

Alabama Board of Athletic Trainers
IV Access and IV Fluid Administration

The following standards and protocols are established for athletic trainers in the State of Alabama to perform clinical skills related to intravenous (IV) access and IV fluid administration.

Section 1: Definitions

As used in these standards and protocols, the following terms shall have the following meanings, respectively, unless the context clearly indicates otherwise:

- (1) IV ACCESS. The insertion of an indwelling IV catheter across the skin into a peripheral vein that is in the lower arm, back of the hand, or foot.
- (2) IV CATHETER. A single-lumen plastic conduit specifically designed and intended for IV access and IV fluid administration.
- (3) IV FLUID ADMINISTRATION. The introduction of fluids directly into the cardiovascular system through use of an IV catheter following the completion of IV access.
- (4) PERSON. The individual that is or would be the recipient of IV access, IV fluid administration, or both.

Section 2: Education and Training Standards for IV Access and IV Fluid Administration

An athletic trainer must meet the education and training standards outlined in this section prior to performing IV access and IV fluid administration in the practice of athletic training.

2.1 Required Education and Training

An athletic trainer must have received a minimum of 3 hours of education and hands-on training on IV access, IV fluid administration, and risks and benefits of the procedures as attested to by the athletic trainers' supervising physician upon initial application.

2.2 Annual Approval from Supervising Physician

The supervising physician must provide subsequent annual approval for the athletic trainer to perform IV access and IV fluid administration.

2.3 Intraosseous Infusions Prohibited

Nothing in the education and training of an athletic trainer shall grant an athletic trainer the ability to perform intraosseous infusion in the practice of athletic training, IV access, and IV fluid administration.

Section 3: Clinical Standards for IV Access and IV Fluid Administration

Athletic Trainers must adhere to the clinical standards outlined in the following subsections for IV access and IV fluid administration in the practice of athletic training.

3.1 Eligibility for IV Access

An athletic trainer must not attempt IV access for a person that does not meet at least one of the following requirements:

- (1) An individual that is 18 years old in an occupational setting.
- (2) An individual that is actively participating as a member of an intercollegiate sports team or professional sports organization and has received clearance for athletic participation based upon a pre-participation physical examination.

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3.2 Limit on the Number of Attempts for IV Access

A maximum of three attempts can be made to obtain IV access on a person regardless of the number of athletic trainers that attempt to obtain IV access. Any additional attempts at IV access by the athletic trainer requires the physical presence of a physician for evaluation and further direction for care of the person. If a physician is not physically present and the person is not showing signs of improvement, the athletic trainer must activate Emergency Medical Services (EMS) for further evaluation and care.

3.3 Specified IV Fluids for IV Fluid Administration

An athletic trainer performing IV fluid administration must only administer normal saline comprised of 0.9% Sodium Chloride, half normal saline comprised of 0.45% Sodium Chloride, lactated ringers, 5% Dextrose in Water (D5W), or 2.5% Dextrose in Water (D2.5W) based on the discretion of the athletic trainer's supervising physician.

3.4 Volume Specified for IV Fluid Administration

An athletic trainer may administer a maximum of 1000 mL of IV fluid as listed in subsection 3.3. A person requiring more than a 1000 mL of IV fluid shall require the physical presence of a physician to evaluate the person prior to additional IV fluid administration. For a person that does not improve with IV fluid administration up to 1000 mL of IV fluid and without the physical presence of a physician, the athletic trainer must activate EMS for further evaluation and care.

3.5 IV Administration of Medications, Substances, and Additives Prohibited

Other than IV Fluid specified in subsection 3.3, an athletic trainer must not administer any medication, substance, additive through IV access and IV fluid administration.

3.6 Notification of the Athletic Trainer's Supervising Physician

The athletic trainer must notify the athletic trainer's respective supervising physician as soon as possible upon performing IV access or IV fluid administration, but no more than one hour following the initial attempt for IV access for a person.

3.7 Documentation of IV Access and IV Fluid Administration Performed by an Athletic Trainer

An athletic trainer attempting or performing IV access, IV fluid administration, or both must maintain documentation for each instance the skill is performed. Documentation should include the following:

1. Name of the athletic trainer(s)
2. Date and time of the initial attempt of IV access
3. Type of IV fluid administered
4. Amount of IV fluids
5. IV catheter type and size used
6. Number of IV access attempts
7. Any vital signs recorded prior to, during, and after the conclusion of performing the skill
8. Any additional actions taken in the performance of the skill (i.e. evaluation by a physician, activation of EMS, etc.)
9. General overview of the outcome
10. Time when the athletic trainer contacted the supervising physician.

Documentation of the skill shall be reviewed and signed by the athletic trainer's supervising physician within seven days.

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Section 4: Protocols for IV Access and IV Fluid Administration

An athletic trainer meeting and adhering to the standards set forth in Section 1 and Section 2 may perform the skill of IV Access and IV Fluid Administration under the guidance of the protocols outlined in the following subsections. An athletic trainer shall not perform the skill of IV access and IV fluid administration in the practice of athletic training for any injury or condition that does not have a written protocol under this section.

4.1 Exercise-associated Muscle Cramps

Definition

Exercise-associated muscle cramps (EAMC) are temporary but intense and painful involuntary contractions of skeletal muscle occurring during or soon after a period of physical activity and involving three major muscle groups.

Guidelines for Initiating IV Fluid Administration

- The athletic trainer should make all attempts for rehydration to occur through non-invasive techniques, such as oral consumption of food or fluids, for at least 20 minutes.
- If the EAMC improves through non-invasive techniques, as demonstrated through reduction in the intensity of the muscle contractions or number of major muscle groups experiencing the involuntary contractions, the athletic trainer shall not proceed with IV access and IV fluid administration.
- If non-invasive techniques for rehydration are unsuccessful in resolving or improving the EAMC, the athletic trainer may perform the procedures for IV access and IV fluid administration.

Procedures

- The athletic trainer must first obtain the person's vital signs consisting of blood pressure, heart rate, respiratory rate, and pulse oximetry prior to initiating IV access.
- The athletic trainer may then attempt IV access. If successful, the athletic trainer may initiate IV fluid administration.
- The athletic trainer must follow the clinical standards set forth in Section 2.
- The athletic trainer performing the skill must remain with the person for the duration of the IV fluid administration.
- The athletic trainer should perform monitoring of vital signs upon the conclusion of IV fluid administration.
- If at any point the person begins demonstrating signs of severe heat related illness, such as heat stroke, the athletic trainer must immediately activate EMS and follow the guidelines and procedures outlined in the Exertional Heat Stroke Protocol.
- If the person's EAMC resolves with IV fluid administration, the athletic trainer should cease IV fluid administration.
- If the person's EAMC does not resolve with IV fluid administration, the athletic trainer must follow the clinical standards outlined in subsection 3.4.
- If a physician becomes physically present at any time, the athletic trainer shall defer to the physician for further actions related to care of the person.
- A person that has received IV fluid administration for EAMC, must be withheld from physical activity until completion of an in-person evaluation and clearance by a physician.

4.2 Exertional Heat Stroke

Definition

Exertional Heat Stroke (EHS) is characterized by neuropsychiatric impairment and a high core body temperature, typically 104°F or greater, caused by metabolic heat production and environmental heat load. EHS occurs when the body's thermoregulatory system becomes overwhelmed due to excessive heat production or through inhibited heat loss or both. EHS is often signified through CNS dysfunction such as collapse, aggressiveness, irritability, confusion, seizures, or altered consciousness. EHS is considered a medical emergency, and the risks of morbidity and mortality can be significantly reduced if body temperature is lowered promptly.

Guidelines for Initiation of IV Fluid Administration

- For a person with suspected EHS, the athletic trainer should obtain the person's core body temperature through rectal thermometry, and vital signs consisting of blood pressure, heart rate, respiratory rate, and pulse oximetry.
- The athletic trainer should initiate body cooling of the person through cold water immersion (CWI) or other available means, if CWI is not available.
- If the person exhibits signs of EHS or EHS is suspected, the athletic trainer must immediately activate EMS.
- Once the preceding steps have been taken, the athletic trainer may perform the procedure for IV access and IV fluid administration.

Procedures

- The athletic trainer may attempt IV access. If successful, the athletic trainer may initiate IV fluid administration.
- The athletic trainer must follow the clinical standards set forth in Section 2.
- The athletic trainer performing the skill must remain with the person for the duration of the IV fluid administration.
- The athletic trainer should continue with aggressive cooling and monitoring of core body temperature until the person's core temperature is 102°F or at the onset of shivering, then the person should be removed from CWI to prevent overcooling.
- If a physician becomes physically present at any time, the athletic trainer shall defer to the physician for further actions related to care of the person.
- If a physician is not physically present, the person should be transported by EMS for further evaluation and care.
- A person that has received IV fluid administration for EHS, must be withheld from physical activity until the completion of an in-person evaluation and clearance by a physician.

4.3 Exertional Sickling Event

Definition
An Exertional Sickling Event (ESE) is a potentially life-threatening condition resulting from the sickling of red blood cells during bouts of intense exercise in individuals with Sickle Cell Trait (SCT). The deoxygenation of blood in an individual with SCT can result in red blood cell transforming into a sickle shape. When sickling occurs in an individual with SCT it can result in vaso-occlusion leading to ischemia and collapse, whereby the individual may experience intense muscular pain, rhabdomyolysis, and other serious metabolic problems. ESE is a medical emergency and requires immediate care.

Guidelines
<ul style="list-style-type: none">• For a person experiencing suspected ESE, the athletic trainer should first check the individual's vital signs.• If available, the athletic trainer should administer high flow oxygen.• The athletic trainer should make attempts for rehydration of the person to occur through non-invasive techniques, such as oral consumption of food or fluids.• If the person shows signs of heat-related illness, the athletic trainer should initiate body cooling and immediate activation of EMS, as necessary.• If the person is not showing signs of recovery or improvement after initiating the preceding guidelines, the athletic trainer must activate EMS and may perform the procedures for IV access and IV fluid administration.

Procedures
<ul style="list-style-type: none">• The athletic trainer may attempt IV access. If successful, the athletic trainer may initiate IV fluid administration.• The athletic trainer must follow the clinical standards set forth in Section 2.• The athletic trainer performing the skill must remain with the person for the duration of the IV fluid administration.• If a physician becomes physically present at any time, the athletic trainer shall defer to the physician for further actions related to care and transport of the individual.• If a physician is not physically present, the person should be transported by EMS for further evaluation and care.• A person that has received IV fluid administration for ESE, must be withheld from physical activity until the completion of an in-person evaluation and clearance by a physician.