



# BACK TO SPORTS

# Parent Handbook



The American Heart Association and National Football League are proud to work together to bring you Back to Sports. The goal of the Back to Sports Parent Handbook is to educate consumers, patients, family members and youth. Even so, the American Heart Association and the National Football League believe that individual decisions regarding sports and care are ultimately best made in discussion between families and their healthcare providers.

The information in this publication is provided by the American Heart Association and the National Football League as a resource. The information provided by the Centers for Disease Control and Prevention, Korey Stringer Institute and National Athletic Trainers' Association has not been evaluated and should not be construed as a recommendation or endorsement by the American Heart Association or the National Football League. Neither the American Heart Association, National Football League nor the publisher warrants or guarantees any product, service or claim made or presented in this publication.



# BACK TO SPORTS



According to a recent poll, parents of middle school or high school aged children report that most boys and girls (76% and 70%) currently play sports.<sup>1</sup> Organized sports can play an important role in helping youth achieve the physical activity recommendation for children—at least 60 minutes of moderate to vigorous physical activity every day.<sup>2,3,4</sup>

The Back to Sports content has been developed using the most relevant evidence-based science to date from the American Heart Association and our strategic alliance members including the National Athletic Trainers' Association (NATA), Korey Stringer Institute (KSI), and Centers for Disease Control and Prevention (CDC).

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In this handbook, you'll find great information on how to keep your athlete healthy and in the game.

Together we can create a culture of sports safety so all kids can play safely and have fun!



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# Benefits of Physical Activity and Youth Sports

## Several health benefits are associated with regular physical activity in kids, including:<sup>4</sup>

- Improved cardiorespiratory and muscle fitness
- Improved bone health
- Improved markers for cardiovascular and metabolic health. Examples may include improved insulin sensitivity, cholesterol profiles, and inflammation.
- Favorable body composition
- Reduced symptoms of depression



## Physical activity can also help kids:

- **RELAX** by reducing symptoms of anxiety and depression.<sup>4</sup> They may feel better right away and also notice an improvement in general well-being as physical activity becomes a part of their daily routine.
- **LEARN** better! Some studies suggest that students who participate in regular physical activity have better academic performance and fewer disciplinary problems.<sup>5</sup>
- **DEVELOP** life-long social skills and learn how to work with others.<sup>6</sup>
- **LIVE** healthier lifestyles for a lifetime. Regular physical activity helps the body stay strong and function well. It can strengthen the heart, lungs, bones and muscles.<sup>4</sup>

## How can I help my child be physically active? <sup>2,4,6,7</sup>

- Physical activity should be increased by reducing sedentary time (e.g., watching television, playing computer video games or talking on the phone).
- Physical activity should be fun for children and adolescents.
- Expose children to a variety of physical activities and sports.
- Parents should try to be role models for active lifestyles and provide children with opportunities for increased physical activity.
- Remember, if you don't have a full 60-minute activity break each day, try to offer two 30-minute periods or four 15-minute ones in which the children can engage in moderate to vigorous activities appropriate for their age and stage of development.

**Active youth have a better chance of becoming healthy adults with a lower risk of developing chronic diseases such as heart disease, stroke, high blood pressure, type 2 diabetes and osteoporosis.<sup>4</sup>**

# Keeping Youth Sports Fun

Participating in sports is a great way for kids to be physically active and develop healthy habits that can last a lifetime. According to research, one of the reasons kids drop out of sports is because it's no longer fun.<sup>8</sup>

According to a recent study, here are the top 10 things kids enjoy about sports:<sup>9</sup>

1. Being a good sport
2. Trying hard
3. Positive coaching
4. Learning and improving
5. Game time support
6. Games
7. Practices
8. Team friendships
9. Mental bonuses (e.g., keeping positive attitude, relieves stress)
10. Team rituals

You want your athletes to be the best they can be and have fun. Try these tips!

- **Show good sportsmanship.** Be a good role model for your athlete by modeling sportsmanship and self-control. Cheer for everyone on the team and show respect to the coaches, officials and opposing team.
- **Give positive feedback and praise.** Always tell your child you're proud of him or her, no matter the outcome of the game. Congratulate players for doing their best. Emphasize having fun more than winning.
- **Focus on individual improvement.** Avoid comparing your child's performance to other athletes, including teammates and competitors. Focus on your child's individual skill development and progress. Remember, kids develop and mature differently.
- **Keep the game in perspective.** Don't define success and failure by winning and losing. Youth sports is a great opportunity for your child to develop lifelong skills such as punctuality, preparedness, and resiliency.
- **Play at the appropriate age and skill level.** Before allowing your kids to "play up," make sure they are ready physically and emotionally.
- **Explore different types of sports.** Talk to your kids about what sports they're interested in. Expose them to multiple sports and physical activity opportunities. Participating in multiple sports may help prevent burn-out and help your children identify several physical activity options that they enjoy.
- **Set goals together.** Talk to your children about what they want to accomplish during the sports season, and support their goals in a positive way. Encourage setting goals around skill development versus performance or wins and losses.



# Sports Safety Myth Buster

Keeping youth athletes safe when participating in sports is everyone's responsibility. Check out these common sports safety myths and learn more about keeping your athlete safe!

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## 1. MYTH: If your child didn't lose consciousness, he/she doesn't have a concussion.

**FACT:** Most concussions occur without a person losing consciousness. In fact, fewer than 10 percent of children and adolescents lose consciousness or are "knocked out" from a concussion.

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## 2. MYTH: A ding or "getting your bell rung" or a "mild" bump or blow to the head can't cause serious injury.

**FACT:** Even a "ding," "getting your bell rung," or what seems to be a "mild" bump or blow to the head can be serious and should be checked out. Concussion symptoms generally show up right after the injury, but the full effect of the injury may not be noticeable at first. Some symptoms may not show up or be noticed until hours or days after the injury. If you notice symptoms of concussion, seek medical attention right away.

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## 3. MYTH: Youth that play sports are more susceptible to risky behaviors such as smoking and illicit drug use.

**FACT:** Physical activity and sports participation offer more than just health benefits for kids.<sup>4</sup> Some studies suggest that participation in sports may help prevent or control some risky behaviors such as smoking and illicit drug use.<sup>10</sup> In addition, some studies have concluded that being physically active is also associated with better academic performance and fewer disciplinary problems.<sup>5</sup>

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## 4. MYTH: Helmets prevent concussions.

**FACT:** While there is no concussion-proof helmet, a helmet can protect your child or teen from certain serious brain or head injuries, such as a skull fracture. Even with a helmet, it is important for your child or teen to avoid hits to the head.

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## 5. MYTH: Heat-related illnesses like heat cramps, heat exhaustion or exertional heatstroke are not preventable.

**FACT:** Heat-related illnesses are preventable. Youth should be properly acclimatized to the heat, maintain a minimum level of physical fitness, have regular breaks and be properly hydrated. Coaches should adjust the length and/or intensity of practice according to weather conditions and ensure athletes are dressed appropriately for the heat.

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**6. MYTH: Sugar-sweetened beverages such as sports drinks are appropriate for children who participate in moderate activity in dry mild temperature environments for less than 60 minutes.**

**FACT:** Sport drinks are sometimes used to replace electrolytes and provide energy for people who sweat a lot, are doing intense activities that last 60 minutes or more, or for those who practice more than once a day, particularly in hot, humid conditions. For short practices, sports drinks are likely not necessary and no better than plain water because many contain ingredients that aren't needed in these conditions, such as calories, sugar and electrolytes.

Water is the least expensive, most readily available drink. Athletes need to drink water before, during and after workouts. Athletes should develop a personalized hydration strategy that takes into account the amount of exercise, environmental conditions and their individual needs. For kids, thirst and urine color are great ways to assess fluid needs. Urine color: light like lemonade = hydrated, dark like apple juice = dehydrated.

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**7. MYTH: Youth athletes are likely to tell an adult (parent and/or coach) about pain or possible injury.**

**FACT:** Forty-two percent of youth athletes said they have hidden or downplayed an injury during a game so they could keep playing. Fifty-four percent of athletes said they have played injured. Top reasons included: injury was not that bad, they were needed and couldn't let the team down, they did not want to be benched, and it was an important game.<sup>11</sup>

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**8. MYTH: You have to be a healthcare provider to give CPR or use an AED.**

**FACT:** One of the most important ways to improve survival from cardiac arrest is to provide CPR as quickly as possible. This means that CPR given by friends, family members or other bystanders is critically important.

You do not need to be a healthcare provider to give CPR, and the AHA offers many options for non-healthcare providers ([www.heart.org/cpr](http://www.heart.org/cpr)).

AEDs are safe and easy to use by anyone. They can be found in many public places like airports, shopping malls and schools.

If someone has a cardiac arrest, it is very important that the AED is used as soon as possible. The combination of CPR and AED will give a person in cardiac arrest the best chance of survival.

# Concussion Facts

## What is a concussion?

A concussion is a type of traumatic brain injury—or TBI—caused by a bump, blow, or jolt to the head or by a hit to the body that causes the head and brain to move quickly back and forth. This fast movement can cause the brain to bounce around or twist in the skull, creating chemical changes in the brain and sometimes stretching and damaging the brain cells.

**Plan ahead**  
What do you want your young child or teen to know about concussion?

## How can I help keep my young children or teens safe?

Sports are a great way for young children and teens to stay healthy and can help them do well in school. To help lower your young children's or teens' chances of getting a concussion or other serious brain injury, you should:

- Help create a culture of safety for the team.
  - o Work with their coach to teach ways to lower the chances of getting a concussion.
  - o Talk with your children or teens about concussion and ask if they have concerns about reporting a concussion. Emphasize the importance of reporting concussions and taking time to recover from one.
  - o Ensure that they follow their coach's rules for safety and the rules of the sport.
  - o Tell your children or teens that you expect them to practice good sportsmanship at all times.
- When appropriate for the sport or activity, teach your young children or teens that they must wear a helmet to lower the chances of the most serious types of brain or head injury. However, there is no "concussion-proof" helmet. So, even with a helmet, it is important for young children and teens to avoid hits to the head.



Visit [cdc.gov/HEADSUP](https://cdc.gov/HEADSUP) for more information.



## How can I spot a possible concussion?

Young children and teens who show or report one or more of the signs and symptoms listed below—or simply say they just “don’t feel right” after a bump, blow or jolt to the head or body—may have a concussion or other serious brain injury.

Symptoms reported by athlete	Signs observed by parents or coaches
<ul style="list-style-type: none"> <li>• Headache or “pressure” in head</li> <li>• Nausea or vomiting</li> <li>• Balance problems or dizziness</li> <li>• Double or blurry vision</li> <li>• Sensitivity to light</li> <li>• Sensitivity to noise</li> <li>• Feeling sluggish, hazy, foggy or groggy</li> <li>• Concentration or memory problems</li> <li>• Confusion</li> <li>• Just not “feeling right” or is “feeling down”</li> </ul>	<ul style="list-style-type: none"> <li>• Appears dazed or stunned</li> <li>• Is confused about assignment or position</li> <li>• Forgets an instruction</li> <li>• Is unsure of game, score or opponent</li> <li>• Moves clumsily</li> <li>• Answers questions slowly</li> <li>• Loses consciousness (even briefly)</li> <li>• Shows mood, behavior or personality changes</li> </ul>

## Talk with your young children and teens about concussion.

Tell them to report their concussion symptoms to you and their coach right away. Some young children and teens think concussions aren’t serious or worry that if they report a concussion they will lose their position on the team or look weak. Be sure to remind them that “it’s better to miss one game than the whole season.”

## Concussions affect each child and teen differently.

While most young children and teens with a concussion feel better within a couple of weeks, some will have symptoms for months or longer. Talk with your children’s or teens’ health care provider if their concussion symptoms do not go away or if they get worse after your child returns to their regular activities.

Visit [cdc.gov/HEADSUP](https://www.cdc.gov/HEADSUP) for more information.

## Concussion Facts (continued)

### What are some more serious danger signs to look out for?

In rare cases, a dangerous collection of blood (hematoma) may form on the brain after a bump, blow or jolt to the head or body and can squeeze the brain against the skull. Call 9-1-1 or take your young child or teen to the emergency department right away if, after a bump, blow or jolt to the head or body, he or she has one or more of these danger signs:

- One pupil larger than the other.
- Drowsiness or inability to wake up.
- A headache that gets worse and does not go away.
- Slurred speech, weakness, numbness or decreased coordination.
- Repeated vomiting or nausea, convulsions or seizures (shaking or twitching).
- Unusual behavior, increased confusion, restlessness or agitation.
- Loss of consciousness (passed out/knocked out). Even a brief loss of consciousness should be taken seriously.

Young children and teens who continue to play while having concussion symptoms or who return to play too soon—while the brain is still healing—have a greater chance of getting another concussion. A repeat concussion that occurs while the brain is still healing from the first injury can be very serious and can affect a child or teen for a lifetime. It can even be fatal.

### What should I do if my young child or teen has a possible concussion?

If you think your young child or teen may have a concussion, you should:

- Remove your young child or teen from play.
- Keep your young child or teen out of play the day of the injury and until cleared by a health care provider. Your young child or teen should be seen by a health care provider who is experienced in evaluating for concussion.
- Ask your young child's or teen's health care provider for written instructions on how to safely return to school and play. You can give the instructions to their school nurse and teacher(s) and return-to-play instructions to the coach and/or athletic trainer.

Do not try to judge the severity of the injury yourself. Only a health care provider should assess a young child or teen for a possible concussion. Concussion signs and symptoms often show up soon after the injury. But you may not know how serious the concussion is at first, and some symptoms may not show up for hours or days.

**A young child's or teen's return to school and sports should be a gradual process managed by a health care provider. A child or teen should only return to play once he or she is back to their regular school activities, is no longer experiencing symptoms from the injury when doing normal activities, and has the green-light from their health care provider to begin the return to play process.**

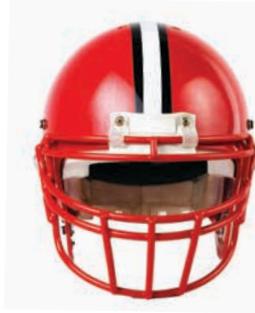
Visit [cdc.gov/HEADSUP](https://www.cdc.gov/HEADSUP) for more information.



## Helmet-fitting tips

There are no concussion-proof helmets, but wearing a helmet can help protect your child from a serious brain or head injury. Your child's helmet should:

- Fit properly. Fit the helmet with the hairstyle that will be worn in practices and games. The helmet fit can change if your child's hairstyle changes he or she has a haircut.
- Be maintained according to the manufacturer's instructions. Make sure to check all protective equipment regularly.
- Be age-appropriate.
- Be worn correctly for all practices and games.
- Be appropriately certified for use.



For sports-specific helmet fitting tips, visit  
[cdc.gov/headsup/helmet](https://cdc.gov/headsup/helmet)

## CDC HEADS UP Concussion and Helmet Safety App



The CDC HEADS UP Concussion and Helmet Safety App will help you learn how to spot a possible concussion and what to do if you think your young child or teen has a concussion or other serious brain injury.

The app also includes a 3D helmet fit feature that teaches about proper helmet fit, safety and care.

The app is available for free download in the App Store for iOS and in the Google Play Store for Android.



National Operating Committee on Standards for Athletic Equipment [www.nocsae.org](http://www.nocsae.org)

National Athletic Equipment Reconditioning Association [www.naera.net](http://www.naera.net)

Content Source: CDC's Heads Up Program. Created through a grant to the CDC Foundation from the National Operating Committee on Standards for Athletic Equipment (NOCSAE).

# Heat-Related Illnesses and Dehydration

## What are some types of heat-related illnesses?

Staying cool in the heat when exercising is important. Increased body temperature and high blood requirements by working muscles when exercising can lead to heat illnesses such as heat syncope, heat cramps, heat exhaustion and exertional heat stroke.

Signs and symptoms of heat-related illnesses	
Heat Syncope	Fainting or lightheadedness.
Heat Cramps	Painful, visible muscle cramps that feel hard.
Heat Exhaustion	Weakness or exhaustion from heat that stops a person from continuing exercise. The person may feel hot, tired, weak, dizzy and collapse.
Exertional Heat Stroke	Body temperature over 105°F with central nervous system dysfunction. Obvious central nervous system problems can include dizziness, collapse, confusion, irrational behaviors, seizures and coma. Rapid pulse; rapid, shallow breathing; nausea; vomiting; muscle cramps; and weakness may also occur. Heat stroke is a medical emergency. Immediately cool the athlete with copious amounts of water and call 911.

## Risk factors for heat-related illnesses

Body temperature can increase for many reasons besides exercise alone. The best way to protect athletes is to modify the risk factors that are responsible for causing heat illness. These factors can be categorized into two groups, intrinsic (factors unique to that individual) and extrinsic (factors outside the athlete's control). Heat illnesses are almost always preventable by reducing risk factors that are responsible for causing heat-related illnesses.

Intrinsic Risk Factors	Extrinsic Risk Factors
<ul style="list-style-type: none"><li>• Lower fitness level</li><li>• Lack of sleep</li><li>• Illness</li><li>• Taking certain meds (antihistamines, diuretics, antihypertensives), supplements and/or stimulants</li><li>• Overweight or obese</li><li>• Not used to the heat</li></ul>	<ul style="list-style-type: none"><li>• High temperature or high humidity</li><li>• Equipment and/or heavy clothing</li><li>• Direct sun exposure</li><li>• Intense or prolonged exercise without enough breaks</li><li>• Not enough fluids or breaks</li></ul>

## What is dehydration?

Dehydration occurs when athletes do not replace body fluids lost by sweating. Being even slightly dehydrated can make an athlete feel bad and play less effectively. Dehydration can cause a person to become hotter and have a higher heart rate while also putting them at greater risk for heat illnesses.

### Signs and Symptoms of Dehydration

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Thirst</li> <li>• Dry mouth</li> <li>• Being irritable or cranky</li> <li>• Headache</li> <li>• Dizziness</li> <li>• Nausea and vomiting</li> </ul> | <ul style="list-style-type: none"> <li>• Heart palpitations</li> <li>• Lightheadedness</li> <li>• Weakness</li> <li>• Decrease urine output</li> <li>• Dark urine color</li> <li>• Exercise session weight loss &gt;2%</li> </ul> |
|--|---|

## How can hydration be monitored?

There are two easy ways to monitor hydration:

### Body Weight Changes

- Most weight lost during activity is because of water loss.
- Take weight pre-practice and again post-practice. By calculating the changes, you can estimate the approximate amount of fluid loss.
- For every pound of body weight lost, an athlete should drink 16 ounces of fluid. That is about one bottle of drink per pound weight lost.

### Urine color check

- Check before and after practice.
- Urine that is light or like lemonade indicates proper hydration. Urine color that is dark like apple juice would indicate dehydration.
- Encourage your athlete to maintain a urine color that looks like “lemonade.”
- Note: Supplements or medications can alter urine color.

**It's best to rehydrate within 2 hours post exercise.**

**Remember, hydration needs are individualistic, so athletes should be aware of their own hydration needs to maximize performance and safety.**



# Heat-Related Illnesses and Dehydration

## Preventing Heat-Related Illness and Dehydration

Take the proper steps before and during exercise to stay cool:

- Check the heat index (or preferably the wet bulb globe temperature) for your area before practice. Avoid practicing during the hottest part of the day.
- Take time to adapt to the hot environment over the course of 10-14 days (acclimatization).
- Take water breaks every 15-20 minutes. Athletes should be able to drink as much as they wish. As the temperature increases, rest/water breaks should be taken more frequently. Water and fluids should be readily accessible throughout practice.
- Never deny or discourage an athlete from drinking water or fluids.
- Do NOT punish athletes by withholding water or fluids.

### Did you know ?

Hyponatremia is a medical condition termed for a low concentration of sodium in the blood. It is mainly caused by over hydration or drinking too much. Athletes should avoid weight gain within exercise sessions of >2%, given they start in a hydrated state.

**Tips to help keep athletes cool:**

- Practice where there is a shaded or cool area nearby.
- Water and rest breaks should be in shaded/cooler areas, if possible.
- Have ice towels to use during rest breaks.
- If an athlete begins to show signs of heat-illness remove them from play, move to shaded/cooler area, have them sit or lie down, elevate legs, and if needed rotate cold, wet ice towels of the body to help the body cool.
- In competition scenario, minimize warm-up or warm up in an air-conditioned environment.
- Stay hydrated before, during and after practice.
- Maintain a minimum level of physical fitness even when not practicing.

### Tips to help keep athletes cool continued:

- Avoid practicing if you're sick.
- Don't use full heavy gear until you have acclimatized to the heat.
- Monitor kids more closely if using medications that could increase body temperature.
- Avoid recreational drugs.
- Monitor hydration status by observing the color of your child's urine.
- Sport drinks are sometimes used to replace electrolytes and provide energy for people who sweat a lot, are doing intense activities that last 60 minutes or more, or for those who practice more than once a day, particularly in hot, humid conditions. For short practices, sports drinks are likely not necessary and no better than plain water because many contain ingredients that aren't needed in these conditions, such as calories, sugar and electrolytes. Water is the least expensive most readily available drink.

Visit the Korey Stringer Institute website at [ksi.uconn.edu](http://ksi.uconn.edu) for more information on heat illnesses and dehydration.



# Pediatric Overuse Injury Prevention

## What are overuse injuries?

Overuse injuries are caused by excessive repetition that damages the body. They may be caused by a variety of factors. Potential causes include:

- Early specialization
- Training errors
- Improper technique
- Excessive training
- Inadequate rest
- Muscle weakness and imbalances
- Equipment failure
- Poor fitness level

Overuse or repetitive trauma injuries account for about half of all youth sports-related injuries for kids ages 6-18. More than half of all reported overuse injuries may be preventable. Don't ignore pain. It is often the first sign of an overuse problem.

### Signs and symptoms of overuse injuries

- |  |   |
|--|---|
| <ul style="list-style-type: none"><li>• Decreased performance</li><li>• Gradual onset of pain</li><li>• Pain that feels like an ache</li><li>• Pain with no history of direct injury</li></ul> | <ul style="list-style-type: none"><li>• Fatigue, stiffness or aching after or during training or competition</li><li>• A tender spot</li><li>• Visible swelling</li><li>• Missed training sessions as a result of the pain/injury</li></ul> |
|--|---|

## Treatment of Overuse Injuries

Early identification and proper treatment are keys to a successful recovery. To diagnose an overuse injury, it is best to have a sports medicine specialist with specific interest and knowledge of your sport or activity perform a thorough history and physical examination. Sometimes additional tests, such as X-rays and MRIs, may be needed. A sports medicine specialist will make recommendations based on their evaluation. Examples could include:

- Cutting back on the duration, intensity and frequency of an activity.
- Adopting a modified workout schedule that includes combination of hard and easy workouts and cross training allowing the body to maintain a general fitness level.
- Ensuring proper technique and training is followed.
- Therapies such as ice and anti-inflammatory medications may help. However, if injuries persist, supervised rehabilitation may also be helpful. This might include stretching, strengthening activities and RICE—Rest, Ice, Compression and Elevation. This is a common treatment for soft tissue injuries, such as sprains and strains.

## Reducing Risk for Overuse Injuries

### Preparation

- **Get a Pre-participation Physical Examination (PPE).** This exam is used to screen athletes for potential risk factors, including injury history, stature, maturity, joint stability, strength and flexibility, which may be important for preventing recurrent injuries.
- **Proper preparation.** Ensure athletes participate in a general fitness program emphasizing endurance, flexibility and strengthening at least two months before the sport season starts.
- **Wear proper-fitting equipment.** Conduct routine weekly checks of equipment. Look for damage, wear and proper fit.

### Training and Conditioning

- **Proper instruction and training techniques.**
- **Proper skill progression.** Not too much too fast!
- **Engage in proper warm-up and cool-down activities.**
- **Preseason and in-season training programs.** Activities that focus on neuromuscular control, balance, coordination, flexibility, core stability and strengthening of the lower extremities are recommended for reducing overuse injury risk, especially for youth athletes with previous history of injury.
- **Increase training gradually.** Remember the 10% rule: do not increase training activity's time, distance or intensity by more than 10% per week. This allows the body time to recover.

### Participation

- **Participate in multiple sports and recreational activities.** Doing this enhances general fitness and aids in motor skill development.
- **Recognize and limit repetitive sport activity.** Examples include spiking, pitching, swinging, running, etc. Follow recommendations such as total number of pitches. Don't overdo it – count the reps.
- **Prevent over-training.** Some data suggest a general guideline of no more than 16-20 hours per week of vigorous physical activity by youth athletes.
- **Build in rest and proper breaks.** Youth athletes should take time off between sport seasons and 2-3 nonconsecutive months away from a specific sport if participating in that sport year-round. They should also have at least 1-2 days off per week from competitive practices, competitions and sport-specific training.

### Education

- **Know the signs and symptoms of overuse injuries.** Parents, coaches and athletes should be educated on the signs and symptoms of overuse injuries. Encourage athletes to notify an adult when symptoms occur.

# Cardiac Arrest and Proper Response

**Cardiac arrest** occurs when the heart unexpectedly stops beating. It's triggered by an electrical malfunction in the heart that causes an irregular heartbeat (arrhythmia) and prevents the heart from pumping blood to the brain, lungs and vital organs. Death occurs within minutes if the victim does not receive treatment. A person in cardiac arrest becomes unresponsive and does not breathe normally or only gasps. A victim has the best chance of survival if CPR and an AED are used immediately. CPR can double or triple a victim's chances of survival.

**CPR (cardiopulmonary resuscitation)** keeps oxygen-rich blood flowing to the victim's body when the heart is not effectively pumping on its own. It's important not to be afraid to act, as your actions can only help. Statistically speaking, if called on to administer CPR in an emergency, the life you save is likely to be someone you love.

**An AED (automated external defibrillator)** is a portable electrical device that can restore normal heart function. If an AED is available, use it. All you need to do is turn it on and follow the prompts. Many public places have AEDs. At your next sporting event, see if you can locate one.



**Research shows that 70 percent of cardiac arrests happen in the home.** Here are a few suggestions of things you can do to be prepared:

- Support education programs for effective bystander CPR and appropriate AED use.
- Ensure emergency plans are in place at your school or youth league.
- Complete a Pre-Participation Physical Examination (PPE) prior to sport participation.
- Get CPR trained and ensure coaches and staff are trained. Learn more at [www.heart.org/CPR](http://www.heart.org/CPR).

## Hands-Only CPR

If a teen or adult suddenly collapses, bystanders should immediately call 911 and provide Hands-Only CPR, (or CPR without breaths).

1. Call 911 or send someone nearby to do it.
2. Push hard and fast in the center of the chest to the rate of 100-120 compressions per minute or to the beat of the disco song "Stayin' Alive."

Hands-Only CPR immediately following cardiac arrest has been shown to be as effective as conventional CPR in the first few minutes of the rescue. However, if those responding are unwilling or unable to provide breaths, Hands-Only CPR can be given to infants and children in cardiac arrest. Hands-only CPR is not appropriate for victims of drowning, drug overdose or people who collapse due to breathing problems.

Watch one of the Hands-Only CPR instructional videos at [heart.org/handsonlycpr](http://heart.org/handsonlycpr). Share these videos with the important people in your life.



## Child CPR

Bystanders trained in CPR who are able and willing to give breaths, should give CPR with breaths in a 30:2 compressions-to-breaths ratio on children who have not reached puberty (around age 13). Review the steps below.

### To determine if CPR with breaths should be given:

Tap child and shout, "Are you okay?"

Get help – Point and yell like you mean it, "Hey you, call 911 and get the AED now!"

Check the child's breathing. If they are not breathing or only gasping, then start CPR:

1. Position the child next to you.
2. Place heel of your hand in the center of the chest (one hand— if can't press down far enough, use both hands).
3. Push hard and fast in the center of the chest at a rate of at least 100-120 compressions per minute.
  - About two inches deep, let chest rise completely back up
  - Give 30 compressions – count out loud.
  - Keep your arms straight and stay directly over the chest as you push.
4. Give 2 breaths
  - Put one hand on the forehead and the fingers of your other hand on the bony part of the chin
  - Tilt the head back and lift the chin.
  - While holding the airway open, pinch the nose closed with your thumb and forefinger.
  - Take a normal breath. Cover the child's mouth with your mouth.
  - Give 2 breaths (blow for 1 second for each). Watch for the chest to begin to rise as you give each breath.
  - Try not to interrupt compressions for more than 10 seconds.
5. Repeat cycles of 30 compressions and 2 breaths for five cycles or until help arrives.
6. If no one has called 911 or retrieved the AED yet, leave to call 911 and get the AED yourself (if one is available). Return to the child and resume CPR. Use the AED (if available) right away.



# Healthy Post-Play Snacks

Almost one in three kids and teens in the United States are overweight or obese.<sup>12</sup> It's important for parents, guardians, coaches and others to make sure kids have access to healthier foods – including post-play snacks. All too often, kids are rewarded with unhealthy foods and sugary, full-calorie drinks. Lots of healthier choices not only taste great, but are better for them too!

So, the next time your kids finish a practice, game or playing outside with friends, try giving them one of these healthy post-play snacks.

Instead of...	Try...
Sugar-sweetened beverages	Water
	Fat-free (skim) or low-fat (1%) milk
	100% fruit or vegetable juice without added sugars or sodium
Regular chips and crackers	Sunflower or pumpkin seeds*
	Whole-grain crackers
	Low-fat cheese sticks
	Rice cakes
	Apple or pear slices with peanut butter
	Carrot or celery sticks with hummus
	Nuts—walnuts, peanuts, pistachios and almonds
	Popcorn
Sweets and baked goods	Fresh fruit (such as bananas, oranges, tangerines, apples)
	Frozen bananas or grapes
	Canned fruit (in its own juice, with no added sugars)
	Raisins or other dried fruits (unsweetened)
	Applesauce (unsweetened)
	Unsweetened low-fat yogurt
	Frozen 100% fruit pops
	Whole-grain graham crackers
	Whole-wheat bagels—mini or cut in fourths, with nut butter

\*Choose unsalted or very lightly salted

**Help your kids stay hydrated by providing drinking water and including other sources of fluid in their diet like fruits, vegetables, milk and yogurt.**

# Big Green Monster Smoothie

Makes six 4 oz. (1/2 cup) servings

## Ingredients:

- 1 green apple, washed, cored and cut into large chunks (leave skin on)
- 1-2 handfuls of washed spinach
- 1/4 large cucumber, seeds removed, peeled and cut into chunks
- 1 kiwi, peeled and cut into chunks
- 2 tablespoons fresh lemon juice
- 1 cup low fat milk (or milk substitute or water)
- 2 teaspoons honey
- 1 cup ice cubes



## Directions:

Add all ingredients into a blender. Pulse until thoroughly blended. When blended to desired consistency, pour into cups and serve.

Big Green Monster Smoothie	
Calories	53
Total Fat	0.5 g
Saturated Fat	0.5 g
Trans Fat	0.0 g
Polyunsaturated Fat	0.0 g
Monounsaturated Fat	0.0 g
Cholesterol	2 mg
Sodium	30 mg
Carbohydrates	11 g
Dietary Fiber	2 g
Total Sugars	9 g
Protein	2 g

Recipe copyright® 2015 American Heart Association. This recipe is brought to you by the American Heart Association's Simple Cooking with Heart® Program. For more simple, quick and affordable recipes, visit [heart.org/simplecooking](http://heart.org/simplecooking).



# Ready, Set, Prepare Your Athlete!

Not all injuries or illnesses are entirely preventable, but you can help decrease the risk of a problem by taking a few steps to prepare your child for sports or exercise.

## Before the first practice session

- Make sure your child receives a pre-participation exam by a medical professional.
- Be aware of any medical conditions (e.g., asthma, sickle cell trait, diabetes) or allergies (e.g., bee stings, pollens, foods) that may put your athlete at risk. Then be sure to let your coach and athletic trainers know. If your athlete uses an inhaler, epi-pen or glucose tablets, make sure it goes with them to practice and games.
- Ensure your children get at least 60 minutes of physical activity daily that is developmentally appropriate, enjoyable and involves a variety of activities. Activity can be accumulated throughout the day in school sports and out-of-school programs.

## Work with your coach

- Check that your athlete's league/team has an emergency action plan.
- Investigate the coach's background and experience to ensure he or she is trained in first aid, CPR and recognition of concussion signs and symptoms. The coach should also know proper training techniques and progressions. Make sure athletic training is increased gradually.
- Share your emergency contact information with your athlete's coach.

## Be informed

- Learn signs and symptoms of sport-related issues, like concussion. If you suspect a concussion, see a medical professional immediately.  
**When in doubt, sit it out.**
- If your athlete wears protective equipment, make sure it fits and is worn properly. Check it weekly.
- Learn CPR and identify the closest AEDs at practices and competition fields and facilities.



## Practice and game safety

- Make sure your athlete is properly hydrated before, during and after play. Have him or her bring a refillable water bottle to practice and games.
- Make sure your athlete is properly acclimatized to the heat.
- Be aware of weather conditions during games and practices. Hot and humid weather can put your athlete at risk for heat-related illnesses. Also watch for oncoming storms, specifically thunder and lightning. If you hear thunder or see lightning, find shelter immediately.
- Stretching before and after practice and games can help prevent sport-related injuries, such as strains and sprains. Make sure there is time for proper warm-up and cool-down.
- Build in rest and proper breaks from sports. To prevent overuse injuries, encourage multi-sport participation. This can be a good way to get stronger and develop additional skills. Athletes should also have 1-2 days off from any particular sport each week.

## Be supportive

- Avoid negative motivation tactics during practice and games. Name-calling and verbal harassment are never acceptable ways to motivate children to play hard. Be a role model and cheer for all players while supporting officials and coaches.
- Educate athletes on signs and symptoms of common sports-related injuries and teach them to notify an adult when symptoms occur. Athletes should feel comfortable telling the coach or another adult if they don't feel well.

# Back to Sports Quiz

Let's see what you have learned!

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**1. Which of the following are symptoms of a concussion that an athlete may describe?**

- A.** The athlete complains of shoulder pain that radiates down the arm to a tingling feeling in the fingers
  - B.** The athlete feels weak, tired and has stopped sweating
  - C.** The athlete says the lights hurt their eyes, they feel confused, "not right", and complains of a headache or "pressure" in their head
- 

**2. If an athlete has had a previous concussion, he or she:**

- A.** Is more likely to sustain another concussion, especially if the first concussion has not had time to heal
  - B.** Will never have another concussion
  - C.** Will not sustain another concussion from a similar blow or jolt
- 

**3. After a concussion, an athlete should only return to play once they are back to their regular school activities, is no longer experiencing symptoms from the injury when doing normal activities, and have the green-light from their health care provider to begin the return to play process.**

- A.** True
  - B.** False
- 

**4. What are some of the signs and symptoms of dehydration?**

- A.** Dry mouth
  - B.** Headache
  - C.** Excessive fatigue
  - D.** All of the above
- 

**5. Preventing or reducing heat illnesses is possible by following prevention strategies for hydration and cooling.**

- A.** True
- B.** False

---

**6. Checking urine color can be a good way to monitor hydration.**

- A. True
- B. False

---

**7. What is an AED?**

- A. An electronic device that restores normal heart function
- B. Automated external defibrillator
- C. Both A and B
- D. None of the above

---

**8. To be prepared in the event of a cardiac arrest, it is best to do which of the following?**

- A. Learn CPR
- B. Support education programs for effective bystander CPR and AED awareness
- C. Ensure emergency plans for cardiac arrest are in place at your school/youth league
- D. All of the above

---

**9. What are potential causes for overuse injuries?**

- A. Inadequate rest
- B. Hot and humid environment
- C. Early specialization
- D. A and C

---

**10. What is a way to prevent overuse injuries?**

- A. Pre-participation physical exam
- B. Proper instruction and training techniques
- C. Proper warm-up and cool-down activities
- D. Recognize and limit repetitive sports activity
- E. Participate in multiple sports and recreational activities
- F. All of the above
- G. None of the above

- 10. F
- 9. D
- 8. D
- 7. C
- 6. A
- 5. A
- 4. D
- 3. A
- 2. A
- 1. C



# Resources

Learn more about keeping your young athletes safe, healthy and having fun playing the sports they love with these great resources.

**Back to Sports** Learn more about sports safety and check out our resources at [heart.org/BackToSports](https://heart.org/BackToSports).

**PLAY 60 Challenge** Find great ideas and resources to help your family get active at home at [heart.org/PLAY60Challenge](https://heart.org/PLAY60Challenge).

**PLAY 60 App** Jump into this fun endless runner game brought to you by the NFL and the American Heart Association! Download the PLAY 60 App in the App Store or at Google Play.

**American Heart Association Nutrition Center** Find recipes, healthy cooking tips, secrets to heart-smart shopping and much more at [heart.org/nutrition](https://heart.org/nutrition).

**American Heart Association CPR** Find information about lifesaving CPR and CPR training at [heart.org/cpr](https://heart.org/cpr).

**Centers for Disease Control and Prevention** Learn more about how to recognize, respond to and minimize the risk of concussion or other serious brain injury at [cdc.gov/HEADSUP](https://cdc.gov/HEADSUP).

**Korey Stringer Institute** Learn more about dehydration and heat illnesses and maximizing sport performance and sport safety at [ksi.uconn.edu](https://ksi.uconn.edu).

**National Athletic Trainers' Association** Learn more about sports safety topics and the Safe Sports School Award at [nata.org](https://nata.org).

## Pledge to Keep Sports Safe and Fun!

Take the pledge to commit to promoting youth sports safety and keeping youth sports experiences positive and fun in your community.

[heart.org/BackToSportsPledge](https://heart.org/BackToSportsPledge)

- <sup>1</sup> NPR, Robert Wood Johnson Foundation, and Harvard T.H. Chan School of Public Health (2015). Report on Sports and Health in America. Retrieved on June 14, 2016 from <http://www.rwjf.org/content/dam/farm/reports/reports/2015/rwjf420908>.
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# Notes

