



# YOUTH ATHLETIC INJURIES

Prepare • Practice • Play



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## About the Program

This program was created jointly by the American Trauma Society, Pennsylvania Division, the Pennsylvania Athletic Trainers' Society and the Pennsylvania Emergency Medical Services for Children. It is intended to be used by those involved in youth athletic activities, especially volunteer coaches and parents.

It's important for parents to understand who is responsible for injury care at their child's school and organized youth sports programs.

The volunteer coach is the primary care provider if a player becomes injured. Volunteer coaches should know how to handle emergencies and injuries at both practices and games until trained professionals, such as Certified Athletic Trainers or emergency personnel, are available. This program provides tips which may help the volunteer coach in making a sound decision when an injury occurs.

***CAUTION: This information is not a substitute for First Aid, CPR and AED training. First Aid, CPR and AED courses are offered by the American Red Cross, the American Heart Association and are sponsored by the National Safety Council, community organizations, schools and EMS organizations. Volunteers serving in sports programs should consider taking these courses.***



## Do's and Don'ts

Coaches and volunteers are an important part of the emergency medical services team. When a youth is injured, you are part of the injury management team. Your actions can help give the player the best chance for recovery. You need to recognize an emergency situation, know how to get help and know what to do until help arrives.

### Don't

- Move the player unnecessarily.
- Give the youth anything to eat or drink unless required for treatment.
- Provide any medical treatment unless you are trained to give it, or it is an emergency.

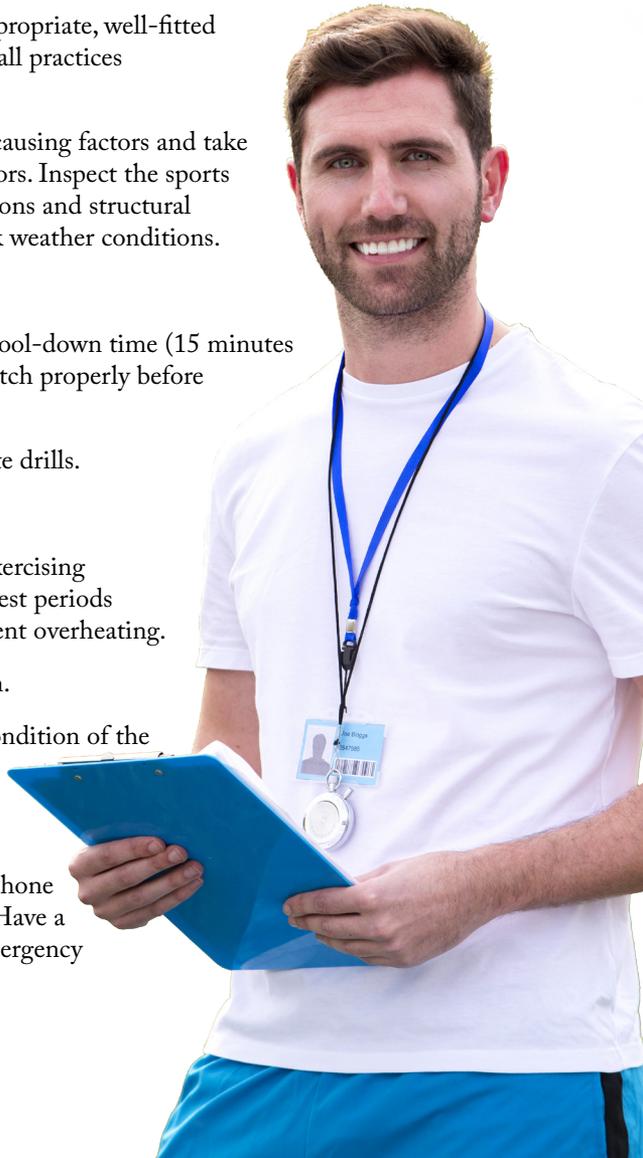
### Do

- Stay calm.
- Check to make sure the player is breathing and has a heartbeat. If not, begin CPR.
- Call 911 (or your local emergency number).
- Control bleeding by applying direct pressure to the wound with gauze and elevate if possible. Only do this if you do not suspect a fracture.
- Reassure the youth that help is coming and keep him/her as calm as possible.
- Tell EMS or the athletic trainer as much as possible about what happened and what you did to help.
- Let emergency crews do their job.

## Prevention

An important part of knowing what to do about youth sports injuries is how to prevent them from happening in the first place. Before a child participates in an organized youth sport program, a parent/guardian should check that the coach is qualified to provide proper instruction and ask who is responsible for injury care. A number of steps can be taken to help reduce the risk of injury to those youth, including:

1. Have the youth get a pre-participation physical examination (general medical exam and orthopedic evaluation) and obtain medical information (i.e. allergies, previous injuries, medical emergency phone numbers, etc.).
2. Make sure youth wear appropriate, well-fitted protective equipment for all practices and competition play.
3. Evaluate possible injury-causing factors and take steps to correct these factors. Inspect the sports facility for surface conditions and structural hazards, and always check weather conditions.
4. Teach safety to players.
5. Allow for warm-up and cool-down time (15 minutes each). Teach youth to stretch properly before and after workouts.
6. Select safe age-appropriate drills.
7. Use proper conditioning.
8. Take precautions when exercising in the heat. Give ample rest periods and water breaks to prevent overheating.
9. Encourage good nutrition.
10. Know the location and condition of the playing field, especially when traveling to a new field.
11. Know where the closest phone and hospital are located. Have a plan for contacting an emergency medical facility if needed.



# Assessing the Injured Player

Proper initial assessment of an injured player is absolutely critical to injury care. First, evaluate for any life threatening conditions and determine if you need to call 911. Do not move the youth any more than necessary during your evaluation.

## Assessment

*Primary Survey* — evaluation of life threatening injuries such as severe bleeding, head and neck injuries, cardiac arrest and shock. Check the ABC's:

- Airway – evaluate the player to see if the airway is open.
- Breathing – evaluate the player to check breathing (look at chest, listen for breath sounds, feel for air leaving the mouth).
- Circulation – evaluate the carotid pulse (neck) to check if the heart is beating. Check the body for any severe bleeding. If a pulse is absent, begin CPR.

*Secondary Survey* — evaluation of non-emergency conditions such as sprains, strains, fractures, etc. Perform a careful C.H.E.C.K. of the athlete:

- Chief Complaint/Cause – ask the youth what happened, where it hurts, what type of pain, etc.
- History – determine any previous injuries or other medical conditions.
- Exact Location – gently touch the pain site for any deformity, spasm, swelling, etc.
- Compare – measure the area of injury with the other side of the body (compare both ankles for shape, position, etc.).
- Keep Monitoring and Keep Written Records – watch the player closely until Emergency Medical Services arrive or the youth is seen by a physician. Write down all findings including all vital signs (pulse, blood pressure, etc.).



## Trouble Signs

In the case of any of these signs, an injured child should immediately be taken to the closest hospital:

- Abdominal pain
- Absent or difficulty breathing
- Absent pulse
- Chest pain
- Disorientation or mental confusion
- Drowsiness
- Eye injuries
- Head pain
- Leakage of clear fluid from nose or ears
- Localized tenderness or pain, especially in a joint
- Obvious deformity of any bone
- Persistent vomiting
- Pupils of unequal size
- Seizure
- Severe uncontrolled bleeding
- Unconsciousness for any length of time
- Unresponsive to touch / voice
- Any other injury of which you are unsure of its severity



# Concussions

Concussions, which are a form of Traumatic Brain Injury (TBI), can result from a number of activities, including sports. Recognizing that a TBI has occurred is the first step in treating the athlete.

Below is a list of common signs/symptoms that can occur as a result of a TBI. A head injury resulting in one or more of these signs/symptoms should be treated as a TBI. It is recommended that youth be examined by a medical professional after any form of head injury.

## Physical Signs/Symptoms

- Headache •
- Dizziness •
- Fatigued •
- Drowsiness •
- Postural/Balance Problems •
- Double or Blurred Vision •
  - Nausea/Vomiting •
  - Numbness/Tingling Down Limbs •
- Sensitivity to Light or Noise •
  - Seizures •
  - Ringing in Ears •

## Cognitive Signs/Symptoms

- Attention Difficulties •
- Concentration Problems •
- Mentally Foggy/Dazed •
- Feeling Slowed Down •
  - Memory Problems •
- Confusion/Disorientation •
  - Forgetfulness •
- Increased Symptoms with Mental Activity •
- Answers Questions Slowly •
  - Repeats Questions •

## Behavioral Changes

- Problems with Emotional Control •
  - Sadness •
  - Moodiness •
  - Depression •
  - Anxiety/Nervousness •
- Irritability/More Emotional than Usual •
  - Sleeping More/Less than Normal •
- Trouble Falling Asleep/Staying Asleep •
  - Loss of Initiative •

# Common Injuries

## Types of Injuries

- Skin injuries – blisters, abrasions, skin contusions, lacerations
- Muscle injuries – muscle contusions, strains, cramps, chronic injuries
- Joint and bone injuries – sprains, dislocations and fractures
- Heat related problems – heat exhaustion, heat stroke (see heat related sickness)
- Brain injuries – concussions

## Things to Remember

- Evaluate all injuries immediately.
- Have bone and joint injuries examined by a physician.
- Make sure coaches, parents and players know how to call for help and activate the EMS/911 system if someone is injured.



# Bone, Muscle and Joint Injuries

The first aid acronym “R.I.C.E.-R” is used for treating sprains, strains, fractures, dislocations, etc. It is the first step in treating an injury and should be used for the first 24 to 48 hours.

**Rest** – Immobilize the injury and prevent the child from moving the injured part.

**Ice** – Apply an ice pack/cold snap to the injury for 20 minutes, every 1 to 2 hours. Do this for the first 48 to 72 hours post injury. It is normal to experience cold, burning, aching and numbness when applying ice. Never leave ice on the area for more than 20 minutes. Have ice available at every game and practice.

**Compression** – Apply a light compression wrap, such as an ACE bandage, to the injured area during and after applying ice. This will help decrease internal bleeding and swelling. Be careful not to wrap too tightly, which may cut off circulation. Pain, pale or bluish skin, and numbness are signs of circulation being cut off. If this happens, remove the wrap immediately.

**Elevation** – Keep the injured area elevated while applying ice and compression. This will limit bleeding and swelling to the injury site. Always keep the injured area above the level of the heart. However, if a fracture is suspected, do not elevate; treat with ice and seek medical care.

**Referral** - Have the youth seen by a physician. Do not attempt to manage injuries on your own.

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## Skin Injuries

### Skin Bruises

Blunt forces can cause soft tissue to become traumatized, resulting in bruising of the skin and underlying tissue. The skin often turns black and blue due to broken blood vessels. More severe forces may cause bruising of muscle and/or bone tissue. The “R.I.C.E.-R” procedure should be used to care for these injuries.

### Skin Wounds

Traumatic skin wounds can occur during sport activities, including abrasions, lacerations and punctures. They should be cared for immediately. Clean the wound with soap and warm water. After cleaning, apply an antiseptic/antibiotic ointment, covered by several layers of sterile gauze. The first layer of gauze should be a non-adhering dressing. If the wound is severe and needs medical care, do not apply ointment.

## Heat Related Sickness

Exercising in hot, humid weather can be very dangerous. With common sense and good prevention (practice adaptation and frequent water breaks), heat related problems are avoidable. The early signs and symptoms of a heat related illness are:

Problem	Symptom	Treatment
<b>Muscle Cramps</b>	<ul style="list-style-type: none"><li>• Spasm of muscles in legs, arms or the whole body</li><li>• Pain in cramped muscle</li></ul>	<ul style="list-style-type: none"><li>• Stop play immediately</li><li>• Rest in a cool area</li><li>• Apply ice to the affected muscle(s)</li><li>• Stretch the affected muscle(s)</li><li>• Drink plenty of fluids</li></ul>
<b>Heat Exhaustion</b>	<ul style="list-style-type: none"><li>• Cold clammy skin</li><li>• Profuse sweating</li><li>• Abdominal or leg cramps</li><li>• Dizziness</li><li>• Fainting</li><li>• Rapid, weak pulse</li></ul>	<ul style="list-style-type: none"><li>• Stop playing immediately</li><li>• Rest in a cool area</li><li>• Give lots of cool water</li><li>• Remove excess clothes and equipment</li></ul>
<b>Heat Stroke</b>	<ul style="list-style-type: none"><li>• Hot, dry skin</li><li>• Lack of sweating</li><li>• Unconsciousness</li><li>• Very high temperature</li><li>• Pounding pulse</li></ul>	<ul style="list-style-type: none"><li>• This is a true emergency</li><li>• Call 911 immediately</li><li>• Do not give anything to drink</li><li>• Attempt to cool body without harming the youth</li></ul>



# First Aid Kit Supplies

Most of the following items recommended for a sports first aid kit can be found in your local drugstore. A first aid kit should be stocked at all times. One person should be assigned to stock the kit and bring it to all games and practices. This publication, including the emergency team roster and a cell phone (if possible), should be kept in the kit.

- Adhesive bandages (various sizes)
- Adhesive tape (1 inch & 1½ inch)
- Alcohol wipes
- Antibiotic ointment
- Bee sting swabs
- Chemical cold snap packs / ice
- Cotton tip applicators
- Contact lens case
- Contact lens solution
- Curad/telfa pads, non-stick (3 inch x 4 inch)
- Elastic bandages (2 inch, 4 inch, & 6 inch ACE bandages)
- Emergency team roster with phone numbers
- Gauze pads, sterile (2x2 inch, 4x4 inch)
- Gauze roller bandages, sterile (2 inch & 4 inch)
- Paper cups
- Pencil and paper
- Plastic bags for ice
- Scissors, tape
- Sunscreen (15+ SPF)
- Triangular bandages
- Tweezers
- Wound disinfectant (saline solution)

## Calling for Help

Speak clearly and slowly.

Give the exact location (street address, landmarks or buildings).

Describe the situation.

Give the phone number from which you are calling.

Do Not Hang Up until told to do so.

<p><b>EMERGENCY NUMBERS</b></p> <p>Ambulance: _____</p> <p>Police: _____</p> <p>Fire: _____</p> <p>Poison Control: _____</p>
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***This program was jointly developed by the following organizations:***

**The American Trauma Society, Pennsylvania Division**

2 Flowers Drive  
Mechanicsburg, PA 17050  
(717) 766-1616  
www.atspa.org

The American Trauma Society, Pennsylvania Division is a non-profit organization committed to preventing traumatic injuries and deaths through education. Our work includes providing presentations and educational materials on many trauma prevention topics, including concussions, water safety, senior falls, bike safety and traffic safety.

**Pennsylvania Athletic Trainers' Society**

PO Box 2164  
Boothwyn, PA 19061  
(610) 496-4192  
www.gopats.org

The Pennsylvania Athletic Trainers' Society is a non-profit organization whose mission is to improve the health care available to physically active persons within the Commonwealth through the advancement of the Athletic Training health care profession.

**Pennsylvania Emergency Medical Services for Children**

P600 Wilson Lane  
Suite 101  
Mechanicsburg PA 17055  
(800) 243-2EMS, (717) 795-0740  
www.paemsc.org

“Supporting pediatric injury prevention and training initiatives across the Commonwealth”

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*The American Trauma Society, Pennsylvania Division, Pennsylvania Athletic Trainers' Society and the Pennsylvania Emergency Medical Services for Children have designed this program to help children participate more safely in sports.*

*The content is not all-inclusive and should not be taken to represent uniformly applicable state or national standards.*





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