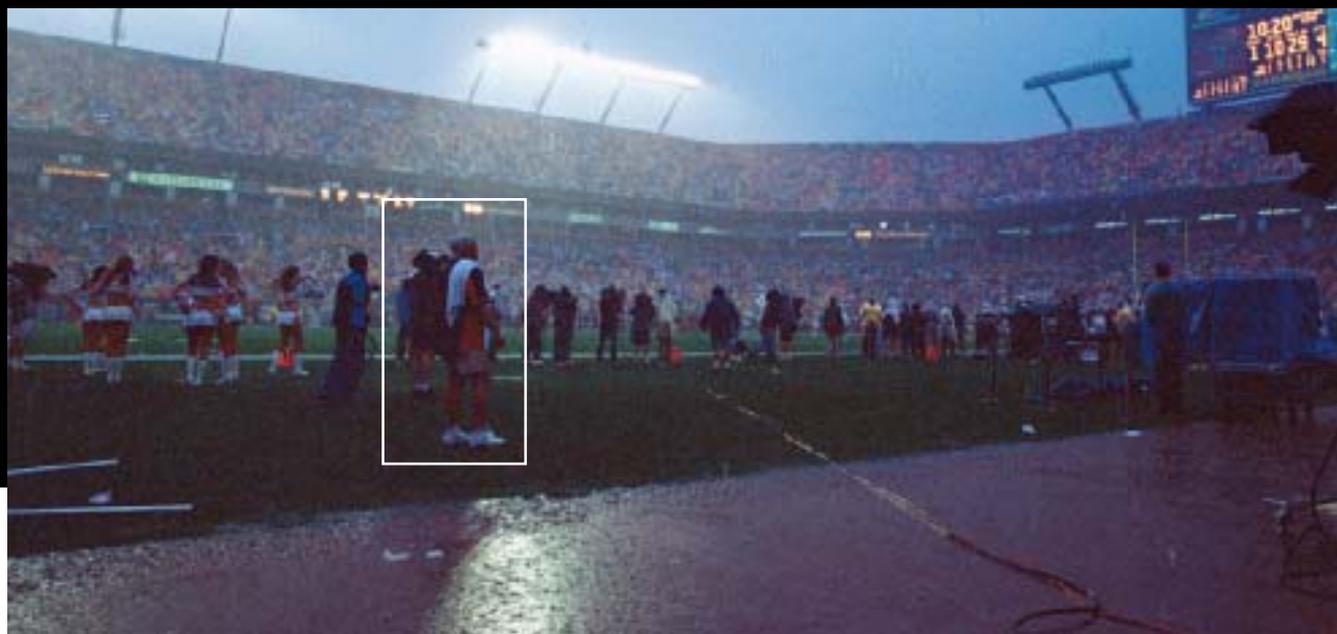
# PREVENTING WEATHER-RELATED INJURIES

DON'T ENDANGER LIVES BY PLAYING GAMES WITH WEATHER SAFETY RULES.



## WHAT COACHES SHOULD KNOW

- A COACH CAN KEEP A RADIO ACCESSIBLE TO LISTEN TO THE WEATHER FORECAST FOR ALERTS.
- IF CAUGHT OUTDOORS DURING A STORM, THE PLAYERS SHOULD KEEP AWAY FROM STRUCTURES IN OPEN AREAS SUCH AS TALL, ISOLATED TREES, OBJECTS THAT PROJECT ABOVE THE LANDSCAPE, WATER, AND GROUNDED OBJECTS.
- WHEN THE STORM HAS CEASED, WAIT AT LEAST 30 MINUTES BEFORE ALLOWING ATHLETES TO RETURN OUTDOORS.
- IF INDOORS DURING A THUNDERSTORM OR LIGHTNING STORM, COACHES SHOULD KEEP EVERYONE AWAY FROM WINDOWS, WHICH CAN CAUSE INJURIES FROM BROKEN GLASS.
- CHECK AN INJURED PLAYER STRUCK BY LIGHTNING FOR CONSCIOUSNESS, A PULSE, AND BREATHING. IF THERE IS NO PULSE OR BREATHING, PERFORM CPR.
- IN THE EVENT OF A TORNADO, PLAYERS AND COACHES MUST FIND THE LOWEST INTERIOR LEVEL OF A BUILDING AND CROUCH DOWN WHILE KEEPING HEADS COVERED.



JOE ROBBINS



JOHN REID III

When rain strikes during a football game, teams continue to play despite water and mud. However, gentle raindrops can lead to dangerous thunderstorms and lightning. Weather-related injuries can be serious, but can be prevented. The key to preventing weather-related injuries is to take heed of conditions and take cover early.

According to the *Journal of Athletic Training*, 70 percent of lightning injuries occur in the afternoon, when football practices and games are most likely to be held. This increases the risk for football players to be affected by weather-related emergencies.

Taking simple steps to keep players safe can prevent deaths and injuries. By having a radio in his or her office, a coach can listen to the weather forecast for alerts. If there is a weather warning or advisory, coaches and athletic program officials have the authority to cancel practice or a game.

Sometimes it is too late to dismiss players without placing them in harm's way. Coaches should have a plan for weather-related emergencies. In the event of a thunderstorm and lightning, the coach should move players to a safe location, such as the locker room or gym, at the first sound of thunder because lightning is always imminent. During a thunderstorm, keep players away from windows because the wind may break glass. Also, players in the showers should be called out because water and metal are both conductors of electricity. When the storm has ceased, wait at least 30 minutes before allowing athletes to return outdoors. Proceed to

the outdoors with caution because there may be safety hazards that place players in danger, such as downed power lines.

If there is a tornado, or a storm occurs during practice, everyone should go indoors. Specifically during tornadoes, everyone should go to the basement or the lowest interior level of a building and crouch down while keeping their heads covered. If the team is caught outdoors during a tornado or storm, the players should keep away from structures in open areas, such as picnic shelters and dugouts. They should keep away from tall, isolated trees or objects that project above the landscape. Also, keep players away from water and grounded objects, such as metal fences, metal bleachers, tanks, and pipes.

Though precautions may be taken, a player could be hurt. If a player is struck by lightning, get medical help immediately. Use a cellular phone to call 9-1-1 because lightning may strike a telephone line. Lightning victims do not carry an electrical charge; therefore, it is safe to care for injured players. Check the injured player for consciousness, breathing, and signs of circulation. If there is no breathing and there are no signs of circulation, perform CPR.

If a player has been hit by debris, check for consciousness, breathing, signs of circulation, and severe bleeding. If these are present, activate the Emergency Action Plan. Care for any life-threatening conditions found by performing CPR or controlling the bleeding. Some athletes may sustain only minor injuries, such as bruises, and may require first aid.

These details, as well as others such as what routes to use in event of an evacuation of a facility, should be covered in a facility's written Emergency Action Plan. When devising exit routes, be sure that they are easily identifiable and accessible to everyone who may need to use them. The Emergency Action Plans should provide guidance as to when events should be cancelled, as well as what type of response should be taken in the event a storm comes up during a practice or game. By having plans in place that are rehearsed, a facility may be evacuated smoothly and efficiently.

## MORE READING

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

Birrer, R.B. (Ed.). (1994). *Sports medicine for the primary care physician* (2nd ed.). Boca Raton, FL: CRC Press.

Micheli, L.J., & Outerbridge, A.R. (1995). Overuse injuries in the young athlete. *Clinics in Sports Medicine*, 14, 3.

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# PREVENTING HEAT-RELATED ILLNESSES

## WHAT COACHES SHOULD KNOW



- HEAT-RELATED ILLNESSES ARE CAUSED WHEN AN INDIVIDUAL IS SUBJECTED TO EXTREME TEMPERATURE AND HUMIDITY AND IS UNABLE TO COOL DOWN.
- COACHES SHOULD TAKE STEPS TO PREVENT HEAT-RELATED ILLNESSES. WHEN ATHLETES ARE PRACTICING OR COMPETING, COACHES SHOULD DO THE FOLLOWING:
  - ALLOW DAYS FOR ADJUSTING TO WARMER CLIMATES
  - SCHEDULE PRACTICE DURING COOLER TIMES OF THE DAY
  - SCHEDULE AND ENFORCE FREQUENT WATER BREAKS.

### HEAT PRECAUTIONS

WHEN NECESSARY, COACHES SHOULD INSTRUCT ATHLETES TO DO THE FOLLOWING:

- WEAR NET-TYPE JERSEYS
- WEAR T-SHIRTS AND SHORTS, NOT PADS
- REMOVE HELMETS WHEN NOT PLAYING OR SCRIMMAGING
- AVOID WEARING SWEATSHIRTS
- CHANGE SWEAT-SOAKED CLOTHING

### APPROPRIATE FLUID INTAKE

- PLAYERS SHOULD BE WEIGHED BEFORE AND AFTER A COMPETITION OR WORKOUT.
- DRINK 16 OUNCES OF APPROPRIATE FLUID FOR EVERY POUND OF WEIGHT LOST AFTER ACTIVITY.
- PLAYERS SHOULD NOT TAKE SALT TABLETS, BUT RATHER SALT THEIR FOOD LIBERALLY WHEN PLAYING IN HOT, HUMID WEATHER.
- BEFORE A COMPETITION OR PRACTICE, PLAYERS SHOULD CONSUME APPROPRIATE FLUIDS AS FOLLOWS:
  - TWO TO THREE HOURS BEFORE A COMPETITION OR WORKOUT, DRINK 4-5 OUNCES OF APPROPRIATE FLUID EVERY 10-20 MINUTES
  - ONE HOUR BEFORE A COMPETITION OR WORKOUT, DRINK 8 OUNCES OF APPROPRIATE FLUID
  - FIFTEEN MINUTES BEFORE A COMPETITION OR WORKOUT, DRINK 4-5 OUNCES OF APPROPRIATE FLUID
  - DURING A COMPETITION OR WORKOUT, DRINK 4 OUNCES OF APPROPRIATE FLUID EVERY 10 TO 20 MINUTES

### TREATMENT OF HEAT-RELATED ILLNESSES

- HEAT-RELATED ILLNESS MAY PROGRESS INTO HEAT EXHAUSTION. SIGNALS OF HEAT EXHAUSTION INCLUDE HEADACHE, NAUSEA, OR DIZZINESS AND WEAKNESS. IF THIS HAPPENS, THE PLAYER NEEDS TO LIE IN A COOL PLACE, APPLY COOL, WET TOWELS TO THE BODY, DRINK COOL WATER, AND MONITOR HIS VITAL SIGNS. IN THIS STAGE, HEAT RELATED-ILLNESS CAN USUALLY BE REVERSED WITH PROMPT CARE. OFTEN AN INJURED PLAYER FEELS BETTER WHEN HE RESTS IN A COOL PLACE AND DRINKS COOL WATER.
- IF SIGNALS ARE PRESENT THAT THE ILLNESS IS PROGRESSING, ACTIVATE THE EMERGENCY ACTION PLAN AND FOLLOW THE EMERGENCY ACTION STEPS, CHECK-CALL-CARE. CALL 9-1-1 OR THE LOCAL EMERGENCY NUMBER IMMEDIATELY.
- AS THE ILLNESS PROGRESSES INTO HEAT STROKE, A PLAYER MAY HAVE A HIGH BODY TEMPERATURE, HAVE RED, HOT, DRY, OR MOIST SKIN, VOMIT, LOSE CONSCIOUSNESS, HAVE SHALLOW BREATHING AND/OR A WEAK PULSE. A PLAYER EXPERIENCING RESPIRATORY OR CARDIAC ARREST NEEDS TO RECEIVE RESCUE BREATHING OR CPR.

TO HELP PREVENT HEAT-RELATED ILLNESSES, KEEP PLAYERS COOL AND HYDRATED.



GEORGE GOJKOVICH

### APPROPRIATE FLUIDS

INCLUDE WATER OR A CORRECTLY PROPORTIONED SPORTS DRINK. WATER IS AN APPROPRIATE HYDRATING SOLUTION WHEN PRACTICES ARE NOT INTENSE AND DO NOT EXCEED 60-90 MINUTES. THOUGH WATER CAN BE USED IN SITUATIONS OF MORE INTENSE AND EXTENDED PRACTICES, CORRECTLY PROPORTIONED SPORTS DRINKS MAY OFFER AN ADVANTAGE—PARTICULARLY IN HOT WEATHER.

A CORRECTLY PROPORTIONED SPORTS DRINK (PER EIGHT OUNCES) CONTAINS APPROXIMATELY 6% CARBOHYDRATES (14 GRAMS SUCROSE, GLUCOSE, FRUCTOSE, OR GLUCOSE POLYMER), APPROXIMATELY 50 CALORIES, APPROXIMATELY 28 MILLIGRAMS OF POTASSIUM, AND APPROXIMATELY 100 MILLIGRAMS OF SODIUM WITH NO CARBONATION, NO CAFFEINE, AND NO STIMULANTS. THIS COMBINATION PERMITS A QUICKER REPLACEMENT OF LOST BODY FLUIDS AND HELPS MAINTAIN THE AVAILABILITY OF THE GLUCOSE FUEL FOR ENERGY PRODUCTION. POTASSIUM LOSSES ARE ALSO REPLACED. THE SPORTS DRINKS, WHICH ARE USUALLY FLAVORED, SHOULD BE INGESTED COLD.

Sunny weather is ideal for practicing football and competing. However, overexposure to high temperature and humidity can cause heat-related illnesses. Conditions contributing to heat-related emergencies include:

- Heat
- High humidity
- Extreme physical exertion
- Inappropriately layered or rubberized clothing
- Inadequate fluid intake.

Heat-related illnesses, such as heat cramps, heat exhaustion, and heat stroke are caused when an individual is subjected to extreme temperature and humidity and is unable to cool down. The National Weather Service issues heat alerts when the daytime heat index (a combination of temperature and humidity) is 105° F or more, which can cause the most serious heat-related illnesses. At 80-105° F, fatigue and sunstroke are possible with prolonged exposure. Athletes playing in the sun for long periods of time wearing protective padding are especially at risk. The illnesses are treatable, but become life threatening without immediate attention.

Coaches need to know how to prevent heat-related illnesses. When weather is excessively hot and humid, coaches need to adjust the intensity of workouts, building in intensity over a period of time to allow players to adjust to the weather conditions. Coaches also should consider canceling practice or scheduling practice during cooler times of the day.

Players should have unrestricted access to appropriate fluids. Players should weigh themselves before and after activity to check for dehydration. To prevent dehydration, players should begin hydrating, at least two to three hours prior to working out or competing, by drinking at least 16 ounces of fluid. One hour before a competition or workout, athletes should drink 8 ounces of fluid followed by 4 ounces of fluid 15 minutes before the activity. During a competition or workout, athletes should drink 4 ounces of appropriate fluid every 10 to 20 minutes. Following a competition or workout, the coach should have the players drink 16 ounces of fluid for every pound of

weight lost to replace the water loss and consume foods that contain a liberal amount of salt. Sports drinks may provide some benefit over water.

Without taking precautionary measures, a player may experience a heat-related illness. In some cases, a player may be unaware he is experiencing this condition and continue practicing. Early signals of a heat-related illness are heat cramps. For heat cramps, the athlete should stop the activity, gently stretch and massage the muscle, and drink appropriate fluids.

A heat-related illness may progress into heat exhaustion. Therefore, coaches should periodically check players during practice or workouts for symptoms related to heat exhaustion, which include headache, nausea, dizziness, weakness, or muscular spasms. The player experiencing these symptoms needs to lie in a cool place; apply cool, wet towels to the body; drink cool water; and have his vital signs monitored. In this stage, heat-related illness can usually be reversed with prompt care. Often the injured player feels better when he or she rests in a cool place and drinks cool water. If the player's condition does not improve, activate the Emergency Action Plan and follow the emergency action steps, Check-Call-Care. Call 9-1-1 or the local emergency number immediately.

If the illness progresses into heat stroke, a player may vomit; have a high body temperature; have red, hot, dry, or moist skin; lose consciousness; or have shallow breathing and/or a weak pulse. Sweating may stop, which prevents the body from cooling. This increases body temperature and causes vital organs, such as the heart, to fail.

When the circulatory system is affected, the player may experience mild shock, convulsions, or a coma. If a player experiences respiratory or cardiac arrest, begin rescue breathing or CPR, as appropriate. If possible, cold towels should be placed on the body of the player while awaiting EMS.

Playing in the sun can be fun, but the best thing to do is play it safe. Heat-related illnesses are preventable if coaches and players know their signs and stay cool and hydrated.



GEORGE GOJKOVICH

# PREVENTING DISEASE TRANSMISSION

USING THE PROPER PRECAUTIONS CAN PREVENT SERIOUS DISEASE.



## WHAT COACHES SHOULD KNOW

- **GET AND MAINTAIN IMMUNIZATIONS**
- **WEAR PROTECTIVE GLOVES AND USE A POCKET MASK WHEN ASSISTING AN INJURED PLAYER**
- **CLEAN AND DISINFECT, OR PROPERLY DISPOSE OF, THE SUPPLIES AND EQUIPMENT USED TO TREAT THE INJURED PLAYER OR THE UNIFORM THAT CONTAINS BLOODSTAINS.**
- **IF EXPOSURE TO BODILY FLUID OCCURS, WASH THE AREA THOROUGHLY WITH SOAP AND WATER AND TELL YOUR PHYSICIAN ABOUT THE SITUATION.**
- **CLEAN UP A BLOOD SPILL IMMEDIATELY AFTER A SPILL OCCURS WITH PAPER TOWELS OR OTHER ABSORBENT MATERIAL. AFTER IT HAS BEEN WIPED UP, FLOOD THE AREA WITH A SOLUTION OF 1/4 CUP OF LIQUID CHLORINE BLEACH TO 1 GALLON OF FRESH WATER, AND ALLOW IT TO STAND FOR AT LEAST 20 MINUTES.**
- **PROPERLY DISPOSE OF ANY CONTAMINATED MATERIAL, INCLUDING ANYTHING USED TO CLEAN UP, IN A LABELED BIOHAZARD CONTAINER.**

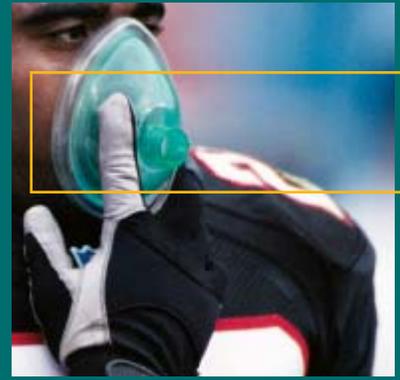
Simply touching a drop of infected blood puts a person at risk for contracting a disease. To prevent disease transmission, everyone needs to follow the safety rules.

Disease transmission begins when a pathogen (germ) invades the body. The germ enters either by direct or indirect contact (fluid, the air, or a bite from a carrier). When germs enter, the immune system blocks infection. Special white blood cells circulate in the bloodstream and identify invading germs. Once a pathogen is detected, white blood cells attack the germ by releasing infection-fighting proteins called antibodies.

Though the immune system is powerful, there are several communicable diseases that can overpower

the body's defense system, such as herpes, meningitis, tuberculosis, hepatitis, and HIV. These diseases have severe consequences and require protective steps to avoid transmission.

To prevent the transmission of serious infections, a person needs to prepare a line of defense. Such a strategy begins with getting and maintaining immunizations for diseases such as Hepatitis B. When assisting an injured player, a defensive strategy is to wear protective gloves and a pocket mask. This breathing barrier helps protect the body from contamination, especially when giving rescue breaths or CPR. Also, clean and disinfect, or properly dispose of, the equipment that was used to treat the injured player or the uniform that may contain bloodstains.



# RESPONDING TO EMERGENCIES

# CARDIAC EMERGENCIES

ACTIVATING THE EMERGENCY ACTION PLAN AND FOLLOWING THE EMERGENCY ACTION STEPS, CHECK-CALL-CARE, GIVES CARDIAC ARREST VICTIMS A FIGHTING CHANCE FOR SURVIVAL.



## WHAT COACHES SHOULD KNOW



- **THERE ARE TWO GENERAL TYPES OF CARDIAC EMERGENCIES—WHEN THE HEART DOESN'T FUNCTION PROPERLY, DEPRIVING THE HEART MUSCLE OF MUCH NEEDED OXYGEN AND CAUSING CHEST PAIN OR DISCOMFORT (HEART ATTACK), AND WHEN THE HEART DOESN'T FUNCTION EFFECTIVELY AS A PUMP RESULTING FROM AN ABNORMAL RHYTHM OR NO RHYTHM AT ALL (CARDIAC ARREST).**
- **IN A CARDIAC EMERGENCY, ACTIVATE THE EMERGENCY ACTION PLAN AND FOLLOW THE EMERGENCY ACTION STEPS, CHECK-CALL-CARE.**
- **THE GREATEST CHANCE OF SURVIVAL FROM CARDIAC ARREST OCCURS WHEN THE FOLLOWING SEQUENCE OF EVENTS HAPPENS AS RAPIDLY AS POSSIBLE:**
  - **EARLY RECOGNITION AND EARLY ACCESS TO ADVANCED LIFE SUPPORT**
  - **EARLY CPR**
  - **EARLY DEFIBRILLATION**
  - **EARLY ADVANCED LIFE SUPPORT**

ALLEN KEE

Any player can have a heart attack or suffer sudden abnormal rhythm or stoppage of his heart because of existing medical conditions. If a coach has an automated external defibrillator on site and is trained in lifesaving CPR and defibrillation skills, he may be able to save a player's life.

There are two general types of cardiac emergencies—emergencies where the heart doesn't function properly, depriving the heart muscle

CONTINUED ON PAGE 30

# CPR

To ADMINISTER CPR, FIRST FOLLOW THE EMERGENCY ACTION STEPS, CHECK-CALL-CARE. CALL, OR HAVE SOMEONE CALL 9-1-1 OR THE LOCAL EMERGENCY NUMBER IMMEDIATELY.

- IF THE PLAYER DOES NOT HAVE NORMAL BREATHING, OR YOU CANNOT TELL, REMOVE THE FACEMASK. IF YOU DO NOT SUSPECT AN INJURY TO THE HEAD, NECK, OR BACK, OPEN THE AIRWAY BY TILTING THE HEAD BACK AND RECHECK FOR BREATHING FOR APPROXIMATELY 5 SECONDS. USING A BREATHING BARRIER, MAKE A SEAL OVER THE PLAYER'S MOUTH AND NOSE, THEN GIVE 2 SLOW BREATHS. EACH BREATH SHOULD MAKE THE PLAYER'S CHEST GENTLY RISE AND FALL.
- CHECK FOR SIGNS OF CIRCULATION FOR NO MORE THAN 10 SECONDS. SIGNS OF CIRCULATION INCLUDE COUGHING OR MOVEMENT IN RESPONSE TO RESCUE BREATHS.
- IF THERE ARE SIGNS OF CIRCULATION, CONTINUE RESCUE BREATHING AS NEEDED BY GIVING 1 BREATH EVERY 5 SECONDS.
- IF THERE ARE NO SIGNS OF CIRCULATION, BEGIN CPR:
  - FIND YOUR HAND POSITION IN THE CENTER OF THE CHEST, OVER THE BRESTBONE;
  - POSITION YOUR SHOULDERS DIRECTLY OVER YOUR HANDS. WHILE KEEPING YOUR ARMS STRAIGHT, COMPRESS THE PLAYER'S CHEST TO A DEPTH OF ABOUT 2 INCHES 15 TIMES IN ABOUT 10 SECONDS;
  - GIVE 2 SLOW BREATHS;
  - DO 3 MORE STEPS OF 15 COMPRESSIONS AND 2 BREATHS;
- RECHECK FOR SIGNS OF CIRCULATION FOR NO MORE THAN 10 SECONDS;
- IF THERE ARE NO SIGNS OF CIRCULATION, CONTINUE GIVING SETS OF 15 COMPRESSIONS AND 2 BREATHS, RECHECKING EVERY FEW MINUTES.
- REPEAT THIS CYCLE UNTIL EMS PERSONNEL ARRIVE AND TAKE OVER OR AN AED ARRIVES AND IS READY TO BE USED.
- THE ONLY INSTANCE IN WHICH AN ATHLETE'S HELMET SHOULD BE REMOVED IS WHEN A MEDICAL AUTHORITY BELIEVES IT IS NECESSARY FOR THE CARE OF THE ATHLETE OR IF THE EQUIPMENT INTERFERES WITH THE RESCUER'S ABILITY TO PROVIDE REQUIRED CPR.
  - REMOVE THE HELMET BY OPENING THE STRAPS AND PULLING THEM DIRECTLY BACKWARD. OBTAIN AVAILABLE ASSISTANCE TO MINIMIZE NECK MOVEMENT AND MAINTAIN THE NECK IN A NEUTRAL POSITION (LEVEL WITH THE HEIGHT OF THE SHOULDERS).
  - AFTER THE HELMET IS REMOVED, KEEP THE NECK IN A NEUTRAL POSITION BY MANUAL SUPPORT OR BY PLACING TOWELS OR CLOTHING UNDER THE HEAD. IF THE SHOULDER PADS MUST BE MANIPULATED TO PROVIDE CHEST COMPRESSIONS, DO SO WITH THE MINIMAL REQUIRED MOVEMENT. MAINTAIN MAXIMUM CONTROL OF THE NECK AND OPEN AND MOVE THE SHOULDER PADS ONLY AS MUCH AS IS REQUIRED TO PROVIDE EFFECTIVE CHEST COMPRESSIONS.

**NOTE: THIS INFORMATION IS NOT INTENDED TO REPLACE FORMAL FIRST AID AND CPR TRAINING GIVEN IN A COURSE SUCH AS THE AMERICAN RED CROSS SPORT SAFETY TRAINING COURSE. COACHES ARE ENCOURAGED TO CONTACT THEIR LOCAL CHAPTER OF THE AMERICAN RED CROSS TO ENROLL IN A SPORT SAFETY TRAINING, FIRST AID, CPR, OR AED COURSE.**

of much needed oxygen and causing chest pain or discomfort (heart attack), and emergencies where the heart doesn't function effectively as a pump resulting from an abnormal rhythm or no rhythm at all (cardiac arrest).

### HEART ATTACK

Most people who die of heart attacks die within two hours after the first signals appear. Many lives are lost because people deny they are having a heart attack and delay calling for help. **Recognizing the signals of a heart attack and calling 9-1-1 or the local emergency number before the heart stops are critical steps to saving lives.**

#### SIGNALS

- Chest pain or discomfort lasting more than 3-5 minutes or that goes away and comes back. The pain is not relieved by rest, changing position, or medication. The pain may spread to shoulder, arm, back, neck, or jaw.
- Trouble breathing. Breathing is often faster than normal. The person feels short of breath.
- Nausea
- Sweating or changes in skin appearance
- Dizziness or unconsciousness
- Ache, heartburn, or indigestion. These signals are more likely to occur in women, the elderly, and diabetics.

#### TO PROVIDE IMMEDIATE CARE FOR A HEART ATTACK:

- Have the athlete stop activity and rest
- Help the athlete rest in a comfortable position. A sitting position may make breathing easier.
- Loosen restrictive clothing
- Assist with prescribed medication
- Monitor breathing and movement closely
- Be prepared to give cardiopulmonary resuscitation (CPR) and use an automated external defibrillator (AED), if available, if the athlete loses consciousness, shows no movement, or shows no evidence of breathing or the presence of a pulse.

### HEART FUNCTION ARREST

This can be caused by underlying heart disease, severe injuries, or abnormalities of electrical conduction of the heart.

#### SIGNALS

- Loss of consciousness as defined by lack of response to verbal questions or commands.
- No breathing and no pulse noted.

When responding to a cardiac emergency, a coach or responder should activate the Emergency Action Plan and follow the emergency action steps, Check-Call-Care.

#### TO PROVIDE IMMEDIATE CARE FOR HEART FUNCTION ARREST:

If the athlete loses consciousness, shows no movement, or shows no evidence of breathing or the presence of a pulse:

- Initiate CPR.
- Use AED, if available.

### AED AND SUDDEN CARDIAC ARREST

An AED is a small, portable device that automatically analyzes a heart rhythm, and, if necessary, prompts a trained responder to deliver a life-saving shock to restore a heart's normal rhythm. To use an AED, the responder attaches an electrode pad on the upper right side and another on the lower left side of the injured player's chest. If the device identifies a rhythm that should be defibrillated, the responder is prompted with either an on-screen message or by voice message. The AED will analyze the heart rhythm, charge to the appropriate energy level, and advise when the shock is needed. Any time an AED is analyzing the rhythm, charging to a specific energy level, or administering a shock, the responder and others must not be in contact with the injured player.

### CARDIAC CHAIN OF SURVIVAL

The greatest chance of survival from inadequate cardiac function or arrest occurs when the following sequence of events happens as rapidly as possible:

- **EARLY RECOGNITION AND EARLY ACCESS.** The sooner 9-1-1 or the local emergency number is called, the sooner early advanced life support arrives.
- **EARLY CPR.** Early CPR helps circulate blood that contains oxygen to the vital organs until an AED, if available, is ready to use or emergency personnel arrive.
- **EARLY DEFIBRILLATION.** Most injured players who sustain sudden cardiac arrest need an electric shock to the heart called defibrillation. Each minute that defibrillation is delayed reduces chances of survival by about 10 percent.
- **EARLY ADVANCED LIFE SUPPORT.** This is given by trained medical personnel who provide further care and transport to hospital facilities. It is a necessary addition to CPR and is the reason for an immediate call to EMS.

# RESPONDING TO BREATHING PROBLEMS

RESCUE BREATHS AND ABDOMINAL THRUSTS SAVE LIVES DURING BREATHING EMERGENCIES.

## WHAT COACHES SHOULD KNOW



- **IN DEALING WITH BREATHING EMERGENCIES, A COACH OR RESPONDER SHOULD ACTIVATE THE EMERGENCY ACTION PLAN AND FOLLOW THE EMERGENCY ACTION STEPS, CHECK-CALL-CARE. CHECK THE SCENE FOR SAFETY AND CHECK THE ATHLETE, CALL 9-1-1 OR THE LOCAL EMERGENCY NUMBER WHEN NEEDED, AND CARE FOR THE PLAYER UNTIL EMS PERSONNEL ARRIVE.**
- **IF A PLAYER IS CONSCIOUS AND CHOKING, A COACH OR TEAMMATE SHOULD TRY TO DISLODGE THE OBJECT BY PERFORMING ABDOMINAL THRUSTS UNTIL THE OBJECT IS REMOVED.**
- **IN DEALING WITH RESPIRATORY ARREST, A COACH OR RESPONDER PROVIDES CARE BY PERFORMING RESCUE BREATHING.**
- **COACHES NEED TO MAKE SURE ASTHMA SUFFERERS HAVE THEIR MEDICATION, WHICH ALLOWS THEM TO BREATHE EASIER.**
- **TO LEARN HOW TO HANDLE BREATHING AND OTHER LIFE-THREATENING EMERGENCIES, CONTACT YOUR LOCAL AMERICAN RED CROSS AND ENROLL IN A FIRST AID, CPR, AND AUTOMATED EXTERNAL DEFIBRILLATOR COURSE.**

## TO PERFORM ABDOMINAL THRUSTS

- **STAND BEHIND THE INJURED PLAYER AND WRAP YOUR ARMS AROUND HIS OR HER WAIST.**
- **MAKE A FIST WITH ONE HAND AND PLACE THE THUMB SIDE AGAINST THE MIDDLE OF THE INJURED PLAYER'S ABDOMEN JUST ABOVE THE NAVEL AND WELL BELOW THE LOWER TIP OF THE BREASTBONE.**
- **GRAB YOUR FIST WITH YOUR OTHER HAND AND GIVE QUICK UPWARD THRUSTS INTO THE ABDOMEN.**
- **REPEAT THESE THRUSTS UNTIL THE OBJECT IS DISLODGED OR THE INJURED PLAYER BECOMES UNCONSCIOUS.**
- **IF THE PLAYER IS UNCONSCIOUS, LOOK FOR AN OBJECT IN THE AIRWAY AND, IF FOUND, REMOVE IT. IF FOUND OR NOT FOUND, CONTINUE RESCUE BREATHING.**



JC RIDLEY

Competing in a football game is an intense time for a player eager to win. Players may be overly anxious and aggressive. While feeling this way, some athletes may want to make a big play at all costs and may not be mindful of safety hazards. For example, a player may tackle an opponent with such force that it knocks the wind out of that person or causes respiratory arrest. Coaches need to act immediately to deal with breathing complications and other respiratory emergencies that may occur.

When responding to an emergency, a coach or responder should activate the Emergency Action Plan and follow the emergency action steps, Check-Call-Care. **CHECK** the scene for safety and check the athlete, **CALL 9-1-1** or the local emergency number when needed, and **CARE** for the player until EMS personnel arrive. Respiratory arrest can be the result of an injury to a player or an illness. If the player is not breathing, the responder should provide care by giving rescue breaths immediately.

**SIGNALS OF STOPPED BREATHING INCLUDE:**

- Cannot see, feel, or hear breaths.
- Chest does not move.
- Skin appears ashen, bluish, or pale.

**IF THE ATHLETE IS NOT BREATHING:**

- ❶ Remove the facemask.
- ❷ Carefully tilt the head back trying to maintain a

neutral neck position (neck in line with shoulders) and lift the chin. If an injury is suspected, do not lift the chin, rather pull jaw forward making all efforts to stabilize the neck. By employing this jaw thrust maneuver you will have done everything to keep the neck in a neutral position.

- ❸ Look, listen, and feel for breathing for about five seconds.
- ❹ Be alert to special circumstances such as back or neck injury.
- ❺ Using a breathing barrier, make a seal over the player's mouth and nose, then give 2 slow breaths. Each breath should make the player's chest gently rise and fall.
- ❻ Give two slow breaths until the chest gently rises. If the breath does not go in, check for airway obstruction.
- ❼ Check for signs of circulation for no more than 10 seconds. If signs of circulation are present, and the athlete is not breathing, continue rescue breathing. If signs of circulation are not present, begin CPR (see page 29).
- ❽ The only instance in which an athlete's helmet and shoulder pads should be removed is when a medical authority believes it is necessary for the care of the athlete or if the equipment interferes with the rescuer's ability to provide required CPR. Remove the helmet by opening the straps and pulling directly backward. Obtain available assistance to minimize neck movement and to maintain the neck in a neutral position (level with the height of the shoulders). After the helmet is removed, keep the neck in a neutral position by manual support or placing towels or clothing under the head. If the shoulder pads must be manipulated to provide chest compression, do so with minimal required movement. Maintain maximum control of the neck and open and move the shoulder pads only as much as is required to provide effective chest compression.

**IF THE AIRWAY IS OBSTRUCTED:**

Another breathing difficulty is airway obstruction, which is caused when an object blocks the airway. A coach or teammate should try to dislodge the object by performing abdominal thrusts, also known as the Heimlich maneuver, until the object is removed. To perform abdominal thrusts, stand behind the injured player and wrap your arms around his or her waist. Make a fist with one hand and place the thumb side against the middle of the injured player's abdomen just above the navel and

well below the lower tip of the breastbone. Grab your fist with your other hand and give quick upward thrusts into the abdomen. Repeat these thrusts until the object is dislodged or the injured player becomes unconscious.

**IF THE INJURED PLAYER WITH AN OBSTRUCTED AIRWAY BECOMES UNCONSCIOUS:**

- ❶ Remove the facemask.
- ❷ With the athlete positioned on his back, carefully tilt the head back, trying to maintain a neutral neck position (neck in line with shoulders), lift the chin. If an injury is suspected, do not lift the chin, rather pull jaw forward making all efforts to stabilize the neck. By employing this jaw thrust maneuver you will have done everything to keep neck in a neutral position.
- ❸ Using a breathing barrier, make a seal over the player's mouth and nose, then give 2 slow breaths. Each breath should make the player's chest gently rise and fall.
- ❹ If the athlete's chest does not rise as you attempt to give breaths, retilt the head or pull the jaw forward if a neck injury is suspected and try rescue breaths.
- ❺ If the chest does not rise, perform abdominal thrusts with the unconscious player lying flat. Place the heel of one hand on the middle of the abdomen just above the navel. Place the other hand on top of the first. Give five quick upward thrusts. To learn this skill, please enroll in an American Red cross CPR for the Professional Rescuer course.
- ❻ Open the mouth and observe for an object causing obstruction. If this object is found, remove it. **If an object is not found, or is not present, resume giving two slow breaths.** If the breaths go in and the athlete has a pulse, **resume rescue breathing.** If the athlete shows no signs of circulation, begin full CPR (see page 29). If the breath does not go in, repeat two slow breaths and then abdominal

thrusts. Open the mouth again and look for an object. If an object is seen, remove it and resume rescue breathing. Maintain that sequence of two slow breaths two times, followed by abdominal thrusts and opening the mouth to look for an object until Emergency Medical Staff arrives.

**OTHER BREATHING DIFFICULTIES:**

Not all breathing difficulties are the result of an accident or airway obstruction. Some players have medical conditions, such as asthma, that cause breathing problems. Overexertion can also trigger a player to hyperventilate. In dealing with asthma and hyperventilation, simple measures return a player's breathing to normal. Asthma sufferers generally need their medication, which reverses the muscle spasm that narrows their air passage and allows them to breathe easier. Coaches have to pay close attention to players with this condition and make sure parents have inhalers available for their children at all times.

Unlike asthma, hyperventilation is generally the result of emotional stress that causes the breathing to become rapid and shallow. Coaches treating players who are hyperventilating need to calm the person down. Easing stress will generally help breathing return to normal. A player who has "had the wind knocked out of him" should be treated like the player who is hyperventilating. A player in this situation may not know what is happening to him and could begin to panic and hyperventilate. It is important to allow the player to rest and attempt to ease his stress so that his breathing may return to normal. The old practice of pulling on the athlete's belt and lifting his back should not be used.

Respiratory emergencies may occur to an athlete on the field as easily as a sprained ankle. When this happens, players and coaches need to know the drill. The team and the coaches should stay calm during intense situations and know how to provide appropriate care, such as abdominal thrusts and rescue breathing. Those simple actions can save lives.

**MORE READING**

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

American National Red Cross. (2001). *Breathing emergencies. Emergency response.* San Bruno, CA: StayWell.  
American National Red Cross and the United States Olympic Committee. (1997). *Sport safety training handbook.* San Bruno, CA: StayWell.

# CONCUSSIONS IN SPORTS

MICHAEL D. GOODLETT, M.D., LAWRENCE J. LEMAK, M.D.

RECOGNIZE THE SIGNS AND SYMPTOMS OF A CONCUSSION. WHEN IN DOUBT, SIT THEM OUT!

## WHAT COACHES SHOULD KNOW



- A CONCUSSION IS ANY CHANGE IN AN ATHLETE'S BEHAVIOR, AWARENESS, AND/OR PHYSICAL FEELINGS CAUSED BY A DIRECT OR INDIRECT BLOW TO THE HEAD.
- ANY CONCUSSION HAS THE POTENTIAL TO BE A SERIOUS INJURY.
- BEFORE LETTING AN ATHLETE GO BACK TO PLAY, A CONCUSSION SHOULD BE EVALUATED BY A DOCTOR.
- AN ATHLETE SHOULD NEVER RETURN TO PLAY WHILE EXHIBITING ANY SIGNS OR SYMPTOMS OF A CONCUSSION EITHER AT REST OR WITH EXERTION. WHEN IN DOUBT, SIT THEM OUT!
- THERE IS AN INCREASED RISK OF SUFFERING SUBSEQUENT CONCUSSIONS AFTER A FIRST CONCUSSION.
- ANY HEAD INJURY ASSOCIATED WITH LOSS OF CONSCIOUSNESS MUST BE TREATED AS A SUSPECTED HEAD, NECK, OR BACK INJURY.
- THE ONLY INSTANCES IN WHICH AN ATHLETE'S HELMET AND SHOULDER PADS SHOULD BE REMOVED IS WHEN A MEDICAL AUTHORITY BELIEVES THAT IT IS NECESSARY FOR THE CARE OF THE ATHLETE, OR IF THE EQUIPMENT INTERFERES WITH THE RESCUERS' ABILITY TO PROVIDE REQUIRED CPR.
- IF NECESSARY TO PROVIDE CARE FOR LIFE-THREATENING CONDITIONS, IT IS RECOMMENDED THAT THE FACEMASK BE REMOVED RATHER THAN THE WHOLE HELMET. A TOOL TO REMOVE THE FACEMASK SHOULD BE IN THE FIRST AID KIT.
- FOR ANY HEAD INJURY, ACTIVATE THE EMERGENCY ACTION PLAN AND FOLLOW THE EMERGENCY ACTION STEPS, **CHECK-CALL-CARE.**

When a player is hit, he may receive a blow to the head and become unconscious or demonstrate changes in behavior. If the player regains consciousness, seems to be alert and oriented, and is eager to play, a coach may feel the player is fully recovered and allow him back into the game or practice. However, the player has suffered a concussion. Failure to recognize a concussion can potentially lead to coma and death particularly if a second impact occurs. Coaches need to be aware of the signs of concussions and treat the situation properly.

Concussions are caused by a force being transmitted to the head. The force may be caused by any direct or indirect hit to the head or body and can cause changes in behavior, awareness, or physical feeling in the injured person. Concussions often go unrecognized by coaches because they are underreported by athletes who want to continue competing. Athletes often will minimize or deny symptoms. Maintaining a high level of suspicion and having some knowledge of the individual athlete's personality helps coaches in early detection of the signals of concussion. This awareness can prevent additional concussive injury, potential long-term brain damage, or other possible catastrophic outcomes.

#### ON-THE-FIELD EVALUATIONS

If there is a forceful blow to the head, with or without loss of consciousness, the coach should suspect a head injury and also be concerned that the neck or back has been injured. When caring for the player on the field, tell him not to nod or shake his head during the assessment, but to say yes or no. The player's helmet should also be left in place. The goal is to minimize movement. If the head impact has caused the player to become unconscious or show the signs of concussion listed below, activate the Emergency Action Plan and follow the emergency action steps, **CHECK-CALL-CARE**. **CHECK** the scene for safety and check the ill or injured athlete, **CALL** 9-1-1 or the local emergency number when needed, and **CARE** for the injured player until EMS personnel arrive.

#### TO CARE FOR SERIOUS INJURIES TO THE HEAD, NECK, AND BACK:

- Follow basic precautions to prevent disease transmission (see page 26).
- Minimize movement of the player's head, neck, and back by putting your hands on both sides of the player's helmet or head. Maintain an

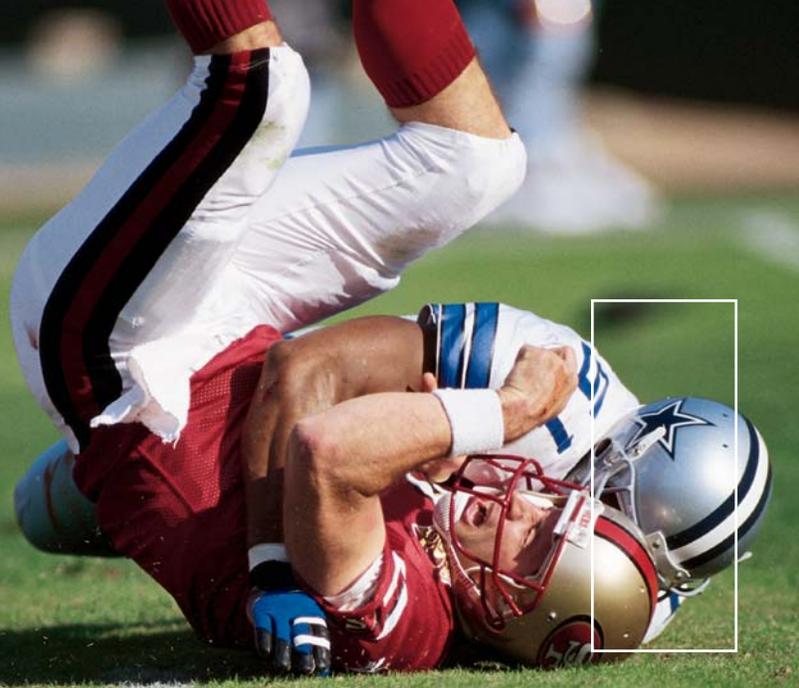
open airway using a jaw-thrust maneuver. Have the player remain in the position that you found him until EMS personnel arrive and take over.

- Monitor the player's airway, breathing, and circulation.
- If life-threatening symptoms are present, it is recommended that the facemask of the athlete's helmet be removed, rather than removing the entire helmet. This will allow access to an airway should the athlete stop breathing.
- A tool for removing the facemask should be in the team's first aid kit.
- The coach should evaluate the symptoms listed below if he suspects a player may have a concussion requiring immediate care.
- **The only instance in which an athlete's helmet and shoulder pads should be removed is when a medical authority believes that it is necessary for the care of the athlete, or if the equipment interferes with the rescuers' ability to provide CPR.**
- Symptoms that require immediate activation of the Emergency Action Plan and immediate removal to a medical facility are:
  - period of unconsciousness;
  - confusion, disorientation to time and place;
  - severe headache or vomiting;
  - appears sleepy, pale, and is sweating;
  - blurred vision, slurred speech, and muscle weakness;
  - neck pain.

#### CHECKING FOR CONCUSSION

If the player is removed from the field after receiving a head impact, it is important to continue evaluating the player every five minutes for at least 30 minutes.

- ① Look at the facial expression of the athlete.
  - Does the athlete have a vacant stare or a confused facial expression?
- ② Check the athlete's behavior.
  - Is the athlete easily distracted or slow to answer questions or follow directions?
  - Does the athlete display unusual emotional reactions, such as crying or laughing?
  - Does the athlete have a headache or complain of nausea?
  - Is the athlete irritable and easily frustrated?
  - Does the athlete appear unusually anxious or depressed?
  - Does the athlete appear sleepy?



NFL/PAUL SPINELLI

Medical attention is required if the athlete's expression, behavior, or memory is affected. Attention should be immediate if symptoms show a deteriorating situation. When an athlete has had a concussion, he should not be allowed to return to the current game or practice, and should not be left alone. Medical evaluation following the concussion is required before a return to participation is permitted.

### POSTCONCUSSION SYNDROME

After a player is removed from the field, he may develop symptoms of postconcussion syndrome. This can occur immediately after the injury or many hours or days later. Symptoms of postconcussion syndrome include:

- Blurred vision
- Fatigue
- Ringing in the ears
- Trouble falling asleep
- Dizziness
- Sleeping more or less than usual
- Headache
- Increased sensitivity to light and noise
- Nausea and vomiting
- Feeling more emotional than normal
- Poor coordination or balance
- Difficulty concentrating
- Increased irritability
- Difficulty remembering
- Slurred speech
- Feeling dazed or stunned
- Seeing stars or flashing lights
- Having double vision.

A physician may conduct neuropsychological testing or neuroimaging to assess exactly when the athlete has recovered from a concussion. No athlete should go back to play before being free of all symptoms and signs, both at rest and during exertion, and a physician has indicated the player is ready to return to competition.

- Does the athlete have significantly decreased playing ability from earlier in the contest?
- ③ Check the athlete's orientation and memory.
  - Is the athlete aware of the time of day and date?
  - Is the athlete generally confused?

### QUESTIONS TO ASK

- Which quarter or period is it?
- Where are we? Which field or arena?
- Which team are we playing?
- Which side scored the last points?
- Which team did the athlete play in the last game?
- Did the athlete's team win or lose in the last game?
- ④ Check for posttraumatic amnesia (the athlete's ability to remember events after the injury).
  - Ask the athlete how he got injured?
  - Ask the athlete the first thing he remembers after the injury?
  - Ask the last thing the athlete remembers before the injury?

## MORE READING

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

American National Red Cross and the United States Olympic Committee. (1997). *Sport safety training handbook*. San Bruno, CA: StayWell.

Aubry, M. et al. (2002). Summary and agreement statement of the first international symposium on concussion in sports. *Clinical Journal of Sports Medicine*. 12, 6-11.

Leclerc, S., et al. (2000/2001). Retrieved from the Pashby Sports Safety Fund Concussion Website at <http://www.concussion.safety.com>. *NCAA Sports Medicine Handbook*.

# DEALING WITH HEAD, NECK, AND BACK INJURIES

KNOWING THE PROPER APPROACH FOR HEAD, NECK, AND BACK INJURIES HELPS PREVENT IRREVERSIBLE HARM.



## WHAT COACHES SHOULD KNOW

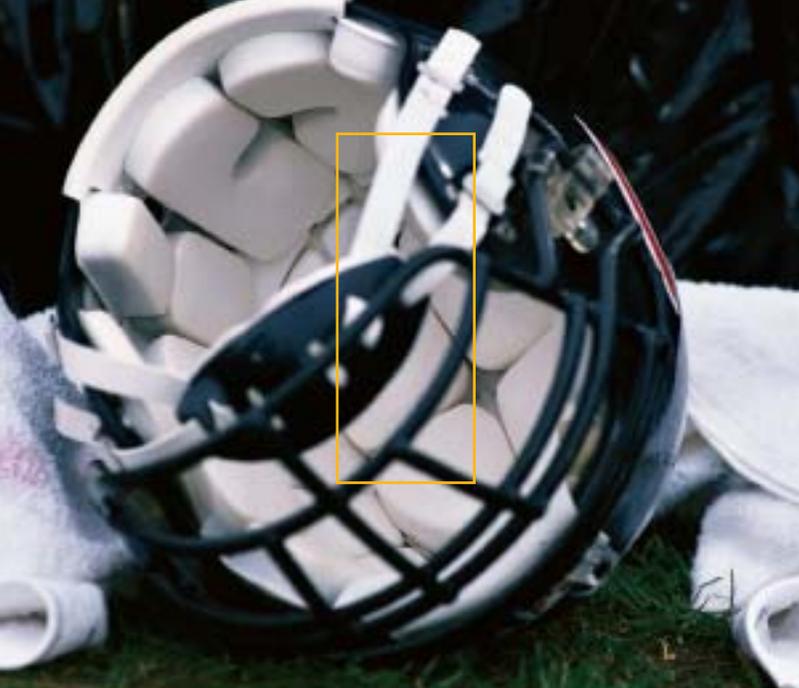
- A COACH SHOULD SUSPECT A HEAD, NECK, OR BACK INJURY IF THE PLAYER IS UNCONSCIOUS AFTER BEING TACKLED, OR THE HELMET HAS BEEN BROKEN.
- ACTIVATE THE EMERGENCY ACTION PLAN AND FOLLOW THE EMERGENCY ACTION STEPS, CHECK-CALL-CARE.
- A PLAYER WITH A HEAD, NECK, OR BACK INJURY MAY HAVE TENDERNESS IN THE INJURED AREA OR PAIN WHEN TRYING TO MOVE.
- THE INJURED PLAYER MAY ALSO HAVE NUMBNESS, WEAKNESS, TINGLING IN THE ARMS OR LEGS, DIFFICULTY BREATHING, OR LOSS OF BLADDER OR BOWEL CONTROL.

### FACEMASK REMOVAL

A PLAYER WHO HAS SUSTAINED A SIGNIFICANT HEAD, NECK, OR SPINE INJURY SHOULD HAVE THE FACEMASK REMOVED WITH A SPECIAL TOOL WHILE THE HEAD IS STABILIZED. THE ONLY INSTANCES IN WHICH AN ATHLETE'S HELMET AND/OR SHOULDER PADS SHOULD BE REMOVED IS WHEN A MEDICAL AUTHORITY BELIEVES IT IS NECESSARY FOR THE CARE OF THE ATHLETE OR IF THE EQUIPMENT INTERFERES WITH THE RESCUERS' ABILITY TO PROVIDE REQUIRED CPR.

### CARING FOR INJURIES TO THE HEAD, NECK, OR BACK:

- FOLLOW BASIC PRECAUTIONS TO PREVENT DISEASE TRANSMISSION.
- MINIMIZE MOVEMENT OF THE INJURED PLAYER'S HEAD, NECK, AND BACK BY PUTTING YOUR HANDS ON BOTH SIDES OF THE INJURED PLAYER'S HEAD. MAINTAIN AN OPEN AIRWAY USING A JAW-THRUST MANEUVER. HAVE THE INJURED PLAYER REMAIN IN THE POSITION THAT YOU FOUND HIM OR HER UNTIL EMS PERSONNEL ARRIVE AND TAKE OVER.
- MONITOR THE INJURED PLAYER'S AIRWAY, BREATHING, AND CIRCULATION.



BRUCE DIERDORFF

ing, or persistent headache and bruising of the head, especially around the eyes or behind the ears. Additional signals of back or neck injuries include seizures in an athlete who does not have a seizure disorder; loss of sensation in the hands, fingers, feet or toes; and partial or complete loss of movement of any body part.

If you suspect that a player has a head, neck, or back injury, tell him not to nod or shake his head when asked questions, but to say yes or no. The goal is to minimize movement. Activate the Emergency Action Plan and follow the emergency action steps, **CHECK-CALL-CARE**. **CHECK** the scene for safety and check the injured athlete, **CALL 9-1-1** or the local emergency number if needed, and **CARE** for the injured player until EMS personnel arrive.

To care for injuries to the head, neck, and back, first follow basic precautions to prevent disease transmission. Minimize movement of the player's head, neck, and back by putting your hands on both sides of the player's helmet. Remove the face-mask if the player displays breathing difficulty, pallor, or diminishing responsiveness. Maintain an open airway using a jaw-thrust maneuver. Have the player remain in the position that you found him until EMS personnel arrive and take over.

The only instance in which an athlete's helmet and shoulder pads should be removed is when a medical authority believes that it is necessary for the care of the athlete, or if the equipment interferes with the rescuers' ability to provide required CPR.

If a player is standing with a suspected head, neck, or back injury, do not have him sit or lie down. Immobilize the player's head by putting your hands on both sides of the head or helmet. If the player complains of dizziness or begins to lose consciousness, slowly lower the player to the ground while keeping his or her head in line with the body. Have the player remain in this position until EMS personnel arrive and take over. If the player appears to be seriously injured, remove the face mask with a special tool to allow access for rescue breathing. Always monitor the player's airway, breathing, and circulation to help prevent damage or further harm.

Though football players may be prepared to handle hard contact during play, accidents do occur that can cause head, neck, and back injuries. The coach and team need to know how to recognize these injuries and how to stabilize them until professional medical help arrives.

The spine is a strong, flexible column of vertebrae extending from the base of the skull to the tip of the tailbone. It supports the head and trunk while protecting the spinal cord. A coach should suspect a head, neck, or back injury if the player is unconscious after being tackled, the helmet has been broken, or if the player complains of pain or a tingling sensation in the head, neck, or back. With severe injuries, the vertebrae may shift and compress or sever the spinal cord, which can cause temporary or permanent paralysis, even death.

A player with a head, neck, or back injury may have tenderness in the injured area or pain when trying to move. The player may have pain even if he is not touched or does not try to move. He may also have numbness, weakness, tingling in the arms or legs, difficulty breathing, or loss of bladder or bowel control. Other symptoms include: blood or other fluids draining from the ears or nose, heavy external bleeding from the head, impaired breathing or vision as a result of the injury, nausea, vomit-

## MORE READING

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

American National Red Cross. (2001). *Emergency response*. San Bruno, CA: StayWell.

# HELMET REMOVAL

LAWRENCE J. LEMAK, M.D., CHRIS A. GILLESPIE, M.Ed., ATC, LAT

**NEVER REMOVE AN INJURED PLAYER'S HELMET UNLESS DIRECTED TO DO SO BY A MEDICAL AUTHORITY OR TO PROVIDE LIFESAVING CARE.**



## WHAT COACHES SHOULD KNOW

- A COACH SHOULD SUSPECT A HEAD, NECK, OR BACK INJURY IF THE PLAYER IS UNCONSCIOUS AFTER BEING TACKLED OR HIT, OR THE HELMET HAS BEEN CRACKED OR BROKEN.
- IF A HEAD, NECK, OR BACK INJURY IS SUSPECTED, ACTIVATE THE EMERGENCY ACTION PLAN AND FOLLOW THE EMERGENCY ACTION STEPS, CHECK-CALL-CARE.
- EXCEPT IN RARE INSTANCES, THE HELMET AND SHOULDER PADS OF AN INJURED ATHLETE SHOULD NOT BE REMOVED. AN INJURED ATHLETE CAN MOST OFTEN BE CARED FOR WITH THE HELMET AND SHOULDER PADS LEFT ON.
- IT IS RECOMMENDED THAT ONLY THE FACEMASK BE REMOVED. A TOOL TO REMOVE THE FACEMASK SHOULD BE IN THE FIRST AID KIT.
- EXAMINATIONS AND TRANSPORTATION BY MEDICAL PERSONNEL CAN TAKE PLACE WITH THE HELMET AND SHOULDER PADS LEFT IN PLACE.
- THE ONLY INSTANCE IN WHICH AN ATHLETE'S HELMET AND SHOULDER PADS SHOULD BE REMOVED IS WHEN A MEDICAL AUTHORITY BELIEVES THAT IT IS NECESSARY FOR THE CARE OF THE ATHLETE, OR IF THE EQUIPMENT INTERFERES WITH THE RESCUERS' ABILITY TO PROVIDE REQUIRED CPR.

**FOR INJURIES TO THE HEAD, NECK, AND BACK  
MINIMIZE MOVEMENT OF THE PLAYER'S HEAD, NECK, AND BACK BY  
PUTTING YOUR HANDS ON BOTH SIDES OF THE PLAYER'S HEAD.  
MAINTAIN AN OPEN AIRWAY USING THE JAW-THRUST MANEUVER.  
IF POSSIBLE, HAVE THE PLAYER REMAIN IN THE POSITION THAT YOU  
FOUND HIM OR HER UNTIL EMS PERSONNEL ARRIVE AND TAKE OVER.**

A football player who sustains a suspected spinal injury should have his helmet left on until both the helmet and shoulder pads can be carefully removed together in a hospital emergency room under controlled stabilized conditions by a professional medical staff. Removing an injured athlete's helmet and/or shoulder pads carries the inherent risk of further injury. The primary reason to remove an athlete's helmet and shoulder pads is if a medical authority believes that its removal will enhance the care of the athlete or if it interferes with the rescuers' ability to provide required CPR.

The most devastating injuries in all of sport are to the head, neck, or back. If the athlete is cared for in the proper manner, one may prevent further injury or death. It is critical that all individuals involved in sports be trained to know what to do should this type of injury occur.

**The helmet and shoulder pads of an injured athlete should not be removed** until a head, neck, or back injury has been completely ruled out by a medical authority, or if the equipment interferes with the rescuers' ability to provide required CPR. If a head, neck, or back injury is suspected, an athlete should be cared for with the equipment left in place.

If you suspect a player has a head, neck, or back injury, tell him not to nod or shake his head but to answer questions by saying yes or no. The goal is to minimize movement. Activate the Emergency Action Plan, and follow the emergency action steps, **CHECK-CALL-CARE**. **CHECK** the scene for safety and check the athlete. **CALL 9-1-1** or the local emergency number when needed. **CARE** for the player until EMS personnel arrive.

To care for injuries to the head, neck, and back:

- Follow basic precautions to prevent disease transmission (see page 26).
- Minimize movement of the player's head, neck, and back by putting your hands on both sides of the player's head. Maintain an open airway

using the jaw-thrust maneuver. If possible, have the player remain in the position that you found him until EMS personnel arrive and take over.

- Monitor the player's airway, breathing, and circulation.
- If the injury appears significant, remove the player's facemask with a special tool.

Medical examinations and ambulance transport can take place with the helmet and shoulder pads left in place. Having the helmet on may be an advantage in immobilizing and transporting the injured athlete because it may keep the athlete in an appropriate anatomical position.

Coaches should be able to remove the facemask of an injured athlete quickly and easily. While performing this task, the head, neck, and back must be supported so that no movement of the neck will occur. The removal of the facemask can be accomplished using several different tools. A coach should check with the team physician, certified athletic trainer, or emergency medical technician for advice on the best tool to be used in removing the facemask. In most cases, removing the facemask will give a responder access to the face and mouth of the injured athlete if CPR or rescue breathing becomes necessary.

**If removal of the helmet is necessary, loosen straps and pull directly backward. Obtain available assistance to minimize neck movement and to maintain the neck in a neutral position (level with the height of the shoulders). After the helmet is removed, keep the neck in the neutral position with manual support or by placing towels or clothing under the head. If the shoulder pads must be manipulated to provide chest compression do so carefully and with the least amount of movement. Maintain maximum neck control and move only as much as is required to provide effective chest compression.**

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# CARING FOR BRUISES AND ABRASIONS

RUSSELL L. ELLIS, M.D., LAWRENCE J. LEMAK, M.D.

ABRASION AND BRUISES ARE COMMON AND SIMPLE TO TREAT.



## WHAT COACHES SHOULD KNOW

### BRUISES

- A BRUISE CAN BE CAUSED BY BLUNT TRAUMA THAT IN TURN CAUSES BLEEDING UNDER THE SKIN.
- SOME BRUISES MAY OVERLIE INJURIES TO MUSCLES, LIGAMENTS, OR EVEN A BROKEN BONE.
- BRUISES SHOULD BE TREATED INITIALLY WITH COLD COMPRESSES OR ICE ALONG WITH ELEVATION OF THE AFFECTED AREA ABOVE THE LEVEL OF THE HEART.
- ALWAYS USE A BARRIER, SUCH AS LATEX OR VINYL GLOVES, WHEN THERE IS A CHANCE OF COMING INTO CONTACT WITH BLOOD OR OTHER BODILY FLUIDS.

### ABRASIONS

- ABRASIONS SHOULD BE CLEANED, KEPT MOIST WITH ANTIBIOTIC OINTMENT, COVERED BY A STERILE BANDAGE, AND WATCHED FOR SIGNS OF INFECTION.
- ABRASIONS CAN LEAD TO INFECTION. SIGNALS OF INFECTION INCLUDE:
  - REDNESS, SWELLING, AND WARMTH AROUND THE ABRASION
  - RED STREAKS EXTENDING AWAY FROM THE ABRASION TOWARD THE HEART
  - INCREASED OR THROBBING PAIN
  - FEVER



AL PEREIRA

compresses or ice along with elevation of the affected area above the level of the heart. This will decrease local bleeding and swelling. The affected body area should also be checked for a fracture, or a muscle or ligament tear. If swelling and pain are severe, a fracture should be suspected and the injury should be evaluated immediately by a physician.

With abrasions, there may be external bleeding and the skin may be scraped away. Abrasions are typically caused by friction between the skin and a rough surface. Players and coaches often refer to superficial abrasions as “strawberries.” The athletic trainer and/or the team physician should evaluate very large or deep abrasions.

A coach or responder should always use a barrier, such as latex or vinyl gloves, when there is a chance of coming into contact with blood or other body fluids. Clean an abrasion with warm soapy water immediately even if the incident occurs on artificial turf. If the injury is particularly dirty, a soft brush should be used to dislodge any imbedded particles. Keeping the injury moist with antibiotic ointment and covering with a sterile bandage helps it heal faster.

An abrasion should be observed over several days after the incident for signs of infection. The signs of infection include:

- Redness, swelling, and warmth around the abrasion
- Red streaks extending away from the abrasion toward the heart
- Increased or throbbing pain
- Fever

If any of these signals appear, consult a physician immediately.

Most bruises and abrasions are benign and do not require a visit to the physician, but coaches should be able to recognize them and know how to care for an injured player. They should also be able to recognize more serious associated injuries and seek prompt medical attention.

Though they are less serious injuries, bruises and abrasions are two of the most common injuries in sports. Most are not reported to the coach or athletic trainer unless they interfere with participation. They usually can be managed with simple measures, and the athlete may miss little if any time from the sport. Coaches can treat and protect their players from further injury.

Bruises are simply areas of bleeding trapped under the skin. When an area of bruising is caused by blunt force to the injured area, it is called a contusion. Bruises are often associated with falls or being struck by another object such as a helmet or football. This force causes the small blood vessels in the skin to burst and bleed into the soft tissue. The blood then gives the area its characteristic color that changes as the blood is reabsorbed.

Sometimes bruising is caused when a muscle or ligament is torn or a bone is fractured. In these cases, the bleeding is not caused by blunt force, but the appearance of the skin is basically the same. The bruised area is referred to as an ecchymosis. An area of ecchymosis can also happen for no apparent reason in people with bleeding disorders. Any player that has an area of ecchymosis or bruising should undergo prompt medical evaluation when it occurs for no reason or when a broken bone or muscle or ligament tear is suspected.

Bruises should be treated initially by applying cold

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# CARING FOR STRAINS, SPRAINS, DISLOCATIONS, AND FRACTURES

FOOTBALL COACHES MUST RECOGNIZE THE SIGNALS OF STRAINS, SPRAINS, DISLOCATIONS, AND FRACTURES AND KNOW HOW TO PROVIDE IMMEDIATE CARE.



## WHAT COACHES SHOULD KNOW

- USUALLY, ONLY A TRAINED MEDICAL PROFESSIONAL CAN TELL THE DIFFERENCE BETWEEN A STRAIN, SPRAIN, DISLOCATION, OR FRACTURE. IT IS NOT IMPORTANT TO KNOW WHAT KIND OF INJURY IT IS TO PROVIDE IMMEDIATE CARE.
- ACTIVATE THE EMERGENCY ACTION PLAN AND FOLLOW THE EMERGENCY ACTION STEPS, CHECK-CALL-CARE.
- PROVIDE IMMEDIATE CARE IN THE FOLLOWING MANNER:
  - AVOID ANY MOVEMENT OR ACTIVITY THAT CAUSES PAIN.
  - APPLY ICE OR A COLD PACK TO THE INJURED BODY PART FOR ABOUT 20 MINUTES TO CONTROL SWELLING AND REDUCE PAIN. TO PREVENT COLD INJURY, PLACE A TOWEL OR CLOTH BETWEEN THE SOURCE OF THE COLD AND SKIN.
  - SPLINT THE ARM OR LEG ONLY IF THE ATHLETE MUST BE MOVED OR TRANSPORTED AND IF YOU CAN DO SO WITHOUT CAUSING MORE PAIN AND DISCOMFORT TO THE ATHLETE.
  - TO MINIMIZE SHOCK, KEEP THE ATHLETE FROM GETTING CHILLED OR OVERHEATED.

## BRIEF INJURY DEFINITIONS

### **STRAIN:**

THE EXCESSIVE STRETCHING AND TEARING OF A MUSCLE, OR OF TENDON FIBERS.

### **SPRAIN:**

WHEN THE BONES THAT FORM A JOINT ARE FORCED BEYOND THEIR NORMAL RANGE OF MOTION AS A RESULT OF TEARING OF LIGAMENTS.

### **DISLOCATION:**

A DISPLACEMENT OR SEPARATION OF A BONE FROM ITS NORMAL POSITION AT A JOINT.

### **FRACTURE:**

A CRACKED OR BROKEN BONE.



BILL WOOD

Strains, sprains, dislocations, and fractures are common football injuries. Usually, only a trained medical professional can tell the difference between them. It is not important to know which kind of injury it is to provide immediate care.

### STRAINS

A strain is the excessive stretching and tearing of a muscle, or of tendon fibers. It is sometimes called a “muscle pull” or “tear.” Because tendons are tougher and stronger than muscles, tears usually occur in the muscle or where the muscle attaches to the tendon. In athletes who have not physically matured, which pertains to most high school athletes and younger players, a piece of bone may be pulled from the muscle attachment.

Generally, muscle strains occur when a player has not properly stretched before practice or a game. Muscles are also more susceptible to injury in a setting of prolonged intense activity. Good conditioning and common sense can help avoid muscle strain injuries. Most muscle strains are not severe, and a player can return to the same level of play after recovery. Though there are not any long-term effects, muscle strains must completely heal and be rehabilitated or they are likely to recur.

Stretching regimens and slow warm-up exercises have been shown to reduce the occurrence of muscle strain injuries. This allows the muscles,

tendons, and ligaments to adjust to increased intensity in activity levels. Muscles most commonly involved in strains are the hamstrings and quadriceps (thigh muscles) and gastrocnemius (calf muscle). If a severe strain is suspected, activate the Emergency Action Plan and contact EMS for the transport of the athlete to a medical facility.

### SPRAINS

A sprain usually results when the ligaments that hold the bones forming a joint are stretched too far or torn. The bones can then be forced beyond their normal range of motion. The more ligaments that are torn, and the more complete the tear, the more severe the injury. The sudden violent forcing of a joint beyond its limit can completely rupture ligaments and dislocate bones. Severe sprains may also involve a fracture of the bones that form the joint.

When dealing with young athletes, particularly between the ages of 8 and 15, coaches should be aware that severe sprains can result in avulsion fractures that involve the growth plate. This type of injury can have long-term effects.

Mild sprains, which only stretch the ligament fibers, generally heal quickly. The athlete may have only a brief period of pain or discomfort and return to activity with little or no soreness. For this reason, people often neglect sprains, and the joint is re-injured. The sprain must be allowed to heal and the area rehabilitated. Severe sprains or sprains that involve a fracture usually cause pain when the joint is moved or used, and are recognized as serious.

Often, a sprain is more disabling than a fracture. When the fractures heal, they usually leave the bone as strong as it was before. It is unlikely that a repeat break would occur at the same spot. On the other hand, once ligaments become stretched or torn, the joint may become less stable. A less stable joint makes the injured area more susceptible to reinjury.

The most common sprains in football occur at the ankle, knee, and shoulder joints. Coaches should be able to recognize signals of a sprain and provide the immediate care until a physician can examine the athlete. X-rays may be required to rule out a fracture or widening of the joint.

A physician should be consulted if the athlete:

- Has pain or significant bone tenderness at the site of the injury
- Is unable to bear weight

- Has diminished or increased range of motion
- Is unable to perform at a preinjury level.

If a severe sprain is suspected, activate the Emergency Action Plan and contact EMS for removal of the athlete to a hospital.

### DISLOCATIONS

A dislocation is a displacement or separation of a bone from its normal position at a joint. The injury requires immediate care, and if it goes unnoticed such as by slipping back into place, it may be incorrectly treated. Such a misdiagnosis can lead to long-term problems for the athlete. Therefore, it is important for a coach to be able to recognize the signals of this type of injury and get the athlete the appropriate treatment.

Dislocations are generally obvious because the joint appears deformed. The displaced bone end often causes an abnormal lump, ridge, or depression. Also, an injured person is unable to move a joint freely that is out of place.

Some dislocations tear the skin and become an open dislocation. If the skin is broken, a responder should place a clean bandage over the wound to keep it from becoming more contaminated. Open dislocations require immediate medical care. If any dislocation is suspected, activate the Emergency Action Plan and contact EMS for removal of the athlete to a medical facility.

### FRACTURES

Fractures are among the more serious injuries sustained in sports. The signals of a bone fracture can be easy to detect. Athletes often complain of hearing or feeling a “snap.” The most consistent complaint is tenderness or pain, usually localized to a specific area of the body. It is usually difficult for the person to move the injured part and not further damage the fracture. There may be bruising and swelling, although this may not occur immediately. In completely displaced fractures, there may be an obvious deformity.

#### CALL 9-1-1 OR THE LOCAL EMERGENCY

#### NUMBER FOR THE FOLLOWING SITUATIONS:

- Limb deformity.
- Moderate or severe swelling and discoloration.
- Feels or sounds like bones are rubbing together.
- “Snap” or “pop” was heard or felt at the time of injury.
- A fracture with an open wound on or around

the injury site (bone ends may or may not be visible).

- Inability to move or use the affected part normally.
- The injured area is cold and numb.
- The injury involves the head, neck, or back.
- The injured athlete has trouble breathing.
- The cause of the injury suggests that the injury may be severe.
- It is not possible to move the athlete safely or comfortably to a vehicle for transport to a hospital.

### COACHES’ RESPONSE

For strains, sprains, dislocations, and fractures, activate the Emergency Action Plan and follow the emergency action steps, **CHECK-CALL-CARE**. **CHECK** the scene for safety and check the athlete, **CALL** 9-1-1 or the local emergency number when needed, and **CARE** for the player until EMS personnel arrive. Immediate care should be provided in the following manner:

- Avoid any movement or activity that causes pain.
- Apply ice or a cold pack to the injured area for about 20 minutes to control swelling and reduce pain. To prevent cold injury, place a towel or cloth between the source of the cold and the skin.
- Splint the arm or leg only if the athlete must be moved or transported and if you can do so without causing more pain and discomfort to the athlete.
- To minimize shock, keep the athlete from getting chilled or overheated.

Splinting is a method of immobilizing an injured body part to keep it from moving. It may also help reduce pain, making the injured athlete more comfortable. Splint only if the athlete must be moved or transported and if you can do so without causing more pain and discomfort to the athlete.

The following guidelines should be followed when applying a splint or sling for immobilization:

- Immobilize an injury in the position you find it.
- Immobilize the joints above and below an injured bone.
- Immobilize the bones above and below an injured joint.

Check for warmth and color of the skin below the site of the injury before and after splinting. Make sure that circulation has not been restricted by



AL MESSERSCHMIDT

applying the splint too tightly. Loosen the splint if the athlete complains of numbness or if the limb turns blue or cold.

Because in most cases only a trained medical professional can tell the difference between a strain, sprain, dislocation, or fracture, the injured athlete should consult a physician. If an injury appears severe, do not move the player; activate the Emergency Action Plan and transport the athlete to a hospital immediately. X-rays may be needed to determine the extent of the injury. Immediately consulting a medical professional is important to establish the correct method of treatment, rehabilitation, and return to play guidance.

For less severe injuries, a prompt visit to a physician may result in advice for the athlete to:

- Rest the injury and bear weight only when tolerated
- Apply ice wrapped in a towel or cloth several times throughout the day
- Apply light compression with a loosely fitted elastic wrap or bandage
- Elevate the injured extremity to the level of the heart.

The prescribed rehabilitation program may be started a few days after the injury when the swelling is reduced. Early range of motion and strengthening exercises may be prescribed to promote recovery and protect from recurrent injury. Taping and bracing for support may help prevent re-injury.

Some injuries such as fractures, dislocations, and sprains or strains may require further medical treatment as well as an extended rehabilitation and recovery period. Following a strain, sprain, dislocation, or fracture, return to play should be guided by a physician's recommendation.

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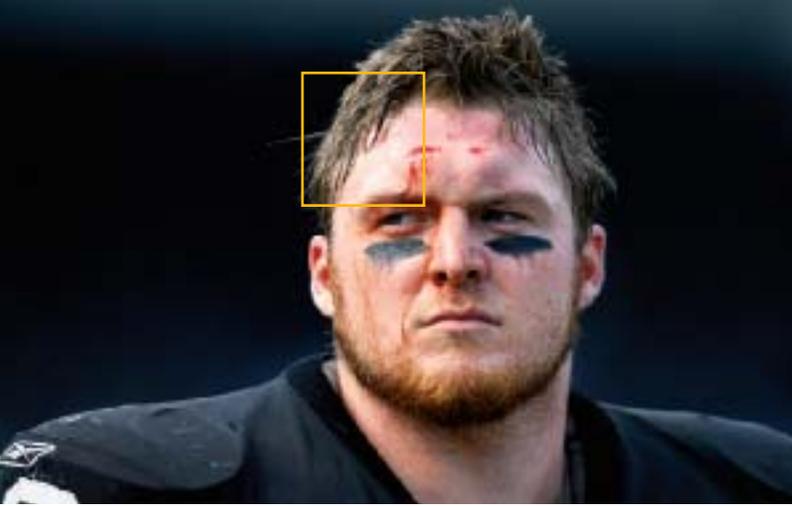
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PREVENT FACIAL INJURIES BY WEARING FACE, MOUTH, AND EYE GUARDS.



## WHAT COACHES SHOULD KNOW

- INJURIES TO THE FACE MAY REQUIRE ADVANCED MEDICAL HELP.
- ACTIVATE THE EMERGENCY ACTION PLAN AND FOLLOW THE EMERGENCY ACTION STEPS—CHECK-CALL-CARE—IF THE INJURY IS SERIOUS.
- FOR A NOSEBLEED, CONTROL THE BLEEDING BY LEANING THE PLAYER FORWARD WHILE PINCHING THE NOSTRILS FOR 10 MINUTES OR PUTTING ICE ON THE BRIDGE OF THE NOSE.
- THE PRIMARY CONCERN WITH AN INJURED CHEEK AND LIP IS KEEPING THE AIRWAY OPEN AND PREVENTING THE PERSON FROM SWALLOWING ANY BLOOD, WHICH INDUCES VOMITING.
- THE ONLY INSTANCE WHERE THE COACH OR RESPONDER SHOULD REMOVE AN EMBEDDED OBJECT FROM THE BODY IS IF AN OBJECT IS EMBEDDED IN THE CHEEK.
- FOR AN INJURY TO THE LIP, PLACE A DRESSING BETWEEN THE LIP AND THE GUM.
- FOR AN INJURY TO THE TONGUE OR GUMS, CONTROL THE BLEEDING WITH DIRECT PRESSURE.
- DO NOT PUT DIRECT PRESSURE ON AN INJURED EYE; A COACH SHOULD NOT ATTEMPT TO REMOVE AN EMBEDDED OBJECT FROM THE EYE.
- KEEP AN OBJECT EMBEDDED IN THE EYE STABLE BY PLACING SEVERAL DRESSINGS AROUND IT.



GREG TROTT

remove it unless it is too painful for the injured player. **(It is important to note that this is the only situation in which an embedded object should be removed from the body.)** Control the bleeding by placing a dressing on the wound and apply a pressure bandage around the head to hold the dressing in place. For an injury to the lip, place a dressing between the lip and the gum. For an injury to the tongue or gums, control the bleeding with direct pressure. Seek prompt medical attention if the injury appears serious.

Teeth may be knocked out in any injury involving the mouth or head. After checking for other injuries, preserve the tooth for possible reimplantation. Have the athlete bite down on a rolled sterile dressing in the space left by the tooth. Save any displaced teeth by picking them up by the crown (white part) and not the root. Place the teeth in milk, if possible, or water, and call a dentist immediately for further instruction.

Damage to the eyes can most significantly effect the player's quality of life. Usually eye injuries in football are caused when an opponent's fingers or other objects are pushed through a facemask. The first thing to remember in this situation is not to put direct pressure on the eye. Instead, place the injured player on his or her back. When an object such as a stick is imbedded in the eye, do not remove the object. Keep the object stable by placing several dressings around it, then put a dressing over the unaffected eye to keep it clean. Activate the Emergency Action Plan. If a small foreign body is in the eye, have the athlete blink several times to try to remove it. Gently flush the eye with water. If the object remains, seek medical attention. If a chemical enters the eye, flush with water for 10 minutes in a direction away from the uninjured eye and activate the Emergency Action Plan.

In each scenario, the coach or responder should care for the injured player by keeping the person calm and treating the injury. For all serious injuries to the face, call for prompt medical assistance after giving care. Injuries to the face are serious and need to be treated immediately.

Facemasks and mouthguards are especially important for protecting delicate areas on the face. Without them, accidents can occur causing damage to the eyes, nose, and mouth. Players and coaches should take every precaution to prevent injuries to the face.

If serious facial injuries do occur, activate the Emergency Action Plan and follow the emergency action steps, **CHECK-CALL-CARE**. **CHECK** the scene for safety and check the athlete, **CALL** 9-1-1 or the local emergency number when needed, and **CARE** for the injured player until EMS personnel arrive. When caring for injuries to the face, responders should also take precautions against disease transmission by wearing latex or vinyl gloves.

There are several areas on the face where injuries commonly occur. These include the nose, cheeks, lips, and eyes.

When dealing with a nosebleed, control the bleeding by leaning the player forward while pinching the nostrils for 10 minutes, or by putting ice on the bridge of the nose. Once the bleeding is controlled, the player should avoid rubbing or blowing his nose. If the nasal injury occurred from a hard impact, seek prompt medical attention to evaluate for a fracture.

The primary concern with an injured cheek and lip is keeping the airway open and preventing the person from swallowing any blood, which induces vomiting. Seat the player forward to keep the blood from draining to the throat. If an object is embedded in the cheek, the coach or responder should

## MORE READING

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

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# CONTROLLING EXTERNAL BLEEDING

TACKLE SERIOUS CUTS, SCRAPES, AND WOUNDS WITH THE PROPER CARE.



## WHAT COACHES SHOULD KNOW

- ALWAYS USE A BARRIER WHEN THERE IS A CHANCE OF COMING INTO CONTACT WITH BLOOD OR OTHER BODILY FLUIDS.
- FOR MINOR WOUNDS, SUCH AS CUTS AND SCRAPES, THE KEY TO CARE IS CLEANING THE WOUND TO PREVENT INFECTION.
- TO CONTROL BLEEDING, APPLY DIRECT PRESSURE TO THE WOUND WITH A CLEAN, STERILE DRESSING OR BANDAGE AND ELEVATE THE INJURY.

- ADVANCED MEDICAL HELP IS NECESSARY IN ANY OF THE FOLLOWING SERIOUS BLEEDING SITUATIONS. ACTIVATE EMERGENCY ACTION PLAN FOR:
  - BLEEDING FROM AN ARTERY
  - WOUNDS THAT SHOW MUSCLE OR BONE, INVOLVE JOINTS, GAPE WIDELY, AND INVOLVE THE FEET OR HANDS
- ACTIVATE EMERGENCY ACTION PLAN OR SEEK PROMPT MEDICAL ATTENTION FOR:
  - LARGE OR DEEP PUNCTURE WOUNDS
  - LARGE OR DEEPLY EMBEDDED OBJECTS
  - HUMAN OR ANIMAL BITES
  - WOUNDS THAT, IF LEFT UNATTENDED, COULD LEAVE CONSPICUOUS SCARS, SUCH AS THOSE ON THE FACE
  - SKIN OR BODY PARTS THAT HAVE BEEN PARTIALLY OR COMPLETELY TORN AWAY
  - STITCHES ARE NEEDED WHEN EDGES OF SKIN DO NOT FALL TOGETHER OR WHEN ANY WOUND IS GREATER THAN AN INCH LONG.



PAUL JASTENSKI

infection. Have someone call 9-1-1 or the local emergency number for any of the following serious bleeding situations:

- Bleeding from an artery
- Wounds that show muscle or bone, involve joints, gape widely, and involve the feet or hands

**CALL 9-1-1 OR SEEK PROMPT MEDICAL ATTENTION FOR:**

- Large or deep puncture wounds
- Large or deeply embedded objects
- Human or animal bites
- Wounds that, if left unattended, could leave conspicuous scars, such as those on the face
- Skin or body parts that have been partially or completely torn away

To provide care for external bleeding, cover the wound with a sterile gauze pad and press firmly until the bleeding stops. Elevate the injured area above the level of the heart if you do not suspect broken bones. Cover the wound with gauze dressings using a roller bandage to maintain pressure. If the bleeding does not stop, do not remove the dressings—even if the dressings become soaked with blood. Apply additional pressure with dressings and bandages on top of the bandages that have already been applied to the wound. Squeeze the nearby artery against the bone underneath the artery. On the arm, squeeze the artery inside the upper arm, between the shoulder and elbow. On the leg, squeeze the artery at the crease at the front of the hip in the groin. Minimize shock, which is likely in a seriously bleeding athlete.

In addition to controlling the bleeding, the coach may need to help determine if stitches are needed. Stitches speed the healing process, lessen the chances of infection, and improve the appearance of scars. They should be placed within the first few hours after the injury. Generally, stitches are needed when edges of skin do not fall together or when any wound is greater than an inch long. Once applied, stitches are easily cared for by dabbing them with hydrogen peroxide on a daily basis. Some can be removed within 6-14 days and others dissolve.

When a player is cut or scraped during a play, coaches need to know how to care for the injured player and determine if the player needs stitches.

Activate the Emergency Action Plan and follow the emergency action steps, **CHECK-CALL-CARE**, when responding to an injury where someone is bleeding seriously. **CHECK** the scene for safety and check the injured athlete, **CALL** 9-1-1 or the local emergency number when needed, and **CARE** for the injured player until EMS personnel arrive. When caring for injuries when there is a chance of coming into contact with blood or other body fluids, responders should also take precautions against disease transmission by wearing latex or vinyl gloves.

Care for a bleeding player depends on the severity of the injury. **For minor injuries** such as scrapes, the key to care is cleaning the wound to prevent infection. Minor bleeding usually stops within 10 minutes. Significant bleeding can arise from more serious injuries. Any serious bleeding may rapidly become life threatening. The goal of care is to control it as quickly as possible in a way that helps protect both the athlete and responder from

## MORE READING

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

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# CONTROLLING INTERNAL BLEEDING

TRAUMA TO THE BODY MIGHT RESULT IN INTERNAL BLEEDING.



## WHAT COACHES SHOULD KNOW

- A COACH SHOULD SUSPECT INTERNAL BLEEDING WHEN ANY SERIOUS INJURY OCCURS, ESPECIALLY THOSE CAUSED BY VIOLENT BLUNT FORCE.
- ACTIVATE THE EMERGENCY ACTION PLAN AND FOLLOW THE EMERGENCY ACTION STEPS: CHECK-CALL-CARE.
- THE SIGNS OF INTERNAL BLEEDING INCLUDE SKIN DISCOLORATION, ABDOMINAL OR SHOULDER PAIN, ANXIETY, RAPID BREATHING, AND A RAPID, WEAK PULSE.
- FOR MINOR INJURIES, SUCH AS BRUISES, APPLY ICE TO THE AFFECTED AREA TO REDUCE THE PAIN AND SWELLING.
- FOR MORE SERIOUS CASES, GET MEDICAL ATTENTION IMMEDIATELY BECAUSE THERE IS VERY LITTLE A COACH OR FELLOW TEAMMATES CAN DO TO STOP THE BLEEDING.
- WHILE WAITING FOR THE EMS, MONITOR THE INJURED PLAYER'S VITAL SIGNS, HELP THE PERSON REST, PROVIDE CARE FOR OTHER PROBLEMS, AND BE PREPARED TO PROVIDE CPR.

Internal bleeding can result from a violent force to the body. Coaches should watch for signs of internal bleeding and care for an injured player accordingly. Though the player may be coherent and alert, a serious problem may exist.

Internal bleeding is caused when blood escapes from the arteries, veins, or capillaries, which is indicated by bruises beneath the skin. Internal bleeding is also caused when a fractured bone ruptures an organ, such as the spleen, or cuts a blood vessel. This also can be caused by a forceful blow to an internal organ. A coach should suspect internal bleeding when any serious injury occurs, especially when a player has suffered a significant hit. The signs of internal bleeding are:

- Skin discoloration (bruising) in the injured area
- Soft tissues, such as those in the abdomen, that are tender, swollen, or firm
- Abdominal or shoulder pain
- Anxiety or restlessness
- Rapid breathing
- Rapid, weak pulse
- Skin that feels cool or moist or looks pale, ashen, or bluish
- Nausea and vomiting
- Excessive thirst
- Declining level of consciousness

These signs may appear gradually; therefore, a coach should monitor a player he or she suspects



JOHN GRIESHOP

has internal bleeding. If any of the signs are present, activate the Emergency Action Plan and follow the emergency action steps,

**CHECK-CALL-CARE.**

**CHECK** the scene for safety and check the ill or injured athlete, **CALL** 9-1-1 or the local emergency number when needed, and **CARE** for the player until EMS personnel arrive. The care for internal bleeding greatly depends on the severity of the injury. For minor injuries, such as bruises, apply ice to the affected area to reduce the pain and swelling. Place something, such as a clean, sterile bandage, between the ice and the bruise to prevent damage to the skin. Mild bruises are not serious, but deeper bleeding caused by muscle tears or damage to internal organs leads to severe blood loss. This usually occurs as a result of a violent blunt force, and causes dark, tender bruises or abdominal or shoulder pain. When this happens, get medical attention immediately because there is very little a coach or fellow teammates can do to stop the bleeding. While waiting for the EMS, remove the facemask, monitor the injured player's vital signs, help the person rest, provide care for other problems, and be prepared to provide CPR.

Recognizing the signs for internal bleeding and caring for the injured player until medical help arrives can prevent a player from bleeding to death.

**MORE READING**

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

American National Red Cross. (2001). *Emergency response*. San Bruno, CA: StayWell.

# TREATING SUDDEN ILLNESSES

## FOLLOW THE DRILL TO DEAL WITH SUDDEN ILLNESSES



### WHAT COACHES SHOULD KNOW

- **MANY SUDDEN ILLNESSES HAVE THE SAME SIGNALS, WHICH INCLUDE THE PLAYER LOOKING ILL AND FEELING DIZZY AND/OR NAUSEOUS, LOSING CONSCIOUSNESS, SPEAKING WITH DIFFICULTY, OR VOMITING.**
- **THE GENERAL RULES FOR DEALING WITH SUDDEN ILLNESSES ARE TO KEEP THE INJURED PLAYER CALM, ACTIVATE THE EMERGENCY ACTION PLAN, AND FOLLOW THE EMERGENCY ACTION STEPS, CHECK-CALL-CARE.**
- **IF THE PLAYER IS NOT BREATHING OR DOES NOT SHOW SIGNS OF CIRCULATION, THE RESPONDER NEEDS TO PERFORM CPR.**

Knee injuries, nosebleeds, and sprains are commonplace in the world of football. However, players may experience illnesses on the field that are not directly related to football. Many coaches are unaware of how to care for situations such as asthma. Coaches need to know the basic rules for treating sudden illnesses to provide effective care.

Sudden illnesses may be the result of many complications. Yet, they have the same signals, which include the player looking ill and feeling dizzy, nauseous, or numb, losing consciousness, speaking or breathing with difficulty, or vomiting. The general rules for dealing with sudden illnesses are to keep the injured player calm, activate the Emergency Action Plan and follow the emergency action steps, **CHECK-CALL-CARE**. **CHECK** the scene for safety and check the athlete, **CALL** 9-1-1 or the local emergency number when needed, and **CARE** for the player until EMS personnel arrive. Generally, do not offer the person any food or drink. If the player is not breathing and does not show signs of circulation, the responder needs to remove the facemask and give him CPR (see page 29).

There are more specific rules to follow for certain sudden illnesses such as fainting, diabetic attacks, and seizures. To care for a player who has fainted, lay the person on his back and elevate the feet. Fainting, a temporary loss of consciousness, may signal a more serious condition. If an athlete faints, check for breathing and pulse, elevate the legs 8-12 inches if injury is not suspected, loosen tight-fitting clothing, and do not give anything to eat or drink. Activate the Emergency Action Plan as fainting may represent entities such as allergic reaction, cardiac problems, shock, or substance abuse, among others.

Diabetic attacks are related to a sugar-level imbalance in the body. When this happens, the player may exhibit the following signs:

- Changes in the level of consciousness, including dizziness, drowsiness, and confusion
- Irregular breathing
- Abnormal pulse (rapid or weak)
- Feeling or looking ill
- Abnormal skin characteristics.

If these signs are present, give a conscious diabetic



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folded towel or clothing behind it. Do not hold or restrain the athlete or place anything between the athlete's teeth. Place the athlete on his side to drain fluids from the mouth, and when the seizure is over, check for breathing or other injuries. Reassure and comfort the athlete until he is fully conscious and able to care for himself. Seizures are generally unexpected and end in five minutes without being life threatening. If the player is known to have seizures, it is not necessary to call for medical assistance, unless the seizure lasts for more than five minutes, or the athlete does not regain consciousness. The player's physician should be advised that a seizure occurred. If the player is diabetic, injured, has no history of seizures, or if the seizure lasts for more than five minutes, call 9-1-1 or the local emergency number.

Some players have medical conditions, such as asthma, that cause breathing problems. Overexertion can also trigger a player to hyperventilate. In dealing with asthma and hyperventilation, simple measures return a player's breathing to normal. Asthma sufferers generally need their medication, which reverses the muscle spasm that narrows their air passages. This allows the injured player to breathe more easily. The attack may be triggered by pollen and other inhalants, emotional distress, cold dry air, or physical activity. The symptoms are breathing difficulty, wheezing noises, rapid shallow breathing, and feelings of fear and confusion. Coaches have to pay close attention to players with this condition and make sure they have their inhalers available at all times. Athletes who experience an asthmatic episode should not return to participation until they have been seen by a physician. If asthma does not respond to medication, activate the Emergency Action Plan.

Unlike asthma, hyperventilation is generally the result of emotional stress that causes the breathing to become rapid and shallow. Coaches treating players who are hyperventilating need to calm the person down. Easing stress will generally help breathing return to normal.

player liquid sugar to help him regain a chemical balance. This can be fruit juice, candy, nondiet drinks, or table sugar. If a diabetic player becomes unconscious, activate the Emergency Action Plan. The player's physician should be alerted that symptoms of low blood sugar have occurred.

When a player is seizing, which represents loss of body controls that occur when brain functions are disrupted, do not place anything in the athlete's mouth. Protect the athlete's head by placing a

## MORE READING

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

American National Red Cross. (2002). *Community first aid*. San Bruno, CA: StayWell.

WHEN TREATING ALLERGIC REACTIONS, AN EPIPEN MIGHT BE THE ANSWER.



### WHAT COACHES SHOULD KNOW

- ANAPHYLAXIS IS A SEVERE ALLERGIC REACTION. ANAPHYLAXIS IS A LIFE-THREATENING CONDITION THAT REQUIRES IMMEDIATE ACTION.
- INSECT STINGS, MEDICATION, FOOD, AND FOOD ADDITIVES CAN TRIGGER ANAPHYLAXIS.
- SOME POSSIBLE SIGNALS IN ANAPHYLACTIC VICTIMS INCLUDE:
  - SWELLING AND ITCHING OF ANY BODY PART
  - DIZZINESS ■ REDNESS ■ WELTS ■ RED, WATERY EYES
  - RAPID HEART RATE AND DIFFICULTY BREATHING
- ACTIVATE THE EMERGENCY ACTION PLAN AND FOLLOW THE EMERGENCY ACTION STEPS, CHECK-CALL-CARE. CALL 9-1-1 OR THE LOCAL EMERGENCY NUMBER OR SUMMON MORE ADVANCED MEDICAL PERSONNEL IMMEDIATELY.
- SOME PEOPLE KNOW THAT THEY HAVE A SEVERE ALLERGIC REACTION TO CERTAIN SUBSTANCES AND MAY CARRY MEDICATION, SUCH AS AN EPIPEN, TO REVERSE AN ALLERGIC REACTION.

### ADMINISTERING EPINEPHRINE

- WHEN ADMINISTERING THE EPIPEN, MAKE SURE THE EXPIRATION DATE HAS NOT LAPSED, THE MEDICATION IS NOT CLOUDY OR DISCOLORED, AND THE DIRECTIONS ARE LEGIBLE SO THE RESPONDER OR COACH CAN FOLLOW THEM.
- THE STANDARD DOSE IS .3 MILLIGRAMS FOR AN ADULT AND .15 MILLIGRAMS FOR A CHILD WEIGHING LESS THAN 45 POUNDS.
- THE EPIPEN IS TO BE INJECTED IN THE INJURED PLAYER'S THIGH.
- IN SOME LOCALES, THE USE OF THE EPIPEN IS REGULATED. CHECK WITH YOUR LOCAL EMS DIRECTOR FOR MORE INFORMATION.

Coaches are prepared for players to have a range of problems and injuries. But some players can have special medical conditions that require immediate attention, such as severe allergic reactions to an insect bite. Often players practice outside in the spring and summer. If a player is bitten or stung, he may be at risk for anaphylaxis. Coaches need to know how to deal with this unique medical condition and how to administer a life-saving drug.

Approximately 2 million people in the United States are at risk for anaphylaxis, and each year 400 to 800 people in the United States die from it. Insect stings, medication, food, and food additives can trigger anaphylaxis. These reactions may be life threatening and require immediate care. Some possible signals of anaphylaxis include swelling and itching of any body part; dizziness; redness; welts; red, watery eyes; rapid heart rate; and difficulty breathing. This can be life threatening, so activate the Emergency Action Plan and follow the emergency action steps, **CHECK-CALL-CARE**. **CHECK** the scene for safety and check the athlete, **CALL** 9-1-1 or the local emergency number when needed, and **CARE** for the player until EMS personnel arrive.

If an injured player shows signals of anaphylaxis, epinephrine (contained in a EpiPen injection device), a prescribed medication, may be used to treat reactions. The EpiPen is simple and easy to use. However, it needs to be administered quickly.

**USE AN EPIPEN IMMEDIATELY IF THE INJURED PLAYER:**

- Is experiencing allergic symptoms and has previously had an anaphylactic reaction to the allergen
- Has an allergic reaction with anaphylactic symptoms
- Requests that an EpiPen be administered
- Has a family member who informs the coach that the athlete has a history of allergies or allergic reactions and provides the athlete's EpiPen for use when an allergic reaction occurs.

If a player is known to have severe allergic reactions, this information—along with consent from the player's parent and physician approval to admin-

ister the EpiPen—and any other medication, should be provided on the required Emergency Care Permission Form. Additional treatments for allergic reactions may be prescribed by a player's physician. The parents and athlete should provide the coach with the normal location of the medication.

When administering the EpiPen, make sure the expiration date has not lapsed, the medication is not cloudy or discolored, and the directions are legible so the responder or coach can follow them. The standard dose is .3 milligrams for an adult and .15 milligrams for a child weighing less than 45 pounds. The EpiPen is to be injected in the injured player's thigh at the first sign of an allergic reaction in an individual known to have a generalized allergic response, including difficulty breathing. Do not wait for breathing problems. The EpiPen should only be used in locales where coaches have met the prescribed training, or where local laws permit.

In all cases of EpiPen administration, follow-up care and transport to a medical facility is needed. The beneficial effect of the EpiPen is relatively short in duration. Affected players having a severe allergic reaction require immediate medical assistance. Always call 9-1-1 or your local emergency number when severe allergic reactions occur.



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## MORE READING

GO ONLINE AT [WWW.NFLHS.COM/HEALTH](http://WWW.NFLHS.COM/HEALTH)

American Red Cross Advisory Council on First Aid and Safety. (2001). Statement on Epinephrine Administration.