COACH SAFELY COURSE

Arkansas Department of Health
Injury Prevention

Introduction

The Coach Safely Course is a free, self-paced education tool provided by the Arkansas Department of Health to meet the requirements of the Coach Safely Act of 2023.

Carefully read through the following slides. On the last slide, there will be instructions on how to complete the post-test and receive your certificate.

What is the Coach Safely Act?

The Act and the Rule articulate that any association that sponsors or conducts sports training or high-risk youth athletic activities for children aged fourteen (14) and younger shall require all coaches and athletics personnel to complete specific training. The association shall maintain a record of individual course completion for as long as that individual serves as athletic personnel or coach for the association. The courses are to be approved by the Arkansas Department of Health, on these subjects:

- Emergency Preparedness, Planning & Rehearsal for Traumatic Injuries
- Concussions and Head Trauma
- Heat & Extreme Weather-Related Injury Familiarization
- Physical Conditioning & Training Equipment Usage
- Heart Defects & Abnormalities Leading to Sudden Cardiac Death

Definitions for this course:

From the Coach Safely Act:
“Association” refers to an organization that administers or conducts high-risk youth sports on property that is owned, leased, managed, or maintained by the state, an agent of the state, or a political subdivision of the state.
“Athletics personnel” refers to athletic directors and other individuals actively involved in organizing, training, or coaching athletic activities for youth who are fourteen (14) years or younger.
“Coach” may include, without limitation, any individual selected by a youth athlete or a team of youth athletes who has not been approved by an association if the individual approved by an association is unavailable.
“High-risk youth athletic activities” refers to any organized sport in which there is a significant possibility for a youth athlete to sustain a serious physical injury. This includes, but not limited to, the sports of football, basketball, baseball, softball, volleyball, soccer, ice or field hockey, cheerleading or lacrosse.
“Youth athlete” refers to any individual who is fourteen (14) years or younger and participates in an organized sport.

Abbreviations:
AAP - American Academy of Pediatrics
AED - Automated External Defibrillator
CDC - Center for Disease Control
CPR - Cardiopulmonary Resuscitation
EAP - Emergency Action Plan
EMS - Emergency Medical Services (i.e., 911)
NATA - National Athletic Trainer’s Association
NCCSIR - National Center for Catastrophic Sports Injuries Research
NFHS - National Federation of State High School Association
SCA - Sudden Cardiac Arrest
TBI - Traumatic Brain Injury

Emergency Preparedness, Planning, & Rehearsal for Traumatic Injuries

Emergency Preparedness, Planning, & Rehearsal for Traumatic Injuries

Importance

Emergency Action Plans (EAP's) are the guidelines of what to do when emergencies occur. The National Center for Catastrophic Sport Injury Research (NCCSIR) reported a total of 65 catastrophic injuries related to athletics in the academic year 2021-22. The NCCSIR reported that 36.9% of those injuries were fatal. They also reported that 36.9% happened at a practice, 42.9% occurred at a game, and 13.8% occurred at an "other" event.

EAP's lay out who does what job and when, so that when an emergency happens youth athletes have the best chance for a better outcome to avoid disability, or even death. It is crucial to practice EAP's after they are created, to ensure participants know what to do in an emergency. The first-time participants utilize an EAP should not be in an actual emergency. EAP's should be a routine athletic drill in practices and warm-ups.

What is a Catastrophic Injury?

The NCCSIR defines a catastrophic injury as injuries that result in fatalities, permanent functional disability, or temporary disability with a full recovery.

Source: Kucera, K. L., & Cantu, R. C. (2023, September 28). Catastrophic Sports Injury Research, Fourteenth Annual Report. National Center for Catastrophic Sport Injury Research At The University of North Carolina at Chapel Hill. https://nccsir.unc.edu/wp-content/uploads/sites/5614/2023/11/2022-Catastrophic-Report-AS-40th-AY2021-2022-FINAL-WEB.pdf

Emergency Preparedness, Planning, & Rehearsal for Traumatic Injuries

The Position Statement of the National Athletic Trainer's Association (NATA):

1. Each institution or organization that sponsors athletic activities must have a written emergency plan. The emergency plan should be comprehensive and practical, yet flexible enough to adapt to any emergency situation.

2. Emergency plans must be written documents and should be distributed to certified athletic trainers, team and attending physicians, athletic training students, institutional and organizational safety personnel, institutional and organizational administrators, and coaches. The emergency plan should be developed in consultation with local emergency medical services personnel.

3. An emergency plan for athletics identifies the personnel involved in carrying out the emergency plan and outlines the qualifications of those executing the plan. Sports medicine professionals, officials, and coaches should be trained in automatic external defibrillation, cardiopulmonary resuscitation, first aid, and prevention of disease transmission. **NATA and NFHS recommend AEDs should be kept 3-5 minutes from every sports venue. This may require multiple AEDs.**

4. The emergency plan should specify the equipment needed to carry out the tasks required in the event of an emergency. In addition, the emergency plan should outline the location of the emergency equipment. Further, the equipment available should be appropriate to the level of training of the personnel involved.

Taken directly from the National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics:

Source: Andersen, J., Courson, R. W., Kleiner, D. M., & McLoda, T. A. (2002). National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics. Journal of athletic training, 37(1), 99–104.

Emergency Preparedness, Planning, & Rehearsal for Traumatic Injuries

The Position Statement of the National Athletic Trainer's Association (NATA):

5. Establishment of a clear mechanism for communication to appropriate emergency care service providers and identification of the mode of transportation for the injured participant are critical elements of an emergency plan.

6. The emergency plan should be specific to the activity venue. That is, each activity site should have a defined emergency plan that is derived from the overall institutional or organizational policies on emergency planning.

7. Emergency plans should incorporate the emergency care facilities to which the injured individual will be taken. Emergency receiving facilities should be notified in advance of scheduled events and contests. Personnel from the emergency receiving facilities should be included in the development of the emergency plan for the institution or organization.

8. The emergency plan specifies the necessary documentation supporting the implementation and evaluation of the emergency plan. This documentation should identify responsibility for documenting actions taken during the emergency, evaluation of the emergency response, and institutional personnel training.

Taken directly from the National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics:

Source: Andersen, J., Courson, R. W., Kleiner, D. M., & McLoda, T. A. (2002). National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics. Journal of athletic training, 37(1), 99–104.

Emergency Preparedness, Planning, & Rehearsal for Traumatic Injuries

The Position Statement of the National Athletic Trainer's Association (NATA):

9. The emergency plan should be reviewed and rehearsed annually, although more frequent review and rehearsal may be necessary. The results of these reviews and rehearsals should be documented and should indicate whether the emergency plan was modified, with further documentation reflecting how the plan was changed.

10. All personnel involved with the organization and sponsorship of athletic activities share a professional responsibility to provide for the emergency care of an injured person, including the development and implementation of an emergency plan.

11. All personnel involved with the organization and sponsorship of athletic activities share a legal duty to develop, implement, and evaluate an emergency plan for all sponsored athletic activities.

12. The emergency plan should be reviewed by the administration and legal counsel of the sponsoring organization or institution.

Taken directly from the National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics:

Source: Andersen, J., Courson, R. W., Kleiner, D. M., & McLoda, T. A. (2002). National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics. Journal of athletic training, 37(1), 99–104.

Emergency Preparedness, Planning, & Rehearsal for Traumatic Injuries

Assessments and Assumptions

While your role is not to diagnose, there are a few standard assumptions that are to be followed any time an athlete collapses from the National Federation of State High School Associations (NFHS).

Scenario 1:

Assessment: A player collapses after direct trauma or direct hit.

Assumption: Must assume head injury, protect neck and spine, call EMS, and move the player as little as possible.

Scenario 2:

Assessment: A player collapses and is unresponsive.

Assumption: Must assume cardiac arrest, begin CPR, call EMS, and get an AED.

AEDs should be kept 3-5 minutes from every sports venue.

Source:
Andersen, J., Courson, R. W., Kleiner, D. M., & McLoda, T. A. (2002). National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics. Journal of athletic training, 37(1), 99–104.

Post-Event Care

While EAP's are vital to athletics, witnessing any event EAP's are used for can be traumatic for both youth athletes and staff. What you do after a traumatic event is just as important as the actions you take during it. Post-event care should also be included in EAP's so there is no confusion on the steps needed after. You should consult with your school's/organization's administration.

Administrative Needs:

Make sure you know what your school's or organization's policies are for after an EAP is used. The event needs to be reported to your respective state's school association if it is a catastrophic injury or fatality.

Emotional Needs:

Consult with your school counselor to discuss what may be needed for your youth athletes after an event. If there is a death, ensure all witnesses to the event have access to grief counseling. If you are a part of an organization with no counselor, collaborate with parents to ensure youth athlete's emotional needs are being cared for.

Documentation:

It is important a written report with specific details is created within 24 hours of use of an EAP. NFHS has additional guidance on post-event care, including in-depth guidelines on fatalities.
www.nfhs.org

Equipment Needs:

Ensure any equipment that has been moved or used is tended to appropriately so it can be ready again for future use in a timely manner. Follow the instructions given with any equipment (like an AED) on how to reset it.

For more information:

Source:
NFHS
https://www.nfhs.org/media/4030011/post-event-toolkit-nfhs-smac-final-august-2020.pdf

EAP Example from NATA

Figure 1, Part 1

FOOTBALL EAP: Butts-Mehre Hall, Woodruff Practice Fields
Revised 8/1/06

ADDRESS: 1 Selig Circle, Athens, GA

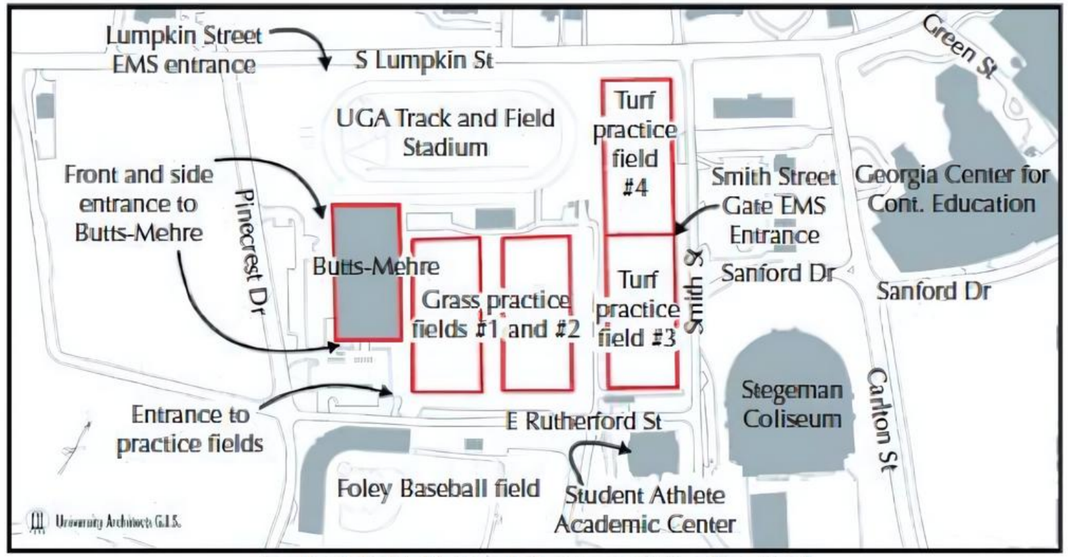
VENUE DIRECTIONS

Butts-Mehre Hall is located on Pinecrest Street (cross-street Lumpkin). Two entrances provide access to building:

1. Main entrance: front of building on Pinecrest Street (directly across from Barrow Elementary School).
2. Athletic training room entrance: rear of building, access from driveway off of Smith Street.

Football practice fields are located with two fields adjacent to Rutherford Street and two fields adjacent to Smith Street. Two gates provide access to football practice fields: Smith Street opens to artificial turf practice fields and access road. Gate on East Rutherford Street opens to grass practice fields.

GPS Coordinates (in event of the need for a medical helicopter transport): 33 56.54 / 83 22.83 (practice field 2)



Football: Butts-Mehre Hall, Woodruff Practice Field

EAP Example from NATA

Figure 1, Part 2

EMERGENCY PERSONNEL
Butts-Mehre Hall: certified athletic trainers, student athletic trainers, and physician (limited basis) on site in athletic training facility, located on first floor.
Football Practice Fields: certified athletic trainers and student athletic trainers on site for practice and workouts.

EMERGENCY COMMUNICATION
Butts-Mehre Hall: fixed telephone lines in Butts-Mehre Hall **(000-000-0000)** and athletic training facility adjacent to practice fields **(000-000-0000)**.

Football Practice Fields: certified athletic trainers carry cellular telephones.
Physician #1 name @ 000-000-0000; Physician #2 name @ 000-000-0000; Physician #3 name @ 000-000-0000.
Fixed telephone line under practice shed **(000-000-0000)**.

EMERGENCY EQUIPMENT
Butts-Mehre Hall: emergency equipment (AED, trauma kit, splint kit, spine board, ProPak vital signs monitor, Philips MRx 12-lead ECG/defibrillator) located within athletic training facility on first floor.
Football Practice Fields: emergency equipment (AED, trauma kit, splint kit, spine board) maintained on motorized medical cart parked adjacent to practice shed during practice; additional supplies maintained under practice shed; additional emergency equipment accessible from Butts-Mehre athletic training facility adjacent to track.

Roles of First Responders
1. Immediate care of the injured or ill student-athlete.
2. Activation of emergency medical system (EMS).
   a. 9-911 call (provide name, address, telephone number, number of individuals injured, condition of injured, first aid treatment, specific directions, other information as requested.
   b. Notify campus police at 000-0000.
3. Emergency equipment retrieval.
4. Directions of EMS to scene.
   a. Open appropriate gates (Smith Street gate has keycard entry; other gates secured with padlocks for M60 key).
   b. Designate individual to "flag down" EMS and direct to scene.
   c. Scene control: limit scene to first aid providers and move bystanders away from area.

Figure 1. Sample emergency action plan.

For more information on EAP's:

Visit NATA's website: https://www.nata.org/

Example from schools in Arkansas:

Arkadelphia:

Jonesboro:

Concussions & Head Trauma

Concussions & Head Trauma

Concussions:

A concussion is a type of traumatic brain injury (TBI) that occurs when a hit forces the brain to move, bounce, or twist inside the skull rapidly. While not typically life threatening by itself, if not treated and allowed to heal properly, it can become life threatening.

When in doubt, sit the player out.

If a concussion is even slightly suspected, do not allow the player to continue playing. Youth athlete's should be seen by a healthcare professional. The healthcare professional should do testing and decide course of treatment. It is crucial treatment is followed carefully, as returing to playing before the concussion is healed can lead to more permanent and lethal damage.

Source:
CDC HEADS UP
https://www.cdc.gov/heads-up/about/index.html

Concussions & Head Trauma

Signs & Sympotms:

Signs and symptoms can appear right away after a TBI, or hours or even days later. This is why it is important to never let a youth athlete jump right back into a sport; they should be monitored closely.

Observable Signs:

Cannot recall events prior to or after a hit/fall
appears dazed/stunned.

Forgets an instruction, confused about assignment/position, unsure of game/score/opponent.

Moves clumsily.

Answers questions slowly.

Loses consciousness (even briefly).

Displays mood/behavior/personality changes.

Reported Symptoms:

Headache/pressure in head.

Nausea/vomiting.

Balance problems/dizziness, double/blurry vision.

Bothered by light/noise.

Feeling sluggish/hazy/foggy/groggy.

Confusion/concentration/memory problems.

Just not “feeling right”/”feeling down”.

Source:
CDC HEADS UP
https://www.cdc.gov/heads-up/signs-symptoms/index.html

Concussions & Head Trauma

CDC HEADS UP:

The CDC outlines a 6 step return to sport protocol. The steps must be followed in order. Do not proceed to the next step if signs of a concussion return. If signs or symptoms pop up, contact the youth athlete's healthcare provider. The steps must be started over if signs and symptoms appear.

Step 1, Regular Activity: The youth athlete is back to regular activities. Sports should not be the first thing a youth athlete returns to; school and other daily life activities should be the starting point.

Step 2, Light Aerobic Activity: After being back to regular activities, the youth athlete can participate in light aerobic activities. This is meant to increase the athlete's heart rate for short periods of time (CDC recommends 5-10 minutes). This should not include any kind of weightlifting.

Step 3, Moderate Activity: After light aerobic activity with no concussion signs or symptoms, the next action is moderate activity. Still focusing on increasing heart rate, incorporate body and head movements. Weightlifting can be incorporated, but for shorter periods of time and less weight than the athlete's usual workout.

Source:
CDC HEADS UP
https://www.cdc.gov/heads-up/guidelines/returning-to-sports.html

Concussions & Head Trauma

CDC HEADS UP:

Step 4, Heavy, Non-Contact Activity: After moderate activity with no signs or symptoms of concussion, heavy, non-contact activity can begin. More intense forms of aerobic activity, the athlete's usual weightlifting routine, and any sport-specific drills can resume as long as they are no-contact.

Step 5, Normal Practice and Full Contact: After heavy, non-contact activity with no signs or symptoms, the youth athlete can begin normal practice and full contact. This entails whatever normal practice pre-concussion contained.

Step 6, Competition: Once the youth athlete is practicing at full capacity with no signs or symptoms, the athlete can return to competition.

To learn more about concussions and head trauma, visit CDC's Heads Up Website: https://www.cdc.gov/heads-up/index.html
Or use this QR code to learn more:

Source:
CDC HEADS UP
https://www.cdc.gov/heads-up/guidelines/returning-to-sports.html

Heat & Extreme Weather-Related Injury Familiarization

Heat & Extreme Weather-Related Injury Familiarization

Heat Illness

The body has an automatic way to cool itself down through sweat. But during extreme heat in an environment (unusually higher temperatures or humidity for your area) the body's temperature sometimes rises faster than it is able to cool itself down with sweat.

Check temperature and humidity levels before every practice, game or any other sports related event. If the temperature or humidity is higher than normal, use caution if you choose to continue the event.

Keep a close eye on your youth athletes since heat-related illnesses can cause damage to vital organs.

Source:
CDC Extreme Heat and Your Health
https://www.cdc.gov/extreme-heat/about/index.html

Heat & Extreme Weather-Related Injury Familiarization

Heat Stroke

Signs/Symptoms: high body temperature (103 degrees Fahrenheit or higher), hot/red/dry or damp skin, fast/strong pulse, headache, dizziness, nausea, confusion, passing out/losing conscious.

Actions: **Call EMS right away, heat stroke is a medical emergency**. Move the youth athlete to a cooler place and help lower body temperature with cool cloths or a cool bath if available. Do not give an athlete suspected of a heat stroke a drink.

Return to activity: a player displaying signs/symptoms of heat stroke should not return to activity until given the okay from a medical professional.

Heat Exhaustion

Signs/Symptoms: heavy sweating, cold/pale and clammy skin, fast & week pulse, nausea/vomiting, muscle cramps, tiredness/weakness, dizziness, headache, passing out/losing conscious.

Actions: move athlete to cool place, loosen any tight clothing, put cool, wet cloths on body or take cool bath if available, sip water.
When to call EMS: the athlete is throwing up, the symptoms get worse or the symptoms last more than one (1) hour.

Return to activity: if signs/symptoms do not last more than one hour, the athlete may cautiously return to light activity. Best practice would be to give the athlete time to rest.

Source:
CDC Symptoms of Heat- Related Illnesses
https://www.cdc.gov/extreme-heat/signs-symptoms/index.html

Heat & Extreme Weather-Related Injury Familiarization

Heat Cramps

Signs/Symptoms: heavy sweating during intense exercise, muscle pain and spasms.

Actions: stop physical activity and move athlete to a cool place, drink water or a sports drink, wait for cramps to go away before resuming physical activity.
When to call EMS: if the cramps last more than one (1) hour, the athlete is on a low-sodium diet or the athlete has heart problems.

Return to activity: if signs/symptoms do not last more than one hour, the athlete may cautiously return to light activity. Best practice would be to give the athlete time to rest.

Sunburn

Signs/Symptoms: painful, red and warm skin, blisters on the skin.

Actions: remain out of sun until sunburn heals, put cool cloths on sunburned areas or take cool baths, put moisturizing lotion on sunburned areas, do not break any blisters that formed.
It is unlikely you will need to call EMS for sunburn alone. However, sunburn can occur in conjunction with another heat-related illness. Monitor athlete for additional signs/symptoms.

Return to activity: sunburn alone is not a cause to sit out from activity. Ensure the sunburn is covered with lightweight clothing or practice indoors.
Try to prevent sunburn by making sun screen/sun block a normal part of warmups.

Source:
CDC Symptoms of Heat- Related Illnesses
https://www.cdc.gov/extreme-heat/signs-symptoms/index.html

Heat & Extreme Weather-Related Injury Familiarization

Heat Rash

Signs/Symptoms: red clusters of small blisters that look like pimples on the skin (usually on the neck, chest, groin, or in elbow creases, generally places on the body where sweat pools up).

Actions: stay in a cool, dry place, keep the rash dry, use powder (baby powder) to soothe the rash.
It is unlikely you will need to call EMS for heat rash alone. However, like sunburn, heat rash can occur in conjunction with another heat-related illness. Monitor athlete for additional signs/symptoms.

Return to activity: Like sunburn, heat rash alone is not a cause to sit out from activity. Ensure the heat rash is covered with lightweight clothing or practice indoors.
Try to avoid heat rash by teaching your athlete's proper hygiene practices, and/or keeping clean, dry cloths/paper towels available for athletes to wipe off sweat during practices/games.

General Serious Signs for Medical Attention

If any of the signs/symptoms of heat stroke are seen, EMS should be called immediately. In general, if the player has a high body temperature or passes out/loses consciousness at any point, EMS should be called. If the player feels faint or weak, activity should be stopped immediately, and the athlete should be transported to a cool location. Caregivers should always be contacted in the event of observing any signs/symptoms and even if EMS is not called it is never a bad idea for the caregiver to take the athlete to be seem by a medical professional.

Source:
CDC Symptoms of Heat- Related Illnesses
https://www.cdc.gov/extreme-h

HEAT-RELATED ILLNESSES

WHAT TO LOOK FOR	WHAT TO DO
HEAT STROKE	
• High body temperature (103°F or higher) • Hot, red, dry, or damp skin •Fast, strong pulse • Headache • Dizziness • Nausea • Confusion • Losing consciousness (passing out)	• Call 911 right away-heat stroke is a medical emergency • Move the person to a cooler place • Help lower the person's temperature with cool cloths or a cool bath • Do not give the person anything to drink
HEAT EXHAUSTION	
• Heavy sweating • Cold, pale, and clammy skin • Fast, weak pulse • Nausea or vomiting • Muscle cramps • Tiredness or weakness • Dizziness • Headache • Fainting (passing out)	• Move to a cool place • Loosen your clothes • Put cool, wet cloths on your body or take a cool bath • Sip water **Get medical help right away if:** • You are throwing up • Your symptoms get worse • Your symptoms last longer than 1 hour
HEAT CRAMPS	
• Heavy sweating during intense exercise • Muscle pain or spasms	• Stop physical activity and move to a cool place • Drink water or a sports drink • Wait for cramps to go away before you do any more physical activity **Get medical help right away if:** • Cramps last longer than 1 hour • You're on a low-sodium diet • You have heart problems
SUNBURN	
• Painful, red, and warm skin • Blisters on the skin	• Stay out of the sun until your sunburn heals • Put cool cloths on sunburned areas or take a cool bath • Put moisturizing lotion on sunburned areas • Do not break blisters
HEAT RASH	
• Red clusters of small blisters that look like pimples on the skin (usually on the neck, chest, groin, or in elbow creases)	• Stay in a cool, dry place • Keep the rash dry • Use powder (like baby powder) to soothe the rash

CS280226

Heat & Extreme Weather-Related Injury Familiarization

To learn more:

Visit CDC’s Website:

Physical Conditioning & Training Equipment Usage

Physical Conditioning & Training Equipment Usage

Physical Conditioning

Physical conditioning is the use of full body workouts, which can be strength or cardio based, to improve muscles and cardiovascular health. Studies have shown that light forms of conditioning and strength training at a young age to have benefits including decreasing injuries, and lowering risks of chronic health conditions, particularly cardiovascular disease.

Conditioning can look different based on the sport. It can be aerobic, which is when muscle groups rely on oxygen. These workouts are typically the kind we think when we say “cardio”, walking, running, dancing, cycling, swimming etc. Workouts can also be anaerobic which is when muscle groups rely on sources in the body already. These are typically more strenuous exercise for a shorter duration like the use of equipment or free weights when lifting.
It can look like cross country runners running through sand to increase resistance, or softball players doing bench presses to focus on arm strength to increase throwing speeds. Whatever the case may be, it is important we take a few things into consideration when using conditioning on youth athletes.

More children’s health institutes are stating that youth as young as 7 or 8 may be old enough to use free weights. Not every 8-year-old will be ready, however. Available supervision and maturity should be taken into account. If a child is old enough and mature enough to participate in an organized sport *and* can follow directions, they are old enough to use free weights.

Sources:
Weight room no longer off-limits to kids. Stanford Medicine Children’s Health. (n.d.). https://www.stanfordchildrens.org/en/topic/default?id=weight-room-no-longer-off-limits-to-kids-1-1187, *Mayo Foundation for Medical Education and Research. (2023, December 15). Strength training for kids. Mayo Clinic. https://www.mayoclinic.org/healthy-lifestyle/tween-and-teen-health/in-depth/strength-training/art-20047758, Strength training by children and adolescents | pediatrics | American Academy of Pediatrics. Pediatrics, Official Medical Journal of the American Academy of Pediatrics. (2008, April 1). https://publications.aap.org/pediatrics/article/121/4/835/70927/Strength-Training-by-Children-and-Adolescents?autologincheck=redirected*

Physical Conditioning & Training Equipment Usage

Free Weights VS Equipment

Be cautious when allowing youth athletes to use equipment. Exercise equipment was designed for adults and typically has weight ranges way too high for youth. If youth are using equipment, thorough instruction should be given beforehand and appropriate, close supervision should be available. In general, it is better for youth athletes to use free weights, or even their own bodies as resistance for strength training. Free weights or using body weight as resistance are much easier to control and monitor.

Youth should also enjoy the activity, be given breaks in between sets, and time to warm up and cool down. Keep the weights light and stay between 1-2 sets of 8-12 repetitions. If a youth cannot do 10 repetitions, the weight is too heavy for them. When 8-10 repetitions can be performed, the weight can be increased in no more than 10% increments. A good rule of thumb is to increase in the smallest increments possible, which is usually 2 to 5-pound increments. Monitor the youth's form when using free weights. Equipment itself rarely causes injury; lack of supervision, improper usage, and bad form do.

Sources:

Weight room no longer off-limits to kids. Stanford Medicine Children's Health. (n.d.). https://www.stanfordchildrens.org/en/topic/default?id=weight-room-no-longer-off-limits-to-kids-1-1187, *Mayo Foundation for Medical Education and Research. (2023, December 15). Strength training for kids. Mayo Clinic. https://www.mayoclinic.org/healthy-lifestyle/tween-and-teen-health/in-depth/strength-training/art-20047758, Strength training by children and adolescents | pediatrics | American Academy of Pediatrics. Pediatrics, Official Medical Journal of the American Academy of Pediatrics. (2008, April 1). https://publications.aap.org/pediatrics/article/121/4/835/70927/Strength-Training-by-Children-and-Adolescents?autologincheck=redirected*

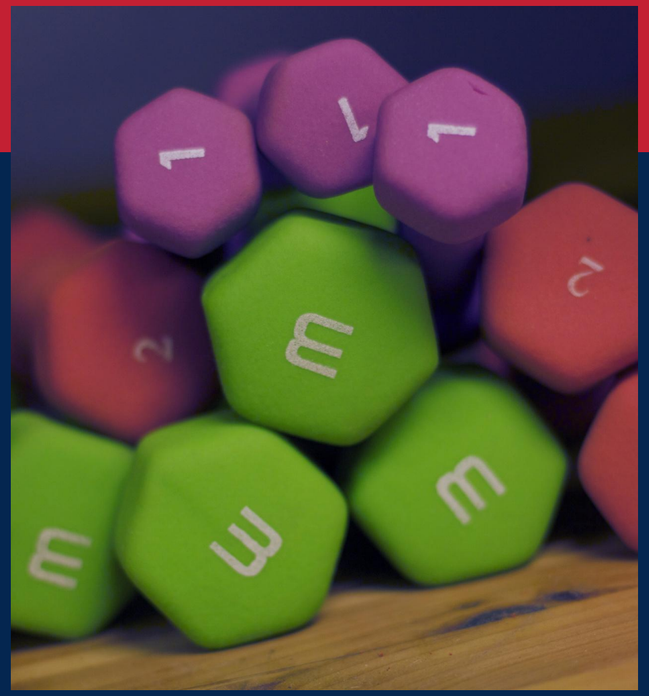
Physical Conditioning & Training Equipment Usage

Strength Training VS Competitive Weightlifting

There is a difference between strength training and competitive weightlifting. Youth athlete's participating in organized sports should not be trained for competitive weightlifting. Focus on lower free weights with repetition and/or resistance training using body weight.

If you are training youth under the age of fourteen (14) for competitive weightlifting, use extreme caution. There is not much research on youth and competitive weightlifting and the American Academy of Pediatrics (AAP) does not have a stance on the topic.

As always, following proper technique, proper form, and strict supervision are a must.



Strength Training/Conditioning

Goal: Increase muscle and cardiovascular endurance to increase athletic performance not to visually build muscle.

Competitive Weightlifting

Goal: lifting the most weight possible, and visually building muscle, including powerlifting, body building or the use of a one (1) repetition lift at the highest weight possible to test for strength. Competitive weightlifting is often identified by rapid, specific types of lifts.

Sources:

Weight room no longer off-limits to kids. Stanford Medicine Children's Health. (n.d.). https://www.stanfordchildrens.org/en/topic/default?id=weight-room-no-longer-off-limits-to-kids-1-1187, Mayo Foundation for Medical Education and Research. (2023, December 15). Strength training for kids. Mayo Clinic. https://www.mayoclinic.org/healthy-lifestyle/tween-and-teen-health/in-depth/strength-training/art-20047758, Strength training by children and adolescents | pediatrics | American Academy of Pediatrics. Pediatrics, Official Medical Journal of the American Academy of Pediatrics. (2008, April 1). https://publications.aap.org/pediatrics/article/121/4/835/70927/Strength-Training-by-Children-and-Adolescents?autologincheck=redirected

Physical Conditioning & Training Equipment Usage

Who Should Not Strength Train

The American Academy of Pediatrics (AAP) recommends that youth with cardiac and/or pulmonary problems should not strength train.

Youth with hypertension or any form of organ damage should get clearance from a medical professional before participating.

A youth currently undergoing chemotherapy or recently ended chemotherapy should get clearance from a medical professional first as well.

Coaches should always discuss potential medical concerns about youth athletes before the beginning of the season and a physical should be done on the youth before participation occurs.

Sources:

Weight room no longer off-limits to kids. Stanford Medicine Children's Health. (n.d.). https://www.stanfordchildrens.org/en/topic/default?id=weight-room-no-longer-off-limits-to-kids-1-1187, *Mayo Foundation for Medical Education and Research. (2023, December 15). Strength training for kids. Mayo Clinic. https://www.mayoclinic.org/healthy-lifestyle/tween-and-teen-health/in-depth/strength-training/art-20047758, Strength training by children and adolescents | pediatrics | American Academy of Pediatrics. Pediatrics, Official Medical Journal of the American Academy of Pediatrics. (2008, April 1). https://publications.aap.org/pediatrics/article/121/4/835/70927/Strength-Training-by-Children-and-Adolescents?autologincheck=redirected*

Physical Conditioning & Training Equipment Usage

To learn more:

American Academy of Pediatrics:

Mayo Clinic:

CDC:

Heart Defects & Abnormalities Leading to Sudden Cardiac Death & Proper Coaching Techniques

Heart Defects & Abnormalities Leading to Sudden Cardiac Death & Proper Coaching Techniques

Sudden Cardiac Arrest

Sudden cardiac arrest (SCA) occurs when the heart stop beating suddenly and unexpectedly. The heart stops functioning properly, usually due to one of two reasons, either electrical problems or structural problems. These conditions are usually already existent, but a lot of athletes do not know until signs or symptoms start to appear or they already have a family history of cardiac issues.

Sudden cardiac death is different, in that all heart activity ends, as well as breathing and blood flow ending. Within seconds the athlete is unconscious and dies.

Source: NFHS https://nfhslearn.com/courses/sudden-cardiac-arrest

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Warning Signs on Sudden Cardiac Arrest

Fainting is the number one warning sign, along with loss of consciousness. Do not assume passing out from heat exhaustion or any other reason. If the player is not responding, assume cardiac arrest. If the player collapses and starts to shake, do not automictically assume seizure. SCA can cause shaking. If there is no evidence of head trauma and the athlete collapses and is non-responsive, assume SCA.

Shortness of breath (SOB): athlete's experience SOB during practices or games but should recover relatively quickly depending on their current fitness shape. If an athlete cannot catch their breath or always seems winded, this could be a sign of SCA.

Racing heart: again, athlete's do experience a fast heartbeat when exercising, but similarly to SOB, this should be temporary. If the athlete complains of their heart "beating out of their chest", or fast heartrate at an inappropriate time, like sitting on the bench, could all be warning signs of SCA.

Dizziness: especially repeated dizziness.

Complaints of chest pain need to be examined by a medical professional right away. Chest pains are different than cramps.

If a player is consistency tired, or more tired than other teammates, possible sign of SCA.

Source: NFHS
https://nfhslearn.com/courses/sudden-cardiac-arrest

Heart Defects & Abnormalities Leading to Sudden Cardiac Death & Proper Coaching Techniques

What To Do:

If a player collapses and is unresponsive/unconscious and there is no evidence of head trauma, assume SCA and do the following:
Call EMS/911.
Call for someone to retrieve an AED. As discussed in the EAP section, AEDs should be kept 3-5 minutes away from any event center and if EAPs are rehearsed then multiple persons should know the location.
Begin CPR.

Resources for CPR

The American Red Cross and American Heart Association offer CPR and AED classes. The National Federation of State High Schools offers an online training for a small fee. All personnel should be CPR/AED certified. The more people certified, the more likely to save a young athlete's life.

Return to activity

A player who suffers from SCA will not be returning to activity anytime soon. An SCA is a major, life altering event both physically and mentally. SCA survivors will face physical side effects, cogitative changes and a wide range of emotions. Follow their medical providers return to activity instructions exactly.

Source: NFHS https://nfhslearn.com/courses/sudden-cardiac-arrest, American Heart Association https://www.heart.org/

Heart Defects & Abnormalities Leading to Sudden Cardiac Death & Proper Coaching Techniques

To learn more:

National Federation of State High School Associations:

American Heart Association:

CDC:

Sources:

- 1. Kucera, K. L., & Cantu, R. C. (2023, September 28). Catastrophic Sports Injury Research, Fourteenth Annual Report. National Center for Catastrophic Sport Injury Research At The University of North Carolina at Chapel Hill. https://nccsir.unc.edu/wp-content/uploads/sites/5614/2023/11/2022-Catastrophic-Report-AS-40th-AY2021-2022-FINAL-WEB.pdf
- 2. Andersen, J., Courson, R. W., Kleiner, D. M., & McLoda, T. A. (2002). National Athletic Trainers' Association Position Statement: Emergency Planning in Athletics. Journal of athletic training, 37(1), 99–104.
- 3. Centers for Disease Control and Prevention. (2024b, April 7). Signs and symptoms of concussion. Centers for Disease Control and Prevention. https://www.cdc.gov/heads-up/signs-symptoms/index.html
- 4. Centers for Disease Control and Prevention. (2024, April 4). Returning to sports. Centers for Disease Control and Prevention. https://www.cdc.gov/heads-up/guidelines/returning-to-sports.html
- 5. Centers for Disease Control and Prevention. (2024c, June 21). Extreme heat and your health. Centers for Disease Control and Prevention. https://www.cdc.gov/extreme-heat/about/index.html
- 6. Centers for Disease Control and Prevention. (2024a, February 15). Symptoms of heat-related illnesses. Centers for Disease Control and Prevention. https://www.cdc.gov/extreme-heat/signs-symptoms/index.html
- 7. Centers for Disease Control and Prevention. (2024a, February 15). Heat and athletes. Centers for Disease Control and Prevention. https://www.cdc.gov/extreme-heat/risk-factors/extreme-heat-and-athletes.html
- 8. Weight room no longer off-limits to kids. Stanford Medicine Children’s Health. (n.d.). https://www.stanfordchildrens.org/en/topic/default?id=weight-room-no-longer-off-limits-to-kids-1-1187
- 9. Mayo Foundation for Medical Education and Research. (2023, December 15). Strength training for kids. Mayo Clinic. https://www.mayoclinic.org/healthy-lifestyle/tween-and-teen-health/in-depth/strength-training/art-20047758
- 10. Strength training by children and adolescents | pediatrics | American Academy of Pediatrics. Pediatrics, Official Medical Journal of the American Academy of Pediatrics. (2008, April 1). https://publications.aap.org/pediatrics/article/121/4/835/70927/Strength-Training-by-Children-and-Adolescents?autologincheck=redirected
- NFHS, https://nfhslearn.com/courses/sudden-cardiac-arrest
- American Heart Association, https://www.heart.org/

Conclusion

Thank you for reading through this course. Please use the link listed or QR Code below to complete the post test. Once you have done so, please email adh.injuryprevention@arkansas.gov to receive your certificate. Post Test Link: https://adhredcap.arkansas.gov/redcap/surveys/?s=YH4HHJW4MCECJ948

Post Test QR Code:

You are responsible for keeping record of your certifications. This is a yearly certification and should be completed every year no later than the previous anniversary date.

If you have any questions/concerns, please contact us at the information listed below.

Arkansas Department of Health
Substance Misuse and Injury Prevention Branch
Website:
https://www.healthy.arkansas.gov/programs-services/topics/coach-safely-act

ADH Coach Safely Website:

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