A Coach’s Guide to Sports Injuries

Call 402.955.PLAY (7529) or visit
ChildrensOmaha.org/SportsMedicine

Developed in collaboration with
SAFE KIDS
LINCOLN-LANCASTER COUNTY
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This information is offered as current best practice recommendations available to date. Please defer to Emergency Medical Services (EMS) for any emergent condition. This guide does not replace definitive medical evaluation, treatment and management. Please seek out professional medical advice as proper medical follow-up is always recommended.
Always seek professional medical treatment. To reach the sports medicine experts at Children’s, call 402.955.PLAY (7529) or visit ChildrensOmaha.org/SportsMedicine.
Concussions

A concussion is a traumatic brain injury caused by a blow or jolt to the head that causes the brain to bounce off the bony surface of the skull. Concussions don’t necessarily result in a loss of consciousness. This “invisible” injury disrupts the brain’s normal physiology, which can affect mental stamina and function. Concussions cause the brain to work longer and harder to complete simple tasks.

Typically, a concussion is a temporary condition from which most athletes make a full recovery, if managed properly. Ultimately, ALL concussions are serious because they are brain injuries.

Common Concussion Symptoms

If any of these symptoms occur after an impact to the head/body, a concussion should be suspected.

<table>
<thead>
<tr>
<th>Physical</th>
<th>Cognitive</th>
<th>Emotional</th>
<th>Sleep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>Feeling mentally foggy</td>
<td>Irritability</td>
<td>Trouble falling asleep</td>
</tr>
<tr>
<td>Dizziness</td>
<td>Feeling slowed down</td>
<td>Sadness</td>
<td>Sleeping more than usual</td>
</tr>
<tr>
<td>Balance problems</td>
<td>Difficulty concentrating</td>
<td>Nervousness</td>
<td>Sleeping less than usual</td>
</tr>
<tr>
<td>Nausea or vomiting</td>
<td>Difficulty remembering</td>
<td>More emotional than usual</td>
<td>Trouble staying asleep</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Difficulty focusing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity to light</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity to noise</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nebraska State Law Requirements

- Any athlete reasonably suspected of sustaining a concussion must be automatically held out for the remainder of the practice or game and must be evaluated by someone who is trained in the treatment and management of concussions (a physician or a licensed athletic trainer is recommended) before returning to participation in further practices or games.

- Athletes must be cleared by a licensed health care professional prior to returning to play.

For more information, including best practice updates, for concussion recognition and management in young athletes, visit the Centers for Disease Control and Prevention’s Heads Up Program website: cdc.gov/headsup.
Pulmonary and Breathing Problems

Asthma
Asthma is a condition involving a restricted airway that makes breathing difficult. Asthma attacks can be triggered by strenuous exercise (exercise-induced asthma), cold or dry air, smoke or allergen particles in the air.

Asthma symptoms include:
- Wheezing
- Coughing
- Extreme fatigue
- Shortness of breath

Symptoms can be alleviated by the use of an athlete’s prescribed inhaler. If an athlete does not have an inhaler and has symptoms, or the symptoms don’t improve after using the inhaler, call 911.

Pneumothorax
Pneumothorax is the medical term for a collapsed lung. The lung collapses as air builds up on the outside of it, disrupting the pressure that keeps lungs inflated. A pneumothorax in sports is usually caused by blunt trauma and is sometimes associated with a rib fracture.

Symptoms include:
- A steady ache or tightness in the chest
- Shortness of breath
- Increased heart rate
- Breaking out in a cold sweat
- An athlete’s trachea (windpipe) is visibly shifted to the opposite side of the injury

This should not be confused with asthma. It is a medical emergency; call 911.

Upper Respiratory Infection (URI)
These common afflictions during the cold and flu season can have an impact on athletic performance and well-being. Athletes cannot compete at their best with respiratory compromise. Be mindful of kids with colds, and adjust training and competition accordingly. Handwashing and proper hygiene can be extremely important in limiting the spread of these infections throughout a team.
### Cardiac Problems

All athletes should have a pre-participation physical exam from a physician that evaluates a child for any predisposing cardiac conditions and clears them for participating in a sport. If an athlete exhibits any of the symptoms below during exercise, they should promptly be sent to a physician for a thorough medical evaluation. **They should NOT be allowed to return to play without documented clearance by a licensed medical physician.**

#### Warning Signs of Cardiac Problems

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest pain or light-headedness with exertion</td>
<td>Irregular heartbeat</td>
</tr>
<tr>
<td>Rapid heart rate (tachycardia)</td>
<td>Fainting during exercise (syncope)</td>
</tr>
<tr>
<td>Irregular or difficult breathing</td>
<td>Dizziness</td>
</tr>
<tr>
<td>Excessive and unexplained shortness of breath or fatigue with exercise</td>
<td>High blood pressure</td>
</tr>
</tbody>
</table>

#### Sudden Cardiac Arrest (SCA)

In young athletes, SCA can occur spontaneously in a nontraumatic, nonviolent manner. Typically, SCA is unexpected. The athlete appears healthy overall before a cardiac episode, although subtle or not-so-subtle symptoms may precede SCA. Often, SCA is caused by a heart problem that has not yet been identified.

#### Emergency Management

**HAVE A PLAN**

Young athletes who suffer sudden cardiac arrest faint or collapse, are unresponsive and may appear to have brief seizure-like activity or abnormal breathing (gasping).

Every second counts. SCA can be effectively treated by immediate recognition, prompt cardiopulmonary resuscitation (CPR) and quick access to an automated external defibrillator (AED).

AEDs are safe, portable devices that read and analyze the heart rhythm and provide an electrical shock to restore a normal heart rhythm, if necessary. It should be noted that, in rare instances, life-threatening arrhythmias cannot be treated with an AED, so a shock might not be advised. After the AED is turned on, a voice prompts the user with instructions for use. CPR is still advised when no pulse is detected.

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Survival rates decrease by 10 percent with each minute of delay. There is a 5- to 6-minute window before death or irreparable brain damage occurs.
ANYONE CAN SAVE A LIFE!

- **RECOGNIZE SUDDEN CARDIAC ARREST**
  - Collapsed and unresponsive
  - Abnormal breathing
  - Seizure-like activity

- **CALL 911**
  - Call for help and have someone retrieve an AED.
  - AED should be stored in an unlocked, easily accessible area where it can be retrieved within 1 to 3 minutes.

- **BEGIN CPR** – Begin chest compressions; remember to push hard and fast (100 beats per minute).

- **USE AN AED** – Use an AED as soon as possible; follow the voice prompts that the device gives.

- **CONTINUE CARE** – Continue CPR and AED until EMS arrives.

It is important to always be prepared and ready to respond when SCA occurs. The link below demonstrates how an SCA plan is implemented with sports scenarios. Remember, seconds matter!

AnyoneCanSaveALife.org
Diabetes

Diabetes is a condition in which the body is either unable to produce enough insulin or unable to use it effectively. Insulin is a hormone that the body needs to convert sugars, starches and other foods into energy. Type I diabetes results from the body’s failure to produce insulin and may require multiple insulin injections daily. Type II diabetes is caused by an inability of the body to use insulin properly. In working with a diabetic athlete, it’s important to be familiar with their care and how and if they test their blood sugar (glucose). If an athlete’s blood sugar dips too low, they may go into hypoglycemic or diabetic shock.

**Diabetic Shock Signs and Symptoms**

<table>
<thead>
<tr>
<th>Clammy skin</th>
<th>Slurred speech</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor balance</td>
<td>Tremors</td>
</tr>
<tr>
<td>Extreme irritability</td>
<td>Blurry vision</td>
</tr>
<tr>
<td>Convulsions</td>
<td>Other neurological effects</td>
</tr>
</tbody>
</table>

**Treatment for hypoglycemic or diabetic shock:**

- Remove the athlete from play.
- Have the athlete ingest a fast-acting form of energy (candy bar, sugar) at first, followed by a longer-acting form of energy (cheese, peanut butter).
- Continue to monitor athlete’s condition after diabetic episode for at least 15 minutes.
  - **If symptoms resolve**, contact the athlete’s guardian and follow the return-to-play action plan put in place by the treating physician.
  - **If symptoms worsen**, contact the athlete’s guardian and transport the athlete to the hospital.
- NEVER attempt to have an athlete ingest anything while they are convulsing or unconscious.

In working with a diabetic athlete, it’s important to be familiar with their care and how they test their blood sugar (glucose).
Allergies

Anaphylaxis (anaphylactic shock) is a severe allergic reaction to venom, food or medication. These severe reactions are typically caused by an insect sting or ingesting foods an athlete may be allergic to. Common food allergies include milk, peanuts, eggs or tree nuts. Anaphylaxis can be deadly, therefore IMMEDIATE treatment is a must. If any athlete has a known severe allergy to any substance, they must carry an EpiPen with them to all events and venues.

Possible signs and symptoms of anaphylaxis (not all of these have to be present):
- Pale skin
- Rash
- Facial, throat or mouth swelling
- Weak rapid pulse
- Rapid shallow breathing or difficulty breathing

<table>
<thead>
<tr>
<th>Treatment for Unknown Allergy</th>
<th>Treatment for Known Allergy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove athlete from play.</td>
<td>Remove athlete from play.</td>
</tr>
<tr>
<td>Allow athlete to sit down.</td>
<td>If they have a prescribed EpiPen, use immediately.*</td>
</tr>
<tr>
<td>For an insect bite or sting, remove stinger if able and apply ice to area.</td>
<td>Call 911.</td>
</tr>
<tr>
<td>Monitor the athlete.</td>
<td>Contact parents/guardians if not present.</td>
</tr>
<tr>
<td>If symptoms resolve within 15 minutes, consider allowing athlete to return to play with parental or guardian permission.</td>
<td></td>
</tr>
<tr>
<td>If symptoms have not resolved, call 911.</td>
<td></td>
</tr>
</tbody>
</table>

*In the event an athlete suffers a sting or experiences anaphylactic shock, locate their EpiPen and have them follow the printed instructions on the outside of the container.

1. Remove the EpiPen from clear storage tube if in one.
2. Pull off the top (usually blue or grey) – don’t twist.
3. Roll up shorts/pants, if possible, to expose bare skin, however may go through clothing if necessary.
4. Swing and firmly push tip (usually black or orange) against the outer thigh so it clicks.
5. Hold EpiPen on the thigh for 10 seconds.
6. ALWAYS call 911 as the athlete may still develop respiratory compromise and need further care.

For more information, visit ChildrensOmaha.org/SportsMedicine or call 402.955.PLAY (7529).
Neck and Spine Injuries

Neck and spine injuries are more common in high-contact sports like football, soccer, hockey or lacrosse than in other sports. However, they can happen anywhere, and it’s critical to know the best course of management. These injuries can include fractured bones, muscle strains, herniated discs and nerve injuries. Any athlete who receives a blow to the head or neck should not return to play. This includes those who do not require emergency medical treatment. Any player who is removed from play should then be directed to appropriate medical personnel for proper evaluation and management.

Possible signs and symptoms (not all of these have to be present):

• Joint tenderness or pain over any bony prominence in or on the back of the neck or back
• Numbness or tingling in arms, legs or down the spine
• Inability to feel or move face or limbs
• Muscle spasm
• Deformity

Field Plan:

• **DO NOT** move the athlete if medical personnel are **NOT** present.
• **DO NOT** let the athlete move; remain calm and reassuring to the athlete.
• Stabilize the head and neck in the position it is in and keep play away from injured athlete.
• **Call 911** and have the athlete transported immediately.
• Serious neck injury should be suspected for **ALL UNCONSCIOUS** athletes, as well as those with temporary loss of consciousness, until proven otherwise.
Sprains and Strains

Sprains and strains are some of the most common injuries seen in youth sports. A sprain is a stretch or tear in a ligament. Ligaments are bands of fibrous tissue that connect bones to bones at your joints and provide stability. A strain is also a stretch or tear that occurs in a muscle or a tendon.

### Grades of Sprains and Strains Are Similar

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Signs and Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade I</td>
<td>Mild — Fibers are stretched but not torn.</td>
<td>Slight pain and swelling, mild loss in range of motion. Able to bear weight with no real loss of function.</td>
</tr>
<tr>
<td>Grade II</td>
<td>Moderate — Fibers are partially torn.</td>
<td>Moderate pain, swelling and potential bruising or discoloration. Moderate loss in range of motion and strength around area and the joint feels loose and unstable. These issues result in an increased loss of function.</td>
</tr>
<tr>
<td>Grade III</td>
<td>Severe — Complete tearing of one or more structures. Significant swelling is almost always present along with more intense pain. Discoloration may be seen. Near complete loss of range of motion and strength. There is a marked decrease in stability producing a significant loss of function. Often difficult to bear weight.</td>
<td></td>
</tr>
</tbody>
</table>

### P.R.I.C.E. — Treatment of Acute Sprain or Strain

<table>
<thead>
<tr>
<th>Letter</th>
<th>Action</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Protect</td>
<td>Protect the injured area from further damage. This can be a splint, sling or brace to help minimize movement in the injured area. Crutches unload weight and can allow for better healing of a lower extremity injury.</td>
</tr>
<tr>
<td>R</td>
<td>Rest</td>
<td>Rest the area until evaluated by a physician or athletic trainer.</td>
</tr>
<tr>
<td>I</td>
<td>Ice</td>
<td>Ice the area to decrease pain and swelling. An ice bag should be applied no longer than 15 to 20 minutes at a time. Place a barrier between the ice and skin (e.g., towel or cloth) and NEVER sleep with ice on an injury. Ice is most effective for the first two to three days after injury.</td>
</tr>
<tr>
<td>C</td>
<td>Compress</td>
<td>Compress the area. Use an elastic wrap (Ace bandage) to control swelling, leaving the fingers or toes exposed. The wrap should be applied starting at the tip of an extremity and move toward the heart. (e.g., start at toes or fingers and wrap toward the heart). This should be snug and feel comfortable, but not too tight, causing pain.</td>
</tr>
<tr>
<td>E</td>
<td>Elevate</td>
<td>Elevate the injured area above the heart and allow gravity to help minimize swelling.</td>
</tr>
</tbody>
</table>

To ensure best outcomes and timely return to activity, athletes sustaining these types of injuries should be referred to a licensed athletic trainer or physician soon after the onset of the injury.
Fractures and Dislocations

A fracture is the same thing as a broken bone. A dislocation occurs when extreme force is placed on a ligament, which is the strong fibrous tissue that binds the bones in a joint together. When these ligaments stretch or tear, it causes the adjoining bones to separate and displace from their normal position. A subluxation occurs when the joint naturally reduces and realigns itself. Dislocations are less common in young athletes because, compared to adults, their ligaments are stronger than their bones. So what may be a dislocation in an adult is often a fracture in children. All of these injuries are painful, and further damage can occur if not managed properly. However, at times it may be difficult to determine if a bone is broken or if the joint has subluxed or dislocated, as these types of injuries have similar signs and symptoms.

The following are common signs and symptoms (not all of these have to be present):

<table>
<thead>
<tr>
<th>Signs and Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obvious deformity or abnormality present</td>
</tr>
<tr>
<td>Point tenderness on the bone</td>
</tr>
<tr>
<td>Possibly feeling or hearing a pop or snap</td>
</tr>
<tr>
<td>Possible tingling or numbness</td>
</tr>
<tr>
<td>Swelling around the injured area</td>
</tr>
<tr>
<td>Pain with any type of movement</td>
</tr>
<tr>
<td>Skin over injured area may be warm to the touch</td>
</tr>
<tr>
<td>Inability to bear weight</td>
</tr>
</tbody>
</table>

Treatment of a suspected fracture, dislocation or subluxation:

- Ensure the athlete does not move the injured body part or place any weight on it.
- Control any bleeding.
- Splint and immobilize the joints above and below the injured area in a comfortable position. Splinting supports the injured area, decreases pain and protects it from further damage.
- Apply an elastic wrap to support the splint for compression and stability.
- Be careful not to increase the athlete's pain.
- Use ice to help control pain and swelling, placing a cloth barrier between ice pack and skin.
- If the athlete is in severe pain and unable to move, call 911 for transport to a medical facility.
- NEVER attempt to reduce or relocate a dislocated joint as this should only be done by a physician or emergency care personnel.

Returning to sport with a cast:

An athlete must have a clearance letter from a licensed medical physician stating that the athlete is permitted to play with an upper extremity cast. This letter should be presented to coaches, as well as officials at each sporting event. The Nebraska School Activities Association will defer to the physician regarding whether any form of participation is allowed in a cast or brace and whether or not it needs to be fully covered or padded.
Overuse Injuries

Overuse injuries tend to develop over time, are more subtle to recognize and often stem from sudden increases in physical activity load and/or improper mechanics. Early intervention is key for optimal recovery and reduced time away from the sport. Examples of overuse injuries include Little League Elbow, Little League Shoulder, jumper’s knee, Achilles tendinitis, shin splints and stress fractures. Half of all sports medicine injuries in children and teens are from overuse and can be treated without surgery.

Symptoms

The progression of symptoms of an overuse injury relatively follows a four-stage sequential course:

<table>
<thead>
<tr>
<th>Signs and Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
</tr>
<tr>
<td>Pain in affected area after physical activity.</td>
</tr>
<tr>
<td>Stage 2</td>
</tr>
<tr>
<td>Pain during physical activity, not restricting performance.</td>
</tr>
<tr>
<td>Stage 3</td>
</tr>
<tr>
<td>Pain during physical activity, restricting performance.</td>
</tr>
<tr>
<td>Stage 4</td>
</tr>
<tr>
<td>Chronic, persistent pain, even at rest.</td>
</tr>
</tbody>
</table>

It can be confusing to determine if the pain experienced is from an injury or part of the normal physical toll of practice and play. Overuse injuries also happen in those returning to a sport or activity after injury who try to make up for lost time by pushing themselves to achieve the level of participation they were at before injury. Consider the progression of the athlete’s complaints, and if the pain does not improve quickly and without residual compensation, it is most likely due to an overuse injury.

Treatment

- Cut back the intensity, duration and frequency of an activity.
- Adopt a hard/easy workout schedule and cross train with other activities to maintain fitness level.
- Educate on proper training and form.
- Perform the proper warm up and cool down activities before and after activity.
- Use ice after an activity for minor aches and pain.
- Over-the-counter medications like Ibuprofen may be helpful (follow recommended dosage on label).
- If symptoms persist, see a physician to create a more detailed treatment plan.
Prevention

• Encourage athletes to be in good physical condition at the start of the season, emphasizing “Get in shape to practice; don’t practice to get in shape.”

• Proper warm up: three to five minutes of cardio followed by drills that prepare all joints moving in the directions needed for the upcoming physical activity. Don’t forget to then stretch key areas of support for the desired movement.

• Proper cool down: Stretch after each training session to reduce injury risk.

• Sports specialization at a young age contributes to overuse injuries.
  – It’s recommended to wait until age 15 to specialize in one sport.
  – Encourage at least 1 to 2 days off from sport each week AND take at least 10 consecutive weeks off from one sport each year.
Growth Plate Injuries

Growth plates are located on the ends of long bones and allow for vertical growth. Adolescent growth plates are vulnerable to stress, overuse injuries and fractures in these areas, which can lead to unequal growth of the extremity.

Little League Elbow and Little League Shoulder are common growth plate injuries often sustained by young baseball players. They are both caused by repetitive traction on their respective growth plates and pose significant risk to growth arrest if not managed properly. Like most overuse injuries, these appear over time and are not necessarily associated with a specific injury.

Treatment
• Avoid any painful activity.
• Rest may be prolonged and involve immobilization.
• Anti-inflammatory medications.
• Targeted stretching and strengthening exercise.
• Diagnosed in physician’s office.

Prevention
• Follow recommended pitch counts and allow for rest between throwing sessions.
• Rotate pitchers to positions that don’t require hard throwing (i.e., 1st or 2nd base).
• Stretch hip flexors, hamstrings and shoulders.
• Continuously perform core exercise to maximize energy transfer from legs to arms.

<table>
<thead>
<tr>
<th>Age</th>
<th>Per Day</th>
<th>Per Week</th>
<th>Per Season</th>
<th>Per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-8</td>
<td>50</td>
<td>75</td>
<td>1,000</td>
<td>2,000</td>
</tr>
<tr>
<td>9-10</td>
<td>75</td>
<td>100</td>
<td>1,000</td>
<td>3,000</td>
</tr>
<tr>
<td>11-12</td>
<td>85</td>
<td>125</td>
<td>1,000</td>
<td>3,000</td>
</tr>
<tr>
<td>13-16</td>
<td>95</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>17-18</td>
<td>105</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>0 Day Rest</th>
<th>1 Day Rest</th>
<th>2 Days Rest</th>
<th>3 Days Rest</th>
<th>4 Days Rest</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 &amp; Under</td>
<td>1-20</td>
<td>21-35</td>
<td>36-50</td>
<td>51-65</td>
<td>66+</td>
</tr>
<tr>
<td>15-18</td>
<td>1-30</td>
<td>31-45</td>
<td>46-60</td>
<td>61-75</td>
<td>76+</td>
</tr>
</tbody>
</table>
Heat Illness

Heat-related illnesses occur when an individual is subjected to extreme temperatures and humidity, and their body is unable to cool down. There are four different types of heat-related illnesses that vary in severity from mild to extreme: heat cramps, heat syncope (losing consciousness due to environmental heat), heat exhaustion and heat stroke. Heat-related illnesses are typically caused by dehydration or poor acclimatization.

### Signs and Symptoms of Heat Illness

<table>
<thead>
<tr>
<th>Heat Cramps</th>
<th>Heat Exhaustion</th>
<th>Heat Stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweating</td>
<td>Headache</td>
<td>Incoherent speech</td>
</tr>
<tr>
<td>Muscle cramps</td>
<td>Nausea</td>
<td>Disorientation</td>
</tr>
<tr>
<td>Weakness</td>
<td>Chills</td>
<td>Unconsciousness</td>
</tr>
<tr>
<td></td>
<td>Unsteadiness</td>
<td>Rapid or irregular pulse</td>
</tr>
<tr>
<td></td>
<td>Fatigue</td>
<td>Very warm and dry skin</td>
</tr>
<tr>
<td></td>
<td>Dizziness</td>
<td>Sweating may have stopped</td>
</tr>
<tr>
<td></td>
<td>Rapid pulse</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cool and pale skin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sweating is usually present</td>
<td></td>
</tr>
</tbody>
</table>

**Treatment:**

- **Heat cramps**
  - Replace fluids by having the athlete drink cold water or cold electrolyte-replacement drink.
  - Slowly stretch the muscle and hold for 30 to 45 seconds; repeat two to three times.
  - DO NOT aggressively massage, to avoid muscle damage.
  - Make sure the athlete is functional and pain-free before returning to play.

- **Heat exhaustion**
  - Stop all activity and move the athlete to a cool, shaded or air-conditioned area.
  - Remove any equipment.
  - Cool the athlete with water or wet towels, or place ice packs on armpits, neck and groin.
  - If the person is conscious, give them cold fluids.
  - Heat exhaustion symptoms will often resolve within two to three hours, but the athlete may feel the effects for several days.
- If the signs or symptoms begin to worsen or do not improve within one hour, transfer the patient to a medical facility for further treatment.
- Return to play on the same day is not recommended for athletes suffering from heat exhaustion.
- Physician clearance is recommended before returning to rule out any underlying conditions.

**Heat stroke is the most dangerous heat illness and is a life-threatening medical emergency.**
- Always cool fast! The recommended method is immersion in a cold tub.
- An empty trash barrel, kiddie pool or tarp are all options to hold ice and water for rapid immediate cooling.
- Remove equipment and excess clothing to help dissipate the heat.
- If a cold tub is unavailable, cool the athlete with a cold shower or cold, wet towels.
- Once cooling has been initiated, it is important to call 911 and activate your emergency action plan.
- **Continue cooling the athlete until medical personnel arrive.**

**Prevention:** Heat illnesses are 100 percent preventable. Below are several precautions to prevent heat illness.

- Slowly acclimate athletes to practicing in a warm climate.
- During off days and off times, avoid the heat.
- Wear lightweight, light-colored and loose-fitting clothing.
- Water breaks should be given AT LEAST every 15 to 30 minutes (10 to 15 minutes in warmer, more humid weather), and athletes should be encouraged to drink more water before and after practices.
- Provide a cooling station during activities in high heat and humidity.
- Use weight charts to record pre- and post-practice weight. If there is more than a 3 percent weight loss before the next exercise session, avoid activity in the heat.
- Identify athletes more at risk (i.e., overweight, out of shape, those who seem to sweat less).
- Follow proper hydration practices.
Weather Guide for Activities in the Heat

Suggested guidelines for fluid replacement:

- Pre-competition meals should be eaten one to three hours before the athletic event and include high-water-content foods and carbohydrates.
- The only “fuel” that should be consumed right before competition is cool fluid.
- Drink 16 oz. of cool water about two hours before the athletic event (training, practice or competition).
- Avoid caffeine-containing beverages, because they act as diuretics, causing increased urination and fluid loss.

Return to play:

- To avoid premature return to participation, the athlete’s medical provider should implement a graduated return-to-play progression tailored for the severity of the type of heat illness.
Lightning and Thunderstorms

On average, more than 25 million lightning flashes strike the ground annually in the U.S. In 2011, 62 percent of lightning fatalities occurred during sports and recreational activities. All coaches and league officials should appreciate the lightning hazard, learn the published lightning safety guidelines and act prudently. Coaches and league officials should encourage safe behaviors in others and ensure their own safety.

Pre-planning:

- Have a written emergency action plan (EAP) that establishes a chain of command, and assign someone to make the decision to halt play. This person must know lightning safety guidelines and have the authority to suspend, as well as resume, activity.

- Use a reliable means for monitoring local weather (storm tracker apps, local radar and the National Weather Service, etc.).

- The use of these key phrases may be helpful:
  - When thunder roars, go indoors!
  - If you hear it (thunder), clear it! If thunder can be heard, lightning is close enough to be a hazard, and everyone should move directly to a safe location.
  - If you see it (lightning), flee it! If lightning is seen, immediately evacuate the area and move to a safe location.

- Identify locations safe from lightning and develop a communication plan on where players and spectators should evacuate to.
  - Safe locations include: inside a building, bus or car.
  - Unsafe locations include: out in the open, under the bleachers, in a press box, storage shed or dugout.

- Make sure all access routes (gates, doors, etc.) are open and clear.

Suspension of play:
Per the National Weather Service:

<table>
<thead>
<tr>
<th>Storm Watch</th>
<th>Risk of hazardous weather event is significantly increased, but its presence, location or timing is unclear; the purpose is to provide enough time to set plans in motion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storm Warning</td>
<td>Hazardous weather conditions are posing a threat to safety or have a very high probability of occurring.</td>
</tr>
</tbody>
</table>

In 2011, 62 percent of lightning fatalities occurred during sports and recreational activities.
Resuming play:

- It is important to wait at least 30 minutes after hearing thunder or seeing lightning before returning outdoors and resuming activity. If a new flash is seen or thunder is heard, the 30-minute clock restarts.

Emergency management for lightning strike victim:

- Ensure your safety first before assisting others, then attempt to move victim(s) to a safer location.
- Call 911 and provide appropriate care within the scope of your training (CPR, AED, etc.).

Mouth Guards and Dental Injuries

The National Youth Sports Safety Foundation reports an athlete is 60 times more likely to sustain damage to the teeth when not wearing a protective mouth guard. Dental injuries are easily preventable through the use of a properly fitted custom mouth guard.

There are three types of mouth guards:

Stock (ready-made)

“Boil and Bites”

Custom-Made

The most effective mouth guards are worn, comfortable, resistant to tearing, durable, fitted properly, easily cleaned and should not restrict speech or breathing.
Types of dental injuries:
- Avulsions—the entire tooth is knocked out of its socket.
- Fracture—a tooth that is broken or cracked.
- Luxation—the tooth is twisted or in the wrong position, but stays in its socket.

In any dental or tooth injury, it is important to:
- NOT handle the tooth by the root (the part that comes out of the gums)
- NOT scrub or brush the tooth
- NOT attempt to sterilize the tooth

Treatment for tooth injury:
- Gently rinse off any dirt or debris with water.
- If tooth is avulsed (the entire tooth is out), reposition the tooth in the socket. Have the athlete stabilize the tooth by gently biting down on some gauze and transport the athlete immediately to a dentist.
- DO NOT reposition the tooth if it looks “too short” (pushed into gum).
- If unable to re-implant the tooth, the following are suitable options in order of effectiveness:
  - Tooth preserving kit
  - Cold milk
  - Saline soaked gauze
  - Under a conscious athlete’s tongue
- The athlete needs to be transported to the dentist immediately. The tooth needs to be treated within 30 minutes to have a better chance of survival.
Emergency Action Plan

Emergency Action Plans (EAPs) are vital for sports safety. They should include the following for every practice or competition venue AND be reviewed and practiced regularly to optimize player safety:

☐ A protocol for medical emergencies, including who stays with the athlete and who will seek help.

☐ Make sure to identify the person responsible for contacting parents.

☐ It is highly recommended that all athletes have a pre-participation physical before participating in any practice or competition.

☐ All athletes should have emergency information and emergency contact forms on file.

☐ All forms should be easily accessible to the coach and athletic trainer.

☐ Any high-risk conditions (e.g., asthma, diabetes or bee sting allergies) should be brought to the attention of the coach before the start of the season.

☐ Any individuals calling 911 for an emergency should be taught to identify their location and proper routes for the ambulance to access the playing fields or gymnasium.

☐ Make sure the routes identified have no locked gates or obstructions.

☐ If there are locked gates, make sure to open before the event or have it clearly communicated who will have keys should an emergency arise.

☐ All coaches should be trained and certified in CPR and the use of an AED.

☐ An AED should be clearly marked and available at all athletic practices and events.

☐ A lightning protocol should be established, identifying who decides when games are postponed and where safe locations are for athletes, spectators and officials to take cover.

☐ Events should be stopped for any lightning seen or thunder heard.

☐ Play may be resumed 30 minutes following the last lightning strike and sound of thunder.

☐ Plans for caring for athletes with neck or brain injuries, unconsciousness, collapse, respiratory distress, bee stings, heat illness, suspected fracture, tooth injury or anaphylactic shock.

☐ Utilize a coach or athletic trainer to check all sporting equipment and identify any hazards in venue.

☐ Identify who will monitor athletes for signs of heat illness and dehydration in hot, humid environments.
Sample Emergency Action Plan

EAP for (venue)

1. ________________ will call 911 in the event of an emergency situation. This person will also:
   a. Instruct emergency medical services (EMS) personnel to “report to and meet at a particular location as we have an injured athlete in need of emergency medical treatment.”
   b. Provide necessary information to EMS personnel:
      • Name, address, telephone number of caller
      • Number of victims; condition of victims
      • First-aid treatment initiated
      • Specific directions to locate venue
      • Call-back number if possible
      • Other information as requested by dispatcher
      • DO NOT HANG UP UNTIL DIRECTED

2. ________________ will retrieve AED.

3. ________________ will provide appropriate emergency care until arrival of EMS personnel, provide pertinent information (mechanism or nature of injury or illness, vital signs, treatment rendered, medical history) and assist with emergency care as needed.

4. ________________ will open gates and doors and meet EMS at the predetermined location.

5. ________________ will notify parents/guardians and obtain medical history.

• Each coach should have emergency medical forms easily accessible at all times. These forms should contain emergency contact information.
• Each coach should be aware of existing medical conditions of each athlete participating (e.g., asthma, diabetes or bee sting allergies).
• Location of first aid/medical kit: ______________________________
• Location of automated external defibrillator (AED): ______________________________
• Location of safe shelter in case of inclement weather: ______________________________
• In the event of severe or inclement weather, ______________________________ will be in charge of making the final decision to postpone or cancel event.
Emergency Contacts

In a life-threatening emergency, always call 911 first.
Nebraska Regional Poison Center: 1.800.222.1222

Children’s Hospital & Medical Center
8200 Dodge St., Omaha, NE 68114
402.955.5400

St. Elizabeth’s Emergency Department
555 S. 70th St., Lincoln, NE 68510
402.219.7142

Nebraska Medical Center
4350 Dewey Ave. Level 1, Omaha, NE 68105
402.559.6637

Bryan West Emergency Department
2300 S. 16th St., Lincoln, NE 68502
402.481.5142

Nearby Hospitals or Emergency Departments:

Name: .................................................. Address: ..................................................
Phone: ..................................................

Name: .................................................. Address: ..................................................
Phone: ..................................................

Police:

Department: ..................................................
Address: ..................................................
Phone: ..................................................

Department: ..................................................
Address: ..................................................
Phone: ..................................................

League Manager or Director:

Name: ..................................................
Phone: ..................................................

Name: ..................................................
Phone: ..................................................

Name: ..................................................
Phone: ..................................................

Venues:

Name: ..................................................
Address: ..................................................
Phone: ..................................................

Name: ..................................................
Address: ..................................................
Phone: ..................................................

For more information, visit ChildrensOmaha.org/SportsMedicine or call 402.955.PLAY (7529). A Coach’s Guide to Sports Injuries | © July 2021 Children’s Hospital & Medical Center
First Aid Kit Contents

The following items are recommended for your first aid kit:

- Waterproof box or bag
- Gloves
- Tape (1.5” – 2”)
- Scissors
- Band-Aids—1” x 3”
- Band-Aids—large and 4-wing
- Sterile gauze
- Non-stick gauze
- Neosporin or triple antibiotic cream
- Saline solution (for cleaning wounds or rinsing eyes)
- Tissues
- Shoulder sling
- 4” or 6” Ace wrap
- Tweezers
- CPR mask
- Fast-acting form of energy (candy bar, sugar) and longer-acting form of energy (cheese, peanut butter)
- Nail clippers
- Antibacterial wipes
- Hand sanitizer
- Emergency contact information
- Pen or marker
- Plastic bags for ice
- Instant ice pack, if available

For More Information

Consult your primary care physician for more serious injuries that do not respond to basic first aid.

As an added resource, Children’s Hospital & Medical Center Sports Medicine staff are available to diagnose and treat sports-related injuries for youth and adolescent athletes.

For a full list of resources and contact information, please visit ChildrensOmaha.org/SportsMedicine or call 402.955.PLAY (7529).
**Resources**


**Allergies**
American Academy of Allergy, Asthma & Immunology
aaaai.org

**Cardiac Problems**
Anyone Can Save A Life
anyonecansavealife.org
American Academy of Pediatrics
AAP.org
American Heart Association
heart.org
National Athletic Trainers’ Association
NATA.org

**Concussions**
Brain Injury Alliance of Nebraska
biane.org
National Athletic Trainers’ Association
NATA.org

**Diabetes**
Juvenile Diabetes Research Foundation
jdrf.org

**Fractures and Dislocations**
Mayo Clinic
mayoclinic.org
American Academy for Orthopaedic Surgeons
orthoinfo.aaos.org

**Growth Plate Injuries**
American Academy for Orthopaedic Surgeons
orthoinfo.aaos.org

**Heat Illness**
National Federation of State High School Associations
nfhs.org
National Athletic Trainers’ Association
NATA.org

**Lightning and Thunderstorms**
National Oceanic and Atmospheric Administration
noaa.gov
National Weather Service
nws.noaa.gov

**Mouth Guards and Dental Injuries**
American Medical Society for Sports Medicine
sportsmedtoday.com

**Neck and Spine Injuries**
National Athletic Trainers’ Association
NATA.org

**Pulmonary and Breathing Problems**
KidsHealth
kidshealth.org
Mayo Clinic
mayoclinic.org

**Sprains and Strains**
American Academy for Orthopaedic Surgeons
orthoinfo.org