



Upcoming Events:

AEMTA Conference

Hot Springs, AR

July 31, 2024-August 4, 2024

EMSC Advisory Meeting

July 22, 2024 at 1pm

5800 W. 10th St., RM. 801

Little Rock, AR 72204

(Teams meeting available upon request)

During EMS Week, Emergency Medical Services for Children was proud to award Med-Tech EMS with their pediatric recognition. Med-Tech EMS is the FIRST EMS service in Arkansas to achieve this award and recognition. Emergency Medical Services for Children also had the pleasure of awarding MEMS with their pediatric recognition on May 30, 2024.

Pediatric readiness recognition programs are state-based programs that honor not only emergency departments, but prehospital agencies for meeting specific pediatric care standards. The goal of the Arkansas Prehospital Pediatric Readiness Recognition Program is to encourage improvements in pediatric emergency care in the pre-hospital setting and ensure that children in Arkansas receive appropriate treatment from well prepared EMS agencies. The National Prehospital Pediatric Readiness Project (PPRP) is the leading joint initiative to improve prehospital care for acutely ill and injured children in the United States, The PPRP is led by the federal Emergency Medical Services for Children (EMSC) Program with support from more than 30 organizations, federal partners, and experts.

Congratulations Med-Tech EMS and MEMS on your achievement!





Upcoming Events:

Pediatric MCI Drill

July 17, 2024

Russellville, Arkansas

Pediatric MCI Drill

September 18, 2024

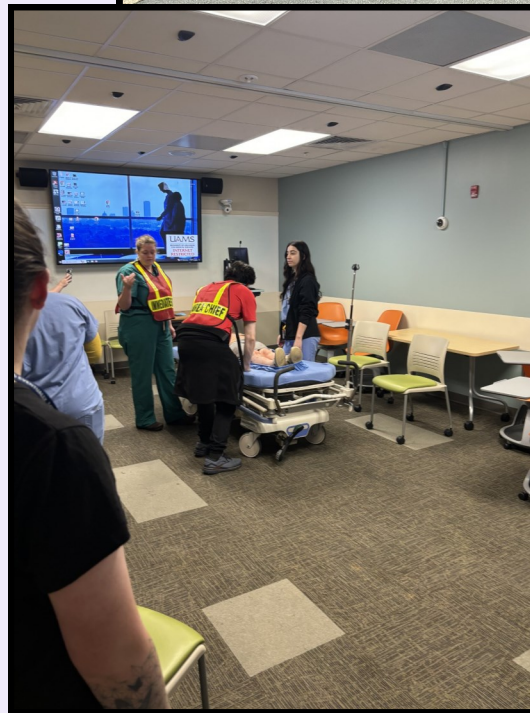
Jonesboro, Arkansas

Pediatric MCI Drill

November 13, 2024

El Dorado, Arkansas

On May 29th, Emergency Medical Services for Children, UAMS Medical Center, and MEMS conducted a pediatric mass casualty drill. The drill consisted of 18 pediatric patients, UAMS Resident Physicians, and approximately a dozen EMS providers from MEMS. The goal of this pediatric drill was to get UAMS Resident Physicians and EMS providers comfortable with triaging and treating pediatric patients in a mass casualty incident.



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Peds Pearls Topic

Five Tiny Trauma Triads

Bad Things Come in Threes

There is something nearly magical about the number three. There is even an ancient Latin phrase, “*omne trium perfectum*,” which roughly translates to, “Everything in threes is perfect.” We hear about all sorts of things that come in threes—some good, some bad, and some that we’re just not sure about. As children, we were introduced to some famous trios like the *Three Blind Mice*, *Three Little Pigs*, and *Goldilocks and the Three Bears*. As we grew up, many of us read about the three ghosts in the Dickens story, *A Christmas Carol*, Dumas’s *Three Musketeers*, and Shakespeare’s three witches in *Macbeth*. The entertainment industry seems to love things in threes, giving us such memorable trios as *The Three Stooges*, *My Three Sons*, and *Three’s Company*. Even saying “Beetlejuice, Beetlejuice, Beetlejuice” had special qualities. As emergency medical personnel, we’ve seen the effects of patients being three sheets to the wind. And when it comes to pediatric trauma, there are also famous trios, or as we call them, triads.

Waddell’s Triad: This classic triad is identified with trauma and is often the subject of an exam question or two. In cases where the mechanism of injury is a high velocity vehicle versus a pediatric pedestrian, these three findings comprise Waddell’s triad:

- 1) **Femur fractures**— A result of the vehicle bumper hitting the child’s upper leg area.
- 2) **Chest/abdominal trauma**— A result of the vehicle grill hitting the child’s torso.
- 3) **Head/spinal cord injuries**— A result of the vehicle’s direct impact on the child’s head/neck OR as a result of the child being thrown into the air by the impact. In the latter cases, the big and relatively heavy head tends to land first, taking the brunt of the force. This third element should be anticipated, though it is not always seen in this pediatric trauma triad.

Interestingly, Waddell’s triad was initially created to describe the injuries associated with adult pedestrians vs. cars, but over time, it’s become a pediatric trauma triad. To help remember Waddell’s triad, it may be helpful to think of injuries that result after the child “waddles” across the street and is struck by a moving vehicle. Once you identify that mechanism of injury (child vs. vehicle), simply think about the size of the child vs. the size of the vehicle and what’s going to hit what.

Cushing’s Triad: This is the ominous triad that appears in patients with dangerously increased intracranial pressure. In this case, think of a squished brain. There’s only so much room inside the bony structure called your skull. And whether due to edema or bleeding, if there’s more stuff than space, something’s gotta give. The signs associated with Cushing’s Triad include:

- 1) **Blood pressure that goes up**—The increased intracranial pressure causes the blood pressure to increase as well. That’s just how our body reacts as it tries to push fresh blood to the brain.

2) **Heart rate that goes way down**—As the brain is squished, the brain stem gets squished as well. The result is called Cushing's reflex.

3) **Respiratory rate that goes way down**— This occurs for the same reasons that the heart goes down.

With few exceptions, if you see this triad, it's time for the family to say goodbye as it's a late and very ominous sign. If you don't get blood to your head, you are quickly going to be dead.

Beck's Triad: This is the classic triad seen in cases of cardiac tamponade. Envisions a squished heart and that's pretty much what's going on. Surrounded by fluid in the pericardial sack, we find the patient exhibiting:

- 1) **Jugular venous distention (JVD)** - When the heart motion is restricted because of the seriously increased pressure of the fluid in the pericardial sac, the strength of pumping action decreases. As a result, the blood doesn't go round and round very well and we get a backup in the system. This backup causes the big, visible veins draining into the heart to get larger and more visible as the volume in those jugular veins increases.
- 2) **Distant or muffled heart sounds**— With the increased fluid in the pericardial sac surrounding the heart, the sound waves produced by the heart are affected and what we hear seems to be coming from a million miles away.
- 3) **Narrowed pulse pressure**—The restricted movement of the heart causes the systolic and diastolic blood pressures to get way too close together—never a happy thing.

When you hear Beck's, think not only of a great German beer, but also cardiac tamponade.

The Trauma Triad of Death: This is a cascading triad that if present and not quickly corrected, can result in the unfortunate and untimely death of a trauma patient.

- 1) **Hypothermia**—All too often, trauma patients are cold. Sometimes we find them that way and sometimes we make them that way. When we make those patients naked (because we can and/or need to) and then provide them with boluses of room temperature IV fluids and cold blood products, they can quickly and easily become hypothermic.
- 2) **Acidosis**—After hypothermia, the body can easily become acidotic as it attempts to compensate.
- 3) **Coagulopathy**—Last, but certainly not least, hypothermia can lead to a coagulopathic patient. This simply means that the clotting mechanisms don't work!

As you can imagine, having a multiple trauma patient who is cold, acidotic, and unable to clot is a bad combination. That's why pink, warm, and sweet is preferred to blue, cold, and dying!

Shaken Baby Syndrome: This particularly disturbing situation is typically characterized by three findings:

- 1) A history that isn't consistent across time (it keeps changing) and/or doesn't fit the presentation and situation by age and mechanism of injury.
- 2) A CT scan of the head that most commonly reveals subdural bleed(s).
- 3) Ophthalmologist confirmed retinal hemorrhages.

With very exceptions, when you see these three findings in one patient, the diagnosis is Shaken Baby Syndrome (more on this in another Peds Pearl).



Pedi-Ed-Trics™
Emergency Medical Solutions, LLC

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