12-12- RDSTF-5 Trauma Advisory Board
Executive Committee Meeting and Stakeholder Meeting Minutes

Welcome: Dr. Pappas welcomed those present. Roll was called:

Voting Members Present:
Trauma Chair: Dr. Tracy Zito, Eric Alberts
Trauma Co-Chair: Rachael Hamlett
Level II Representative: Dr. Rick Ricardi
EMS Chair: Chief Chris Kammel
EMS Co-Chair: Dr. John McPherson
EMS Central Rep: Dr. Christian Zuver
County DOH: Not present
Acute Care Hospital: To be appointed; Dr. Pappas advised the nominee will be presented today
Extended Care: To be appointed; Dr. Pappas advised the nominee will be presented today
Municipal Government: Dr. Pappas advised that we are still recruiting for this position. Dr. Zito will discuss with Michelle Strenth
County Government: Not present

6 of 8 Executive Committee members were present and a quorum was reached

Stakeholders Present:
Sheryl Aldarondo
Dr. Adela Casas-Melley
Beverly Cook
John Corfield
Lynne Drawdy
Dr. Desmond Fitzpatrick
Kim Foley
J. Gershen
Tim Hakamaki
Dr. Jacob Horner
Colin Jones
Matt Meyers
Suzi Mitchell
Thomas O'Neill
Dr. Peter Pappas
Dr. Donald Plumley
Dr. David Rubay
Melissa Smith
David Summers
Jeana Swain
Michael Taylor
Sonny Weishaupt
John Wilgis
Holly Winhoven
Dr. James Woodson

Call to Order: Dr. Zito called the meeting to order.

Review and Approval of Minutes: Dr. Pappas reminded attendees that the October minutes were previously sent out. Eric Alberts moved to approve the minutes as submitted; Dr. Zito seconded the motion. There was no discussion or opposition and the motion carried.

CFDMC/RDSTF Update: Lynne advised that the Coalition presented on its resources at the recent RDSTF meeting. The Coalition will hold a crisis standards of care tabletop exercise on February 14th in the morning. A draft of the regional chemical surge annex will be sent to all stakeholders for review and comments by the end of December, and the Coalition will participate in a statewide chemical surge tabletop on March 6th in the afternoon. Lynne will send flyers for both exercises to the trauma stakeholders and encouraged their participation. Dr. Zito asked if the chemical surge tabletop will include inhalation and burn injuries and Lynne advised that it will include both.

Florida DOH Trauma Update: There was no FDOH representative present and Dr. Pappas announced that trauma related issues remain in limbo as the Florida Trauma System Advisory Committee is awaiting new appointments. An ad hoc group continues its work. Dr. Zito and many others are working to update state trauma standards, which are legally binding and have not been updated since 2010. Dr. Zito expressed frustration with the state not appointing committee members. Dr. Pappas stated that Kate Kocevar is working with the Governor's Office to make this a priority. In the meantime, the group is working on rules that can be updated. Dr. Pappas asked for support in advocating for the appointment of these positions.

Pulsara Presentation: Dr. Pappas introduced Dr. James Woodson and David Summers and stated that Pulsara is a new platform that will improve patient communications. Dr. Woodson is the creator and CEO of Pulsara and is a Board certified emergency physician. David Summers was previously with the Palm Beach Trauma Agency and is now the Florida Department of Health project manager for Pulsara. Dr. Woodson provided an overview and demonstration of Pulsara (see attached presentation) which has been purchased by FDOH with sustainable funding through the state legislature. Pulsara is intended for daily use by EMS and hospitals. Each patient receives a wristband which is scanned and opens a HIPAA compliant patient channel. The application can also be used to coordinate MCIs and track patients by creating an event in Pulsara and adding patients to the event. Questions included:

- What happens in the loss of power/technology. The state is purchasing the StarLink system with cell, internet and satellite capability. Radios will still be needed as a back-up.
- Can this be used in extended care? Yes. For example, a virtual placement center can be created so all SNFs for all SNS to help with patient placement. Texas is using Pulsara for a SNF evacuation exercise in 2024.
- Does the system do trauma alerts and others? Yes, all day, every day. There are 12 different patient types, with messaging templates and the ability to segregate data, configure systems.
- Can the patient record created in Pulsara be forwarded? Yes, there is some capability in the state purchased system, and hospitals can purchase an additional level to use within their facility.
- Where is Region 5 in the process? We have been promoting sign-on for hospitals, EMS, emergency management, etc. and have met with Orange County hospital, EMS and emergency management leaders to discuss an MCI pilot. Dr. Zito stated that FCOT and the Trauma Preparedness Committee will work together with the other Florida Coalitions to develop a statewide MCI coordination process and exercise. Dr. Woodson and FHA have been promoting this statewide.
- What is the difference between Pulsara and EMResource? Matt Meyers advised that EMResource is focused on resources and Pulsara is focused on patients. EMResource provides health and medical resource availability and tracking, event notification for mass casualty or Haz-mat emergencies, and law enforcement notices (e.g. BOLOs). It is an incident management tool for resource and asset availability including bed availability by type. It provides resource and situational information across disciplines. Pulsara is for patient care. This application allows sharing of patient information along the health care continuum and patient tracking for family reunification. Pulsara is a HIPAA-compliant app that unites the entire care team, including EMS and hospitals, adding appropriate personnel to the patient's channel, giving all a single way to communicate about the patient, regardless of organization or location. Eric encouraged that we ensure protocols provide decon alerts to hospitals. After discussion, it was agreed to create a workgroup to address this issue.

Dr. Pappas encouraged all to sign-up for Pulsara (https://www.pulsara.com/florida-resources).
There are a lot of resources on the website. We will keep the Trauma Advisory Board updated on progress in this project.

Executive Director's Report:

EMSAC: Dr. Pappas reminded attendees about the upcoming EMSAC Meeting, January 11-13 in Orlando.

Appointments to the Executive Committee: Dr. Pappas presented two nominees.

- Dr. Thomas O'Neill, NHA, VPPDC, Vice President of Program Development & Communications Southern HealthCare Management. Mr. O'Neill stated that he oversees 27 facilities in Florida and centers in other states and wants to ensure that post-acute facilities work together to optimize patient care. Dr. Pappas nominated Mr. O'Neill as the chair of the Extended Care Committee and as the Extended Care voting member on the Executive Committee. Dr. Zito moved to appoint Mr. O'Neill and Dr. Ricardi seconded the motion. There was no further discussion of opposition and the motion carried.
- Adele Casas-Melley-Nemours, Chair of Surgery, Nemours Children's Hospital. Dr. Casas stated that she has been taking care of trauma patients for more than 25 years and has been in Florida for 16 years. Sonny Weishaupt stated that APH is working on pediatric readiness and Dr. Casas stated she has a good working relationship with Arnold Palmer Hospital and looks forward to working with them on this. Dr. Pappas nominated Dr. Casas as the Acute Care Hospital voting member on the Executive Committee. Mr. O'Neill moved to appoint Dr. Casas and Rachell Hamlett seconded the motion. There was no further discussion and the motion carried.

Stakeholder Spotlight - ACS Trauma Triage Guidelines (see attached presentation). Dr. Pappas presented on the new COT 2021 Field Triage Guidelines. Dr. Plumley asked at what point it is prudent to bypass a Level 2 for pediatric patients, e.g., time, distance. Dr. Pappas said this is a gray area and the COT view is if it is not feasible to transport to a pediatric trauma center, take the patient to the nearest ED. All hospitals should be ready to receive these patients. Dr. Plumley stated that we need a regional plan for how level IIs act as a safety net for the pediatric population and Dr. Pappas agreed and stated that we need to include a plan for air transport. Dr. Zito agreed and stated that standardizing this is important as there is a lot of confusion. Dr. Plumley is working on best practice guidelines for the state. Dr. Pappas suggested that we put together a workgroup on this next spring and Lynne stated that we could raise this at the EMS symposium to get volunteers.

Committee Updates

System Support Committee: Sheryl Aldarondo presented on updates from the December committee meeting. ORMC has a robust Stop the Bleed program and is working on falls prevention and other external events. Lina Chino has replaced Courtney Gleason at Arnold Palmer Hospital as chair of the committee. HCA Florida Osceola has an internal falls prevention project and is working on Stop the Bleed.

Preparedness Committee: Dr. Zito reported that the committee met on December 4 and discussed the statewide MCI process. The Preparedness Committee will take the lead in working with FCOT and the other Healthcare Coalitions in creating a statewide MCI coordination process and exercise, using Pulsara. The group also discussed the need for additional trauma and burn training for hospitals and free standing emergency departments and are looking at available courses and will convene a workgroup to develop an on-line training course with trauma and burn basics and Stop the Bleed.

Clinical Leadership Committee: Dr. McPherson reported on the December meeting. Orange County is rolling out a whole blood pilot with three trained units. Dr. Zuver will schedule the EMS symposium in the new year.

Extended Care Committee: Mr. O'Neill will be recruiting additional members and setting up a meeting schedule.
New Business:

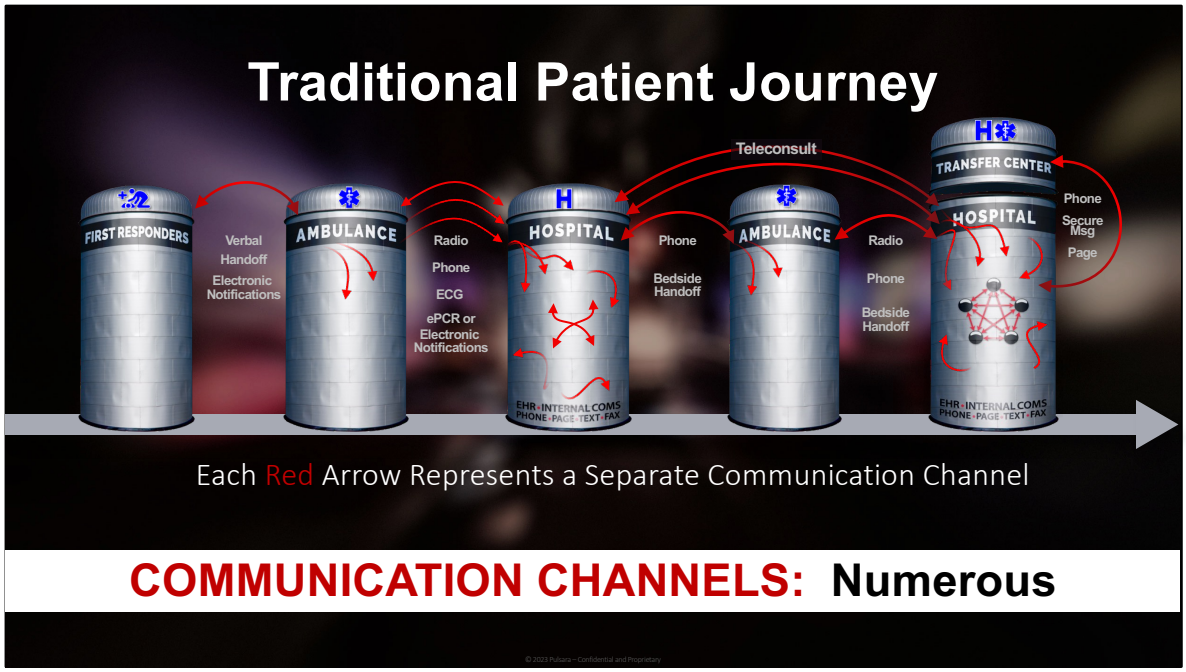
The proposed 2024 Trauma Advisory Board Committee Calendar was previously distributed. Dr. Zito moved to approve the proposed 2024 calendar and Thomas O'Neill seconded the motion. There was no further discussion or opposition and the motion carried. Lynne will send out calendar invitations.

Lynne will also send out the Trauma stakeholder list and asked all to reviews and provide updates.

Next Executive Committee Meeting: The next meeting will be in February. Calendar invitations for 2024 will be sent out.

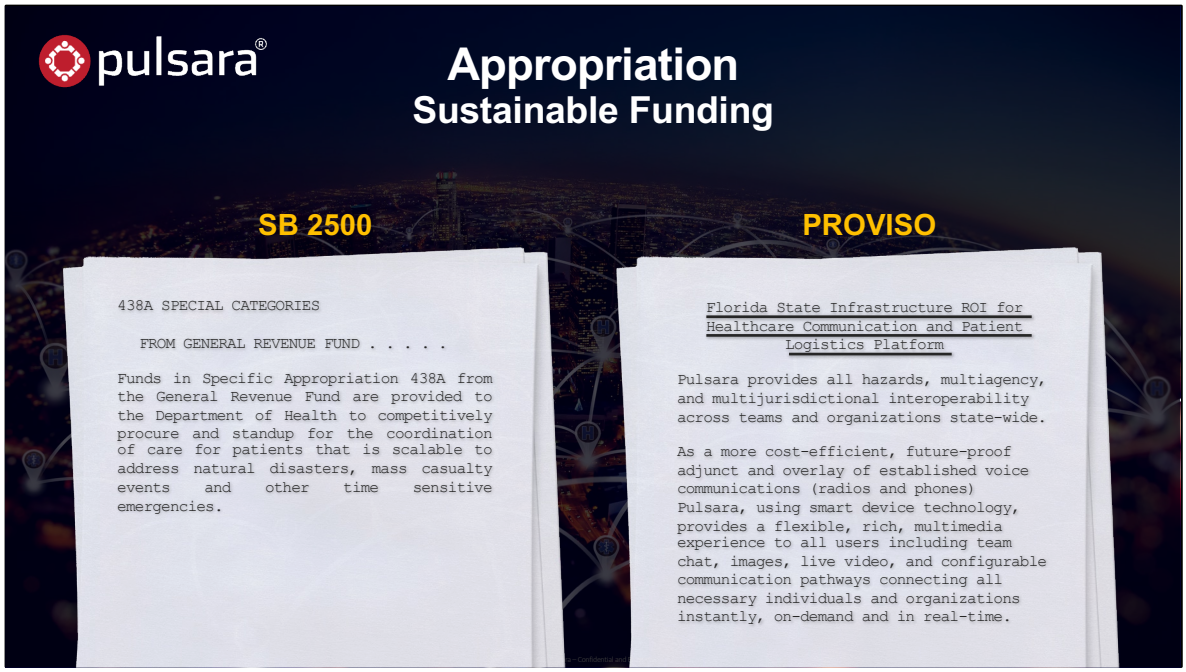
Adjourn: Thomas O'Neill made a motion to adjourn the meeting and Eric seconded. The meeting adjourned at 12:44 p.m.


Everyday is Disaster Day
Systems of Care that SCALE
pulsara®
IT'S ABOUT PEOPLE



Main points

- This is our COMMUNICATION and LOGISTICS infrastructure
    - Currently a separate process from documentation
    - Playing the telephone game – especially inter-organizational communication
    - No COMMUNICATION interoperability
- Outside of healthcare in our daily lives we don't operate on phone calls
    - Group going out to dinner example
    - WHY don't we operate that way in healthcare?
        - HIPAA/Privacy
        - Lack of INFRASTRUCTURE

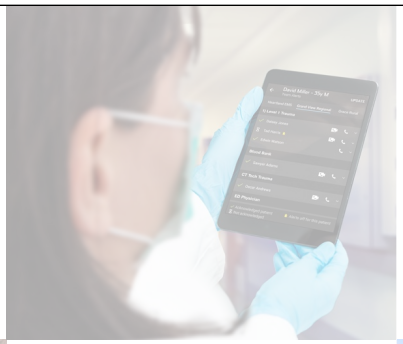


State of Florida recognized this problem and with sustainable funding purchased a statewide multi-agency, multi-jurisdictional communication and logistics platform that can be used DAILY but is also scalable to address natural disasters, mass casualty events and other time sensitive emergencies.

SECURE & ENCRYPTED

Pulsara is a mobile app that establishes a dedicated, encrypted patient channel.

- Includes multimedia, team messaging, live video, images, audio clips and more



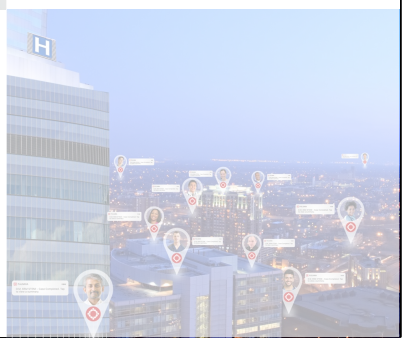
ONE UNIFIED PATIENT CHANNEL

Leveraging networked communications, Pulsara connects all teams across organizations, in one unified communication channel.

TELEHEALTH MADE SIMPLE

Clinicians can connect with patients, or caregivers, and with each other, regardless of location

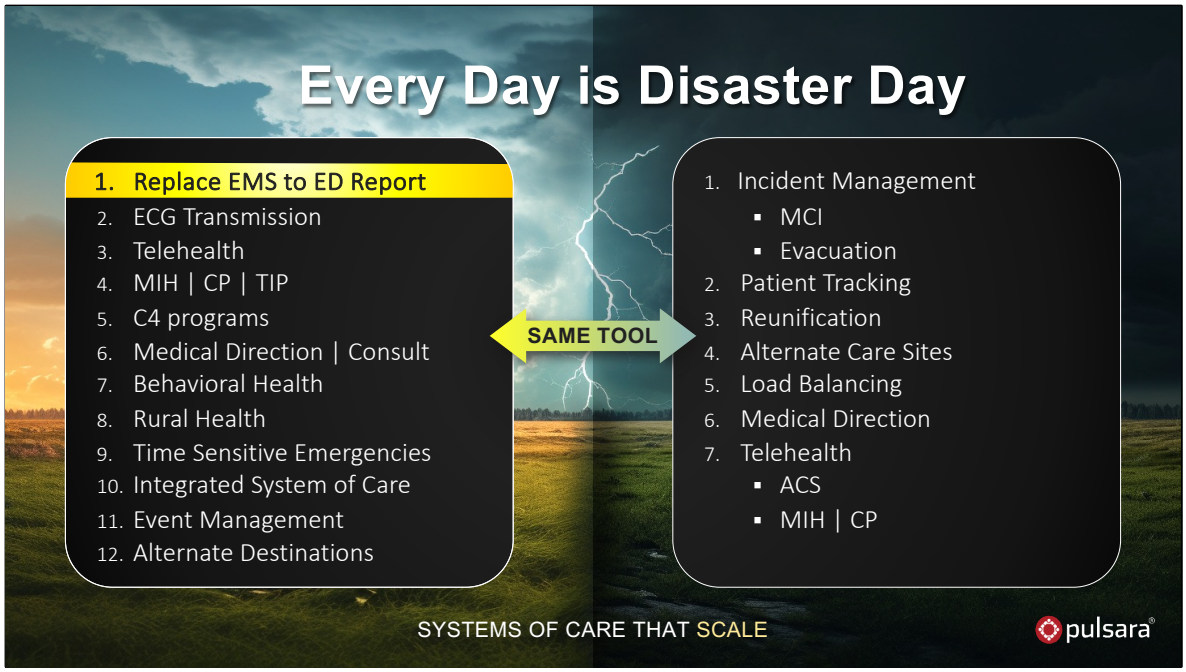
- Convert a phone call to a video call with a tap



Main Points

1. Create channel
    1. Single dedicated communication and logistics channel that can be used for a patient event. Unscheduled transitions of care or distributed teams for acute responses are the main use cases.
2. Build Team
    1. Can build a team even across organizations. Think of this step as PHONE BOOK plus SUPER PAGER.
    2. A provider just needs to know the organization or type of resource and the technology identifies the correct person, alerts them, and puts them on the patient channel.
3. Communicate and Track
    1. Synchronous (Live Audio, Live Video)
    2. ASYNCHRONOUS (chat, photo, audio clips, geolocation…)
    3. Move data in and out of channel - OPEN PUBLIC API
        1. Monitors, Stroke AI solutions
        2. **** NOW instead of totally separate communication work and documentation work, you can import your communication into your documentation (ePCR / EHR)

Cornerstone to success during a disaster is using the same tool all day every day in blue skies that can scale to meet any stress event even in grey skies



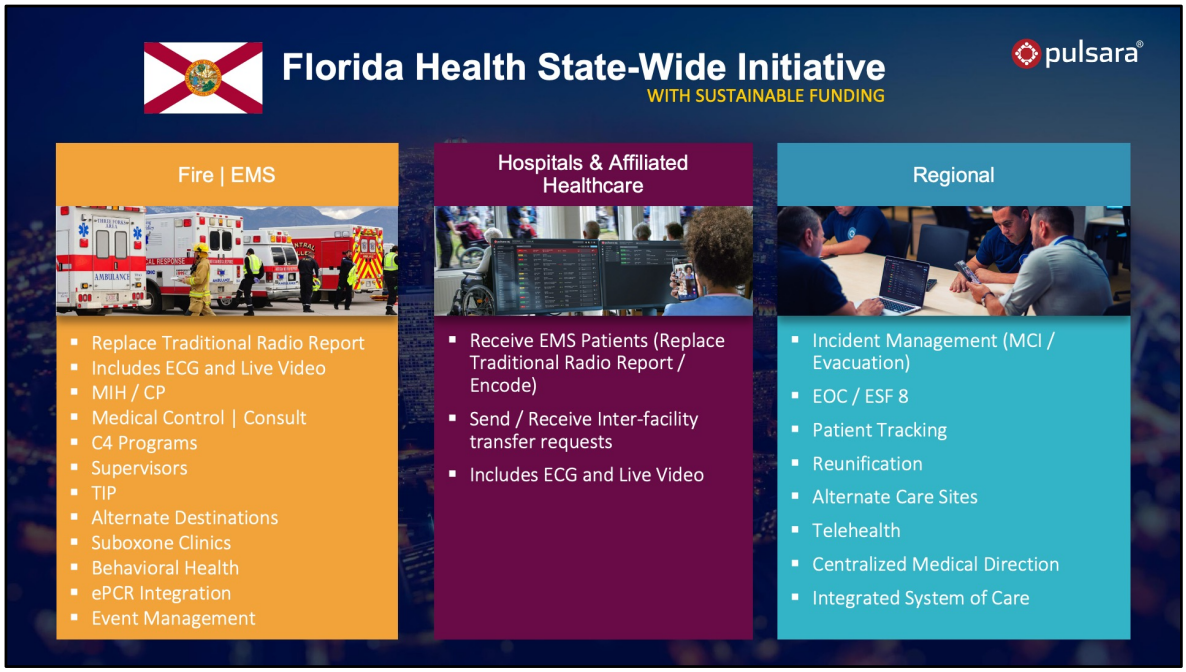
You will hear us say “every day is disaster day.” We want to build that muscle memory so that when needed, providers are very comfortable with the technology.

The cornerstone of these Blue Sky interactions is the routine prehospital EMS to ED report or encode.

- Includes ECG transmission so the ECG is attached to the report
- Other initiatives you see listed here

Builds the muscle memory so it is functional during Grey Sky events like MCI or Mass Evacuation

- Designed to be complimentary to and overlay existing protocols and technologies
- Emphasis on Patient Tracking and Reunification
- Of course we can assist in these other use cases listed as well



This INFRASTRUCTURE is provided by the state at no additional charge to Fire, EMS, Hospitals, and Affiliated Healthcare facilities.

There are no additional hardware costs as you can use smart devices provided by your organization, a web browser, or even personal devices.

Fire, EMS, and Public Safety are able to use Pulsara for all of these types of interactions you see on the left

At no additional charge, Hospitals are able to

- Receive patients from EMS
- SEND AND RECEIVE INTER-FACILITY TRANSFER REQUESTS
- It does include ECG and Live Video
- OPTIONAL UPGRADE for hospitals, there is an opportunity to upgrade so that your downstream care teams can be included in the patient channel, but this is not needed to establish a regional integrated system of care

And of course, these daily use interactions enable all the regional interactions you see on the right for Fire, EMS, Public Safety, Hospitals, and Affiliated Healthcare Facilities

Learn More | Sign Up

https://www.pulsara.com/florida-resources

ACS COT 2021 Field Triage Guidelines for Trauma

Peter A Pappas MD FACS
Chair
American College of Surgeons
Florida Committee on Trauma

Disclosures

- No Financial Disclosures
- Physician Member, Florida EMS Advisory Council
- Chair ACS COT Florida Committee on Trauma
- Member COT EMS Committee

Objectives

- **Review the Criteria**
- **Encourage discussion about what's best for our region**

ACS COT 2021 Field Triage Guidelines

- Guidelines
  - Updated resource on best practice
  - Inclusive and broad
    - Reflects the diversity of US Trauma Systems
  - Traumas categorized by Red and Yellow criteria
  - Replace prior CDC guidelines
  - September 2023 EMSAC – vote for DOH to consider adoption

Red Criteria – High Risk for Serious Injury

Injury Patterns

- Penetrating injuries to head, neck, torso, and proximal extremities
- Skull deformity, suspected skull fracture
- Suspected spinal injury with new motor or sensory loss
- Chest wall instability, deformity, or suspected flail chest
- Suspected pelvic fracture
- Suspected fracture of two or more proximal long bones
- Crushed, degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- Active bleeding requiring a tourniquet or wound packing with continuous pressure

Red Criteria – High Risk for Serious Injury

Mental Status & Vital Signs

All Patients

- Unable to follow commands (motor GCS < 6)
- RR < 10 or > 29 breaths/min
- Respiratory distress or need for respiratory support
- Room-air pulse oximetry < 90%

Age 0–9 years

- SBP < 70mm Hg + (2 x age in years)

Age 10–64 years

- SBP < 90 mmHg or
- HR > SBP

Yellow Criteria – Moderate Risk for Serious Injury

Mechanism of Injury

- High-Risk Auto Crash
  - Partial or complete ejection
  - Significant intrusion (including roof)
    - >12 inches occupant site OR
    - >18 inches any site OR
    - Need for extrication for entrapped patient
  - Death in passenger compartment
  - Child (age 0–9 years) unrestrained or in unsecured child safety seat
  - Vehicle telemetry data consistent with severe injury
- Rider separated from transport vehicle with significant impact (eg, motorcycle, ATV, horse, etc.)
- Pedestrian/bicycle rider thrown, run over, or with significant impact
- Fall from height > 10 feet (all ages)

Yellow Criteria – Moderate Risk for Serious Injury

EMS Judgment

Consider risk factors, including:

- Low-level falls in young children (age ≤ 5 years) or older adults (age ≥ 65 years) with significant head impact
- Anticoagulant use
- Suspicion of child abuse
- Special, high-resource healthcare needs
- Pregnancy > 20 weeks
- Burns in conjunction with trauma
- Children should be triaged preferentially to pediatric capable centers

If concerned, take to a trauma center

Overview – Red and Yellow Criteria

- Patients meeting any one of the **Red Criteria** should be:
  - Transported to the highest-level trauma center available within the geographic constraints of the regional trauma system (*think level Is and IIs*).

- Patients meeting any one of the **Yellow Criteria** who DO NOT MEET RED CRITERIA should be:
  - Preferentially transported to a trauma center, as available within the geographic constraints of the regional trauma system.
  - This need not be the highest-level trauma center (*for regions with level IIIs and IVs*).

What This Means for Florida EMS

- Business as usual
  - Only Level I and II Trauma Centers in Florida
  - Level IIs and Level Is are similarly resourced for adult patients by our Florida Trauma Standards
  - Pediatric Trauma patients are already transported to Pediatric Trauma Centers

Florida's Levels II

- By 64J – same capabilities as a level I for any given patient ≥ 16 years of age
- NOT the case in many regions of the country
- COT EMS committee wrote broadly – sensitivity won out over specificity

- General exceptions are for highly specialized care, including pediatrics, burns, limb/digit reimplantation

- 24/7/365 In-house Trauma Surgeon on call
- 24/7 Neurosurgery
- 24/7 Orthopedic Surgery
- 24/7 CT Surgery
- 24/7 Interventional Radiology – and many also with Neuro-IR
- 24/7 Hand Surgery, Plastic Surgery, OMFS and ENT
- 24/7 Vascular Surgery

Conclusions

- The goal for COT was to generate a document that makes sense in states, provinces and territories across North America
- The goal for us now is to see how it makes sense for Florida
- Thank you!

12-4-23 RDSTF-5 Trauma Advisory Board Clinical Leadership Committee Minutes

Attendees: Dr. Alicia Buck, Beverly Cook, Dr. Danielle DiCesare, Lynne Drawdy, Dr. Desmond Fitzpatrick, Dr. Todd Husty, Jeffrey Katz (EMS Fellow), Dr. John McPherson, Dr. Rick Ricardi, Dr. Ayanna Walker, Dr. Tracy Zito, Dr. Christian Zuver

Review and Approval of Minutes: The minutes were previously distributed. Dr. Zuver moved to approve these as submitted and Dr. Walker seconded the motion. There was no discussion or opposition and the motion carried.

CFDMC Update: Lynne reminded the group that the conference is next week. The agenda and registration are attached to today's calendar invitation. At next week's Trauma Executive Committee meeting, there will be a presentation on Pulsara, the new system purchased by the State of Florida to improve patient communication between EMS and hospitals, and for mass casualty incident coordination and patient tracking. Dr. Zuver hosted a meeting to share this information with EMS in Orange County. Lynne reported that there will be a crisis standards of care tabletop on February 14th and she will send an invitation to this group.

Old Business:

- Whole Blood: Dr. McPherson asked if Orange County is rolling out a whole blood program. Dr. Fitzpatrick stated that this is being finalized and should be ready to push out soon. This will be piloted with specific trained units, selected based on data from trauma centers.
- EMS Engagement: Dr. Zuver will be scheduling the symposium in the new year.
- ACS Guidelines: Dr. Zito stated there have been no changes since the draft came out. Dr. Pappas will be presenting on these at the December 12th Trauma Executive Committee meeting.

New Business:

- EMSAC will be meeting in January EMSAC.
- Lynne asked if the group wanted to keep the 2024 schedule as it was in 2023. Dr. Zito agreed and stated that bimonthly helps to keep on top of issues. Dr. McPherson agreed and stated that we can re-evaluate in six months. Lynne will send out calendar invitations.

12-4-23 Trauma Preparedness Committee Minutes

Attendees: Eric Alberts, Beverly Cook, Lynne Drawdy, Rachel Hamlett, Michelle Rud, Dr. Tracy Zito

Statewide MCI Coordination Process & Exercise: Dr. Zito has asked the Trauma Preparedness Committee to take the lead in working with FCOT emergency preparedness committee, and the other Florida healthcare coalitions in developing a statewide MCI coordination process and exercise. Lynne will send out the draft Texas plan to the group. There will be a Pulsara presentation during the December 12th Trauma Executive Committee call. At the next Preparedness Committee meeting, we will begin to work on the plan, using the Texas draft and the Region 5 trauma coordination center plan.

Rural Trauma Training: Eric stated that the group wanted to look into the rural trauma training to see if this would meet the need for additional burn training for hospitals. Dr. Zito stated that the course is used to prepare hospitals for trauma patients, and just touches on initial burn care. Eric stated that many hospitals could benefit from that training as well as burn training. Micelle advised there are several courses that focus on trauma and burns. Dr. Zito stated that each of these courses are a full day. The ACS is redoing the rural trauma training course and it has been suggested that the word rural be removed from the title. The new course may not be ready for a year. She stated that Tampa and Ocala are very involved in the current course. We may be able to talk to those instructors and get them to add some burn training. The course is conducted at specific facilities so this would mean that each hospital/free standing ED would need a training. Eric asked if there was another course. Dr. Zito stated that we might be able to put together a short course for basic trauma/burn training for nurses. Michelle suggested looking at ENA and sent the link: https://enau.ena.org/Public/Clients/ENA/TNCCENPCCourseList.aspx.

Michelle will also send contact information for trainers.

Cory: Cory.Hewitt@hcahealthcare.com

Donna: Donna.Nayduch@hcahealthcare.com

Dr. Zito asked Lynne and Eric to draft an email request and she will send it. Michelle also provided the name of two HCA training coordinators:

The group agreed that it might be best to take existing courses and adapt these to our needs. Eric suggested that we create a subcommittee of trauma educators to help with this. This could include a half-hour of Stop the Bleed and a mock drill.

2024 Schedule: The group agreed to keep the current schedule for 2024. Lynne will send out calendar invitations.

12-5-23 RTAB System Support Committee

Attending: Sheryl Aldarondo, Lina Chico, Beverly Cook, Lynne Drawdy, Ingrid Londono

Welcome: Sheryl welcomed the group and advised that Lina Chico, APH Injury Prevention Coordinator, has taken Courtney Gleaton's position and will be chairing future meetings. Sheryl stated that the minutes from October meeting were distributed with the calendar invitation. Sheryl had a correction - 'Orlando Police Department' should be 'Florida Highway Patrol.' The minutes were approved with the change.

Stop the Bleed Project: Lynne reported that the Coalition was asked to submit a statewide project to purchase Stop the Bleed kits under SHSGP funding. The project was approved but is pending a formal vote from the Domestic Security Oversight Council. We should receive the funding next fall. The project is for $300,000 which will be split evenly across the seven regions. Lynne thanked Sheryl for her assistance with this project.

ORMC Updates: Sheryl stated has been doing Stop the Bleed community courses at hospitals, fire/rescue and schools and has provided burn prevention training at hospitals and schools. She completed a car fit training in October and Best Foot Forward last month with another in February. There is a new falls group meeting for the first time at the Commission on Aging on December 13th.

Arnold Palmer Updates: Lina shared she is settling into this new role. She is doing one-on-one car seat checks at the hospital and is getting a committee together. They are looking for helmet fitter training.

HCA Florida Osceola Updates: Ingrid Londono stated she has been working events with the coalition and Sheriff's Office and on internal projects for prevention of inpatient falls. She has been working with the Children's Safety Village and is waiting on Stop the Bleed kits.

CFDMC Updates: Lynne asked if the group wants to keep the same meeting schedule for 2024 and the group agreed. Lynne will send out calendar invitations. She stated that every other meeting, the Trauma Executive Committee will meet face-to-face and this group may consider face-to-face meeting as well.

Lynne reminded the group about the December 12 & 13 Coalition Conference. The Trauma Executive Committee will meet on the 12th from 11 am to 12:30 p.m. Lynne sent the conference agenda with registration link to the group.

Next meeting: February, 2024. Lynne will send calendar links.

Adjourn: the meeting adjourned at 10:13 a.m.

10-10-23 RTAB Executive Committee Meeting Minutes

Executive Committee Members Participating:

- Orlando Regional/Orlando Health: Eric Alberts, Sheryl Aldorando, Jeanna Swain, Dr. Tracy Zito
- Halifax Health: Rachell Hamlet
- HCA Florida Lake Monroe: Dr. Rick Ricardi
- EMS North: Dr. John McPherson
- EMS Central: Dr. Desmond Fitzpatrick, Dr. Christian Zuver

A quorum was not reached

Stakeholders/Guests Participating:

- Dr. Alicia Buck, Lake County Fire Rescue
- Lynne Drawdy, CFDMC
- Kim Foley, HCA Florida Osceola
- Dr. Dustin Hyunh, HCA Florida Osceola
- Dr. Peter Pappas, RDSTF-5 Trauma Advisory Board Executive Director
- John Wilgis, Florida Hospital Association

Call to Order: Dr. Pappas called the meeting to order and welcomed all present.

Review and Approval of Minutes: This will be pended until the next meeting.

Executive Director's Report: Dr. Pappas reminded the group that the next meeting will be held on December 12 as part of the Coalition annual conference. He stated that we are working on filling the acute care hospital and city official executive committee slots. Dr. Pappas advised that the Florida Committee on Trauma business meeting was held last week and Dr. Zito gave a great presentation on the Stop the Bleed training. Dr. Zito thanked Sheryl Aldorando for her work in this initiative and stated that we are working on a statewide MCI exercise in Florida.

CFDMC/RDSTF Update: Lynne Drawdy reported that the project to sustain EMResource across the region ranked as the #3 priority for UASI funding. She stated that we have submitted a statewide project for Stop the Bleed through the State Homeland Security Grant Program and thanked Sheryl Aldorando and Dr. Zito for their assistance with the project. Lynne reminded all that the December Conference agenda and registration have gone out and is also posted on the website. The keynote will be Medical Response to Terrorist Attacks and Multi-Casualty Incidents - "The Israeli Experience" by Guy Caspi - EMT-P, M.EM, MCI Chief Instructor, Director Of HAZ MAT Exercises And Operational Training Department, Magen David Adom In Israel

Florida DOH Trauma Update: Dr. Pappas reported that the trauma service area report from DOH has been submitted to leadership. He stated that we are seeing traction on the state trauma standards and thanked Dr. Zito for her efforts on this. He stated that the proposed revisions to the trauma standards are posted to the DOH and trauma website and are open for comments.

Committee Updates:

System Support Committee: Sheryl Aldorando advised that Courtney Gleaton has taken a new position. The committee met and each facility provided updates. Most are doing stop the bleed trainings, including new training for younger children, falls prevention training, pedestrian safety training, and burn prevention. DOH also presented on their breast cancer screening program. Dr. Pappas thanked the committee for their great work. He also thanked Sheryl for taking the lead on the Stop the Bleed training for the Florida Highway Patrol. He asked if there were any cross stakeholder initiatives? Sheryl advised that HCA Florida Lake Monroe is working with EMS agencies and the group will discuss opportunities for these at the next meeting.

Preparedness Committee: Eric Alberts reported the committee met Monday and had a guest from the Hillsborough Trauma Agency. The group discussed the lack of engagement and agreed to target trauma directors and managers, and hospital emergency management and ED personnel. The new Trauma Director at HCA Florida Osceola was introduced. The group discussed the need for all hospitals to be prepared for MCIs that product a large volume of trauma patients. The committee has agreed to take the lead on working with the Florida Healthcare Coalitions and the Florida Committee on Trauma to develop a statewide patient movement process and exercise. Eric stated that the Florida Department of Health has purchased Pulsara, a communications/patient tracking platform. We looked at a patient movement process in Texas and they use Pulsara. Eric was asked if Pulsara works with EMResource; we are not sure but will raise this issue. Dr. Pappas stated that David Summers used to be with the Palm Beach Trauma Agency and he is now the lead for the Pulsara project. Lynne will schedule a presentation on Pulsara for the group.

Clinical Leadership Committee: Dr. McPherson stated that the committee met Monday and the main topic was encouraging EMS engagement in the trauma advisory board. He stated that the committee is comprised of Trauma and EMS medical directors and the focus is on developing regional clinical best practice protocols. The committee is also struggling with engagement. Dr. Zuver has reached out to the EMS medical directors and will be scheduling a meeting. Dr. McPherson stated two main focus areas are pre-hospital administration of whole blood and sharing protocols. He stated that he would like to include his assistant medical directors and EMS chief in these discussions.

Extended Care Committee: Dr. Pappas stated that Tino Manco is unable to lead this committee and we will be searching for a new chair.

Conclusions/Motions:

Dr. Pappas encouraged all to register for the December annual conference. The regional trauma advisory board will meet on December 12th during the conference. He will do a presentation on the ACS guidelines for EMS trauma triage.

Dr. Zuver will poll the group to determine a date for the EMS Medical Directors' meeting. Dr. Pappas advised that the next EMSAC meeting is in January in Orlando and that might be an opportunity. Dr. Zuver stated that is at the same time as the national EMS conference. Dr. Pappas thanked Dr. Zuver for organizing this and stated that he and Lynne are happy to provide any support needed.

Next Executive Committee Meeting: December 12, 2023

RDSTF-5 Trauma Advisory Board Clinical Leadership Committee

Attending: Beverly Cook, Lynne Drawdy, Kim Foley, Janeen Jordan, Dr. John McPherson, Matt Meyers, Dr. Peter Pappas, Dr. Mark Pessa, Dr. Rick Ricardi, Dr. Traci Zito

Call to Order: Dr. Pappas called the meeting to order and thanked all for attending. He explained the purpose of the clinical leadership committee is to guide the Trauma Advisory Board and develop best practice clinical guidelines.

Review and Approval of Minutes: The August minutes were previously sent out with the calendar meeting Invitation. Janeen Jordan moved to approve the minutes and Dr. Pessa seconded the motion. There was no discussion or opposition.

Coalition Updates:

Lynne advised that the December CFDMC conference agenda and registration has been sent out. Dr. McPherson stated that the keynote presentation on Israeli response to terrorism and MCIs will beneficial. Dr. Pappas reminded the group that the Regional Trauma Advisory Board Executive Committee will be held on December 12th as part of the conference.

Lynne announced that Dr. Zito is spearheading an effort for a statewide patient movement process and exercise. The Florida coalitions and the FCOT disaster committee will partner in this effort. She stated that the state has purchased a patient tracking system, Pulsara, and we will learn more about this at a statewide meeting in October. She stated that we have been looking at the Texas patient movement process and they also use Pulsara. Dr. Pappas said this was discussed at last week's trauma business meeting. He championed this idea and was pleased to learn that David Summers is the new DOH lead for Pulsara.

Dr. McPherson stated that at the last meeting, Dr. Fitzgerald volunteered to be on the planning committee for the crisis standards of care exercise and asked if there were any updates. Lynne stated that we are still putting together the planning team and they will be meeting in the near future. The region has a crisis standards of care plan, and a template for hospitals to use in developing their plan. The state plan simply mentions allocation of scarce resources and does not provide any guidance. Lynne advised that all trauma stakeholders will be invited to participate in the exercise. Dr. McPherson asked if there were any other volunteers and stated that he will call Lynne about this.

EMS Engagement: Dr. Pappas stated that there is an exercise at Orlando International Airport on December 12 & 13 so we cannot hold the EMS Symposium during the conference. This will be discussed during tomorrow's Executive Committee call and we will try to find a time that is agreeable for all. Dr. Zuver has most of the EMS medical directors on board. Dr. McPherson asked about including assistant directors and EMS chiefs and Dr. Pappas stated that the medical directors can invite others.

EMS Trauma Guidelines: Dr. Pappas advised that at last week's EMSAC meeting, the group agreed to look at the ACS 2022 update to the EMS trauma guidelines. This is the beginning of the process and there will be many opportunities for review and input. Dr. Pappas will present these at the December meeting.

Whole Blood: Dr. McPherson asked if there were any updates on adoption of whole blood. Dr. Pappas stated that at a minimum, all agree but additional studies are being done. Dr. McPherson said it is expensive to initiate the program and asked about grants. Lynne advised that grant information is included in the resource document provided by Chief Kammel. Dr. Zito said Orange County is going to roll this out in three units shortly. Dr. McPherson asked if Orange County has published their protocol and Dr. Zito suggested that he speak with Dr. Zuver.

Next Meeting: December 4, 2023. The meeting adjourned at 3:31 pm

10-9-23 RTAB Preparedness Committee

Participating: Eric Alberts, Beverly Cook, Lynne Drawdy, Matt Meyers, Michelle Rud, Jeana Swain, Michael Tayler, Dr. Traci Zito

Michael Tayler introduced himself. He is from the Hillsborough County Trauma Agency and said he reached out to Lynne to see what the Region 5 trauma advisory board does and she invited him to these meetings.

Eric thanked all for attending. The August minutes were sent out with the calendar invitation and he said at the last meeting the group discussed lack of engagement, why this is important and how to address this. Lynne was asked to reach out to members to determine their willingness to serve, and to invite all hospitals and trauma centers to participate. Michelle stated they have a new trauma director and asked who should participate. Eric suggested that we target trauma medical directors and program directors, hospital emergency department and hospital emergency management staff. Lynne stated that the 2023 trauma meeting schedule has a mission statement for each committee and she will send that out. Eric stated that it is critical that all hospitals be prepared to respond to an MCI event that produces large numbers of trauma patients. Lynne stated that having a project helps to engage partners. She stated that when we were developing the regional trauma coordination plan, there was a lot of engagement. Dr. Zito has been an advocate for a statewide patient coordination process and exercise. The Florida Healthcare Coalitions and the Florida Committee on Trauma disaster committee are going to partner on this project. Lynne asked if the Preparedness Committee could take the lead on this, and Dr. Zito and Eric both agreed. The state has purchased a patient tracking system called Pulsara. We are looking at the Texas patient coordination process and they use this system. Lynne will send a link to this presentation. Michelle asked if Pulsara will work with EMResource and Lynne stated that she believes that it does. Michael said that the state began with Pulsara as a telemedicine platform for rural health but it has other functions such as patient tracking. He stated that this was presented at last week's EMSAC meeting and the state is going to present at his meeting next month. Lynne advised that there will also be a presentation at the Florida Healthcare Coalition Task Force meeting this month, and we will then schedule a follow-up meeting in the region. Michael stated that there will be no requirement for the use of Pulsara and the group discussed the need for all to use this consistently for the best outcomes.

Lynne advised that the agenda and registration link for the December conference has been sent out and encouraged all to participate.

Meeting adjourned at 4:24 p.m.

10-10-23 RTAB System Support Committee

Attending: Sheryl Aldarondo, Kathy Diaz, Lynne Drawdy, Ingrid Londono, Matt Meyers, Kristin Shinner, Jeanna Swain

Welcome: Sheryl welcomed the group and advised that Courtney Gleaton has taken another position in the organization. Sheryl stated that the minutes from August meeting were distributed with the calendar invitation. There was a motion to approve the minutes and a second and no opposition.

ORMC Updates: Sheryl stated they have a robust Stop the Bleed program. They have finished training Orlando Police Department and are working with biomedical and pre-college students. She stated they are also working with the Florida Committee on Trauma to train Florida Highway Patrol troops and thanked all who help with this. She stated that a lot of organizations are reaching out. They are working on a new falls program, are still doing burns prevention training and have a cooking class/grill safety class coming up. They are working on Best Foot Forward with crosswalk education and enforcement.

HCA Florida Lake Monroe Updates: Kristin Shinner stated that is anyone has the coordinator for the burns clinical training. Sheryl advised Pam Michelly is new burns coordinator and Jeanna Swain asked Kristin to contact her and she will coordinate this. Kristin reported she is continuing Stop the Bleed training at local churches. She is working with the new free standing ED which just opened in Mt. Dora. There have been a lot of walk-throughs with EMS crews to figure out the needs and she is doing education to EMS groups there. She stated that they broke ground on a new building in Casselberry. National Night Out is in early October and they will team up with police in Sanford and Lake Mary, which provides an opportunity for relationship building with community. She stated that they are doing recordings for National Safe Teen Driving week. If teens watch the webinar and do the survey they are entered into a drawing. She asked others this, which is on the Florida Safe Teen Driving website, as much as possible. She has some younger children doing Stop the Bleed classes with coloring books and storybooks and it is going well. They are still filling the PI position and she asked the group to let her know of any potential applicants.

HCA Florida Osceola Updates: Ingrid Londono stated they have not had a lot of events recently. They are partnering with a Denver trauma center in a national initiative for Stop the Bleed training for younger children at the Children's Safety Village. She has materials for these classes and can provide these to others. She stated that they are also working with the Children's Safety Village on pedestrian training, are participating in a health fair at a senior living facility and doing Stop the Bleed training at the hospital this weekend. They will participate in a Halloween Trunk or Treat event. Ingrid stated that she is working on a teen project and will share more details early next year.

DOH Updates: Kathy Diaz stated that she represents five county health departments. October is breast cancer awareness month and the health departments are doing pre-screening for the uninsured or underinsured, mostly age 50 to 64, with a special project for those under 50. She stated they will see anyone with symptoms or a first generation family history and can get patients on Medicaid within 24 hours if breast cancer is detected. She stated that hospitals can call their local health department and they can put you in touch with your region's coordinator.

CFDMC Updates: Matt reminded the group that they can share information on the Coalition website. Lynne advised that we have the potential for $300,000 statewide for Stop the Bleed training through the State Homeland Security Grant Program. She thanked Sheryl for her assistance in preparing our region's portion of this grant; we will purchase training kits and kits. We should hear by the end of October if the project is approved. The group agreed they would be willing to champion this project.

Next meeting: December 5th.

8-17-23 RDSTF-5 Trauma Advisory Board Executive Committee Meeting

Welcome: Dr. Pappas welcomed the group and thanked all for attending.

Roll Call:

Trauma Chair/Orlando Regional/Orlando Health: Eric Alberts, Courtney Gleaton
Trauma Co-Chair/Halifax/Halifax Health: Rachel Hamlett
Level II Rep/Lake Monroe Hospital/HCA: Rick Ricardi
EMS Chair/Martin County (South): Chief Christipher Kammel
EMS Co-Chair/Brevard (North): Dr. John McPherson
EMS Central Rep/Orange (Central): Dr. Christian Zuver, Dr. Desmond Fitzpatrick
County DOH/St. Lucie County: Clint Sperber
Acute Care Hospital/Sebastian River Medical Center: Not present
Extended Care/Orlando Health and Rehab: Not present
Municipal Government/City of Leesburg: Not present (open seat)
County Government/Orange: Dr. Raul Pino

Eight of the eleven voting members were present, and a quorum was reached.

Ex Officio/Stakeholders/Guests Present:
Beverly Cook, CFDMC
Lynne Drawdy, CFDMC
Matt Meyers, CFDMC
Susi Mitchell, HCA Lawnwood
Jeana Swain, Orlando Health
John Wilgis, Florida Hospital Association

Call to Order: The Chairs called the meeting to order at 9:32 a.m.

Review and Approval of Minutes: A motion was made and seconded to approve the minutes as submitted. There was no discussion or opposition and the motion carried.

Executive Director's Report: Dr. Pappas advised we are still attempting to fill the open seats for an acute care hospital and municipal government. Lynne said she reached out to individuals at Sebastian River Hospital and the City of Leesburg several times but has not yet been able to engage anyone. Dr. Pappas stated if anyone knows someone who may be interested in serving in these seats, let him or Lynne know. Dr. Pappas thanked Dr. Zuver for leading the effort in EMS engagement. He stated that we hope to have an EMS meeting in December in conjunction with the Coalition conference.

CFDMC/RDSTF Update: Clint said public health has a statewide meeting in Lake Mary with DOH leaders. He reminded all that we are in the heart of hurricane season and everyone is focused on preparing. He stated that we are seeing a lot of arboviruses and public health is working with hospitals and emergency management on heat hydration stations.

Clint advised that the next Coalition meeting is September 21st at the Volusia County EOC. The Volusia County Sheriff's Office will present training on workplace violence and active shooters. Dr. Pappas asked if the trauma centers will be part of this presentation, and Lynne advised that the training focuses on prevention vs. response. Lynne advised that the agenda was sent out earlier this week and we will also hold the annual hazard and vulnerability assessment and gap analysis at this meeting.

Lynne reported the coalition has a federal requirement to hold a crisis standards of care tabletop exercise this year and asked that anyone interested in being on the planning committee let her know. Dr. Fitzpatrick volunteered to serve.

Lynne noted the Coalition annual conference will be held on December 12 & 13 at Valencia College School of Public Safety in Orlando. On December 12th there will be several training sessions offered, including CHEP (certified healthcare emergency professional). The conference is December 13 and the keynote speaker is Guy Caspi - EMT-P, M.EM, MCI Chief Instructor, Director Of HAZ MAT Exercises And Operational Training Department, Magen David Adom In Israel, presenting on Medical Response to Terrorist Attacks and Multi-Casualty Incidents - "The Israeli Experience." Clint stated that this is an eye-opening presentation. An agenda and registration is coming soon. Dr. Pappas advised that we will hold the December Trauma Executive Committee meeting on the morning of December 12 and we hope to schedule an EMS meeting that day.

Florida DOH Trauma Update: Dr. Pappas said that by the end of August, the report on the legislatively mandated reassessment of the Florida Trauma system will be out. He stated that there is a proposal for a statewide consultative visit in 2024, with a focus on pediatrics, geriatrics, and telemedicine. The last visit was in 2013. There have been many changes since that time and this will help provide a roadmap for where we go over the next decade. He stated that trauma centers are better integrated with EMS than in the past but there is more work to be done. He stated that there is a significant mass casualty incident component and this is a good opportunity for the Coalition to be involved. Dr. Pappas advised that the next FCOT meeting is October 5th in Gainesville. The Florida Trauma Advisory Council is also meeting, reviewing the first draft of the new trauma standards. He stated that all will have an opportunity to review these, and DOH will then review and draft legislation.

Committee Updates

System Support Committee: Courtney Gleaton said the committee met on Tuesday and discussed initiatives and areas where they needed help. She stated there has been positive collaboration among the committee, including sharing of materials and support at events. The committee is planning a face-to-face meeting later this year. She stated that attendance has been low and they will be reaching out to past members and looking for new members. Dr. Pappas announced Susan Ono has been promoted and he met Jenna Swain, the new trauma manager at Arnold Palmer Hospital.

Preparedness Committee: Eric Alberts advised that the committee met on August 14thand the meeting focus was lack of engagement on the committee. Lynne will reach out to current members to determine interest in continuing to serve on the committee and to seek replacement. He stated that we will also reach out to trauma centers for members and we will ask Dr. Zito to champion this with her peer. Eric stated that exercises and events have shown the need for community hospitals to be ready to handle trauma and burn patients. We will reach out to get community hospitals engaged on the committee to plan for equipment, supplies and training needed to prepare them. Dr. Pappas agreed that engagement on the committees is a real issue and we need to continue to explore ways to improve participation.

Clinical Leadership Committee: Lynne provided an update from the last meeting, which focused on increasing EMS engagement. Dr. Zuver has reached out to all EMS medical directors and most are willing to participate in a meeting. Dr. McPherson stated that in the future we need to include the assistant medical directors and chiefs and suggested that we also share protocols. Dr. McPherson will share his. He stated that a new study with data on TXA is expected soon.

Conclusions/Motions:

- Fill two seats on the Executive Committee (acute care hospital and city government)
- Dr. Zuver is leading the effort to schedule a meeting with the EMS medical directors
- The State trauma area assessment is coming out this month
- The FCOT meeting is October 5th
- A statewide consultative visit will be scheduled next year
- All committees are looking at membership and increasing engagement

Next Executive Committee Meeting: October 10th at 11:00 am. The December meeting has been moved to December 12 at Valencia College School of Public Safety; Dr. Pappas will present the ACS guidelines for trauma triage.

Adjournment: The meeting adjourned at 10:06 a.m.

8-14-23 RDSTF-5 Trauma Advisory Board Clinical Leadership Committee

Attending: Dr. Alicia Buck, Beverly Cook, Lynne Drawdy, Dr. Desmond Fitzpatrick, Dr. LeeAnn Lee, Dr. Janeen Jordan, Matt Meyers, Dr. Christian Zuver

Call to Order: Lynne thanked all for attending and advised that Dr. McPherson had an accident and sent his regrets for not being able to attend today's meeting. Dr. Pappas is also unable to attend.

Review and Approval of Minutes: The June minutes were previously sent out with the calendar meeting notice. Dr. Lee moved to approve the minutes and Dr. Zuver seconded the motion. There was no discussion or opposition and the motion carried.

Coalition Updates:

Crisis Standards of Care: Lynne announced the coalition will be holding a federally required crisis standards of care tabletop exercise and asked for volunteers to serve on the planning team. Dr. Fitzpatrick volunteered to serve.

December Conference: Lynne noted the conference will be held on December 12 & 13 at Valencia College School of Public Safety in Orlando. On December 12th there will be several training sessions offered, including CHEP (certified healthcare emergency professional). The conference is December 13 and the keynote speaker is Guy Caspi - EMT-P, M.EM, MCI Chief Instructor, Director Of HAZ MAT Exercises And Operational Training Department, Magen David Adom In Israel, presenting on Medical Response to Terrorist Attacks and Multi-Casualty Incidents - "The Israeli Experience." An agenda and registration is coming soon.

New Business:

EMS Engagement: Lynne thanked Dr. Zuver for taking the lead on this. Dr. Zuver said he has been reaching out to the regional Medical Directors regarding ideas, etc. and has had a good response. They are hoping to get together shortly.

Next Meeting: October 9th

8-14-23 RTAB Preparedness Committee

Participating: Eric Alberts, Beverly Cook, Lynne Drawdy, Matt Meyers

The focus at the last meeting was on lack of engagement. Lynne will reach out to current members to see if they are still interested in serving on the committee or if there are others who should be added. Eric suggested contacting each trauma center and hospital to make sure that we have the most current contact and why their participation in the committee is important. He stated that we have seen in exercises and events that community hospitals will need to be prepared in an MCI to handle trauma patients. We need their input to determine basic supplies, equipment and trainings needed. Eric reported on recent MCIs, including a boat incident today that sent patients to several hospitals.

Eric suggested that we get Dr. Zito to champion this at Orlando Health and ask her peers to do so as well. He stated that Susan Ono has a new role and Tina Wallace has retired and Julie Frey and Jenna Swain should be added to the committee.

Eric will brief out on this at Thursday's Executive Committee meeting.

The meeting adjourned at 4:09 p.m.

8-15-23 RTAB System Support Committee Minutes

Attending: Whitney Adkins, Sheryl Aldarondo, Beverly Cook, Lynne Drawdy, Courtney Gleaton, Nancy Mettner, Kristen Shinner, Jeana Swain

Welcome/Minutes: Courtney welcomed the group. Lynne advised that due to low meeting attendance, the other trauma committees are reaching out to members to see if they are still interested in serving on the committee or if they have a replacement. Courtney stated that she will contact the committee members to determine this.

Courtney advised that the June minutes were previously distributed and asked members to let her know if there are any issues or additions. Courtney stated that at the last meeting, there was a good discussion about fall prevention initiatives at different facilities, and a discussion about connecting with community paramedicine programs for at-home fall prevention. Kristin is available if anyone has questions or needs assistance with this.

Updates:

Arnold Palmer Hospital: Courtney said that in the last week, she was able to give out over 120 helmets at two events in Orange County children. She thanked Ingrid for providing helmets for the second event.

ORMC: Sheryl stated that Kristin joined them in training Troop D, and they have also done Stop the Bleed training at other events. She stated that they are doing burn prevention education at a cooking class and are working with Best Foot Forward on back to school pedestrian safety. Sheryl stated she has joined the Magnet committee to find ways to engage nurses and will share more information on this.

HCA Lake Monroe: Kristin stated that they worked with community partners, including Best Foot Forward, law enforcement and others, to get a traffic light on SR 415 in a high traffic area that has had a lot of fatal crashes. There was also concern over individuals using these crashes to injure EMS personnel. They will be tracking reduction in crashes and deaths. She stated that with turnover at the hospital, they held an event recently to introduce staff to community partners. They held this event in the cafeteria to catch staff, and everyone had a ticket that was stamped for each partner they visited, and the tickets were used in a raffle. She stated that nurses want to help in the community and this is a good opportunity to provide that information. She stated that Ingrid went with them to teach a class in Spanish at a solar company, translated the materials, and they were successful in finding an AED in Spanish. A question was raised as to whether the AED will allow you to select the language and Kristin said she will research this. She said that she is looking for fun activities for fall prevention. Sheryl can provide information on a Bingo game.

Holmes Regional: Whitney stated that she and Nancy have just joined the trauma program and they are working on an ALS course. They have a fall prevention program for patients admitted with falls, including bedside education and a support group (both during admission and after discharge), and are working with EMS for home assessments. She stated that as it is hard to get patients to come back, they are trying to get contact information before discharge and provide balance classes. She stated they are looking for grants for things like safety bars and bike lights and would appreciate any information on potential grants. Courtney stated that Orlando Health has a community grant program that might still be available.

Next Steps: Courtney will reach out to current members to determine their interest in continuing to serve on the committee. She asked the others to let her know if there is anyone we should reach out to. Courtney stated that she will work on scheduling an in-person meeting this year. Kristin volunteered to host this in their new office space across from the hospital. Courtney stated that she will make sure the meeting does not overlap with the Trauma Executive Committee meeting.

Meeting ended at 10:28 a.m.

6-13-23 RDSTF-5 Trauma Advisory Board Executive Committee Meeting Minutes

Welcome: Dr. Pappas welcomed the group and thanked all for attending.

Roll Call:

Trauma Chair/Orlando Regional/Orlando Health: Dr. Zito, Dr. Plumley, Susan Ono, Courtney Gleaton
Trauma Co-Chair/Halifax/Halifax Health: Dr. Janeen Jordan, Rachel Hamlett
Level II Rep/Lake Monroe Hospital/HCA: Not present
EMS Chair/Martin County (South): Chief Kammel
EMS Co-Chair/Brevard (North): Not present
EMS Central Rep/Orange (Central): Dr. Zuver, Dr. Fitpatrick
County DOH/St. Lucie County: Clint Sperber
Acute Care Hospital/Sebastian River Medical Center: Not present
Extended Care/Orlando Health and Rehab: Tino Marco
Municipal Government/City of Leesburg: Not present
County Government/Orange: Not present

Six of the eleven voting members were present and a quorum was reached.

Ex Officio/Stakeholders/Guests Present:
Danielle Deceseare
Lynne Drawdy
Nicole McKee
Matt Meyers
Dr. Dustin Nguyen
Michelle Rud
Sonny Weisthaupt
John Wilgis

Call to Order: Dr. Zito called the meeting to order.

Review and Approval of Minutes: Dr. Zuver moved to approve the minutes; Dr. Plumley seconded the motion. There was no discussion or opposition and the motion carried.

Executive Director's Report: Dr. Pappas stated that as the pandemic has ended, he suggested returning to at least one face-to-face meeting each year. He stated that in the past, the meetings were rotated around the district. He suggested that we plan a face-to-face meeting later this year or early next year, and we will explore adding CMEs. He asked for thoughts, and the group agreed.

CFDMC/RDSTF Update: Lynne Drawdy provided an update from the recent RDSTF meeting update, including radiation resources available within the region and the emergency management redistricting. This does not impact the Coalition or Regional Trauma Advisory Board boundaries. Clint Sperber provided an update on the June Coalition meeting, held at Indian River State College. Former FEMA Administrator and FDEM Director Craig Fugate spoke with tips on planning and response, there was a hurricane season briefing, a presentation on the Florida First Lady's first responder support program, and Dr. Tim Moore, the Indian River State College President, provided an overview of the college's preparedness initiatives. Lynne provided an update on the April exercise and will send the after-action report to the Executive Committee.

Florida DOH Trauma Update: Dr. Pappas advised that FDOH is moving through the process to revise the trauma standards. He stated that FCOT is looking at a pit crew for strokes and will be selecting the new chair at a meeting this week. He stated that the upcoming assessment of trauma service areas will be out by the end of August.

Committee Updates

System Support Committee: Courtney Gleaton advised that Arnold Palmer Children's Hospitals, HCA Lake Monroe, HCA Osceola and Holmes Regional Medical Center were represented on today's call and the group discussed the #1 injury mechanism, falls. Each shared their fall prevention initiatives. Courtney advised that Arnold Palmer has a new trauma program manager, Julie Frey. Dr. Pappas thanked Courtney for leading this group.

Preparedness Committee: Michelle Rud reported on Monday's meeting. She stated that attendance was low and asked all trauma programs to please ensure they have a representative at the Preparedness Committee meetings. Dr. Pappas stated that this is an important committee and engagement is very important, as this committee provides a foundation for regional response to major trauma events. Dr. Plumley stated that the pediatric readiness app is going live in a couple of weeks. If you put the child's weight into the app, it gives guidance on equipment, drugs, treatment guidelines, etc. This app will be available to emergency departments. He thanked Sonny Weisthaupt for putting this together. Dr. Pappas asked if it will be available to EMS in the field and Dr. Plumley stated that all healthcare can use this. He will share access to the app when it is ready.

Clinical Leadership Committee: Dr. Pappas stated the group is working on improving EMS engagement and will be scheduling a meeting with EMS medical directors in the coming months, and then at least an annual meeting. He stated the group is also looking at pediatric trauma and whole blood adoption in the region.

Extended Care Committee: Tino stated the committee's next meeting is at the end of June. They are looking at what markets assist each hospital system, a focus on transition of care, and appropriate placements. They will also ensure they are communicating their capabilities to hospitals.

Old Business:

Pediatric Trauma: Dr. Plumley stated TXA is recommended only for 12 and up. He stated they are waiting for a study due soon regarding efficacy in younger children. There has been some overuse in pre-hospital care.

Dr. Plumley stated that they are working on severe brain injury guidelines and will be getting information on that soon. Some counties would have long ground transport. Dr. Pappas stated that this would be useful information and suggested including this on the website. He emphasized that it is important that Level 2 trauma centers are ready for pediatrics. The grey standards go into effective September 1st.

Whole Blood Adoption: Dr. Pappas asked which trauma centers are using whole blood. Dr. Plumley stated they have been using whole blood for six months for ages1 and up. He noted that some hospitals only use for males due to RH issues, but they have a process in place to address this. Other hospitals using whole blood are Orlando Health, HCA Osceola, and Halifax. Dr. Pappas asked how we can better share whole blood guidelines. We can put these on the website or have a workshop on whole blood adoption to share best practices. Dr. Zito suggested gathering and sharing guidelines with hospitals and EMS. Susan Ono stated that Suzi Mitchell would be a good contact. He will ask Dr. Curcio to contact the other trauma medical directors to get their buy-in on this. Clint Sperber asked if there is something he can share with the Lawnwood CEO. Dr. Pappas asked if ORMC is publishing data on utilization and outcomes. Dr. Zito stated they are discussing this. Dr. Pappas asked all trauma centers to share their whole blood guidelines.

Conclusions/Motions:

- Dr. Pappas will schedule a face-to-face meeting in the coming months
- We are working on filling the city government seat in Lake County
- We will publish pediatric and whole blood guidelines
- All trauma centers should participate in the Preparedness Committee

Next Executive Committee Meeting: August 17, 2023 at 9:30 am

Adjournment: Dr. Zuber moved to adjourn.

6-12-23 RDSTF-5 Trauma Advisory Board Clinical Leadership Committee Minutes

Attending: Dr. Alicia Buck, Lynne Drawdy, Dr. Desmond Fitzpatrick, Dr. Robert Ford, Dr. John McPherson, Dr. Peter Pappas, Dr. Rick Ricardi, Dr. Joel Rowe

Call to Order: Dr. Pappas called the meeting to order and thanked all for attending.

Review and Approval of Minutes: The April minutes were previously sent out and no issues were raised.

Coalition Updates:

April 20th Regional Medical Surge Full Scale Exercise: Lynne reported on the exercise. The scenario was intentional train derailments at multiple locations across the region, resulting in hundreds of casualties, and chemical exposure. Fifty-four (54) hospitals in nine counties participated with more than 2,000 students going into the hospital emergency departments with triage tags and moulage simulating victims. All regional emergency management offices and county health departments participated, along with most of the EMS agencies, the FBI and law enforcement. More than 100 partner agencies supported the exercise.

The draft after action report/improvement plan has been distributed. Regional strengths identified include:

- Hospital Incident Command System (HICS) has improved over previous years
- We exceeded the 20% surge requirement
- We activated the regional burn annex and the Southeastern Regional Burn Surge plan
- Overall, communications improved
- Interactions between emergency operations centers and emergency operations centers to hospitals has improved (COVID has strengthened this)

Regional opportunities identified include:

- Identify what hospitals expect from emergency management and what emergency management expects from hospitals
- Communications (need a regional radio communication plan, including who is on them, what channels, bandwidth for multiple agencies, training)
- EMResource was recently updated and had a new look during the exercise, which was a little confusing. An EMResource Steering Committee is working on best practice guidelines to standardize usage and training.
- Patient decontamination continues to be an issue for most hospitals. Eric Alberts is researching decontamination teams across the nation and will share his findings.
- Mass Fatalities. The regional mass fatality plan doesn't address fatality management at hospitals. We will meet with hospitals, medical examiners and law enforcement to expand the plan and then hold a tabletop exercise.
- Patient tracking. During the initial response phase, most hospitals use paper forms as it slows the process if they start uploading into electronic health records. This is a statewide issue, and we will work with the state and Florida Hospital Association on this issue.
- Family reunification. This remains an issue. The Coalition hosted a meeting on May 31 to review the design for a family reunification exercise. These will be scheduled in each county over the coming months.
- Patient transport and transfers: Transport capacity remains a high priority. We need to continue to build EMS engagement.
- Blood supply issues. We need to engage One Blood. In a future exercise, we need to do timing studies to ensure we are calculating blood usage realistically.

- Communications with Poison Control Centers in a major disaster (calls during the exercise almost brought down their system)
- Free-standing emergency departments. These have limited capacity for medical surge and decontamination. CMS and AHCA have given no direction for the FSEDs. We need to develop a staffing model for this.

May 17th Radiation Surge Tabletop: Lynne also provided an update on the May 17th Radiation Surge tabletop exercise. This was a statewide exercise led by Region 5, with regional breakout groups.

Regional strengths identified included:

- Access to radiation subject matter experts (Region 5 has a nuclear power plant, hospital trained SMEs, FDOH Bureau of Radiation Control, Civil Support Team, and REACTS)
- EMS and hospitals have policies and PPE. EMS and hospital policies include decontamination screening whenever there is an explosion. Hospital personnel train and exercise on decontamination and there are Hazmat Teams in most jurisdictions.
- Many hospitals have clinicians knowledgeable in treating radiation injuries. Region 5 has a Radiation Injury Treatment Network hospital.
- There are disaster behavioral health response plans and response teams to assist in managing the behavioral health consequences of the event.

Regional opportunities identified included:

- Many regional, county, hospital and EMS plans are out of date and the regional radiation surge annex is new and has gaps (e.g., no plan for setting up a community reception center, including location, staffing, equipment and operation). Plans for public messaging are not in place for this type of event.
- Radiation detection devices are inadequate in some areas and in many areas are out of date.
- There is no system for patient tracking and inadequate plans for family reunification.
- There are inadequate decontamination teams for this type of event (both at hospitals and Hazmat teams).

Old Business:

Orange County Trauma Gray Guidelines: Dr. Fitzpatrick stated implementation is going well. He noted that crews are having some issues with the head injury guidelines, and they are providing guidance. He stated they are collecting data, and at six months they will present this to the committee. Dr. McPherson asked if TXA for isolated patients is included, and Dr. Fitzpatrick stated not at this time. Dr. McPherson suggested that be addressed and will add that to the agenda for the next meeting. Dr. Zito is an expert in this, and he will ask her to address this for adults. Dr. Fitzpatrick will address ages 5 and older with Dr. Plumley. Dr. Pappas stated data from a large study is expected soon. He stated that the FCOT pediatric trauma section looked at this and came out with a position statement that to hold until that larger study comes out and they will then publish a consensus statement applicable to anywhere in Florida. Dr. Pappas noted that the committee is meeting this week and expects to have something by the October meeting.

New Business:

EMS Engagement: Dr. McPherson stated there was a meeting last week on increasing EMS engagement. Multiple ideas were shared. He shared that the plan is to have the EMS medical directors meet to formulate a plan. They discussed sharing protocols and other ideas to engage EMS. Dr. Zuver stated that there was a quarterly regional EMS medical directors meeting prior to COVID. He will reach out to gather contacts and

schedule a Zoom meeting with an open forum. Dr. Pappas asked how we can support Dr. Zuver in this. Dr. Zuver asked for contact information for the medical directors in Indian River, St. Lucie and Martin Counties. Lynne will provide that information. Dr. Zuver agreed to reach out individually to the EMS medical directors to make sure they understand the purpose of this meeting. The meeting will be limited to medical directors and associate medical directors. Dr. McPherson asked about inviting EMS medical directors from outside our region to attend as they might be a good resource. The group agreed to limit the initial meeting to Region 5 participants but expand at subsequent meetings.

Whole Blood Adoption: Dr. Pappas suggested a survey to see who is using whole blood. He stated that Chief Kammel put together a resource packet for whole blood adoption.

Next Meeting: August 14th.

The meeting adjourned at 3:39 pm

6-12-23 RTAB Preparedness Committee

Participating: Eric Alberts, Lynne Drawdy, Matt Meyers, Michelle Rud

The group discussed the need to ensure EMS in all counties within the region are using EMResource. We need to promote what a valuable tool this is, how it helps hospitals prepare, and how it improves patient care.

Michelle Rud stated that there has been a change at HCA, Kim Wright is no longer the director and Michelle will send Lynne the contact information for the new director.

Eric will send the information on the new Arnold Palmer Hospital trauma manager

Lynne reminded the group there are two items pending:

1) Education on RTCC (a PowerPoint was drafted and we identified individuals to present)
2) Triage – military vs. civilian. Michelle stated that all use either START or JumpSTART and she is not sure if they would be willing to change. Eric suggested that we hold until after the Israeli presentation at the December conference. We can then decide if we want to ask Dr. Zito if she wants to take this to the clinical leadership committee.

Lynne has sent out the April regional full scale medical surge after action report. This demonstrated the group's work in helping non-trauma centers prepare to handle trauma and burn cases.

The group discussed engagement by Preparedness Committee members. They reviewed the committee membership. Michelle agreed to present the committee update at Tuesday's Executive Committee call and to solicit members. We need trauma clinicians and representatives from HCA Lake Monroe, HCA Lawnwood and Holmes.

6-13-23 RTAB System Support Committee

Attending: Lynne Drawdy, Courtney Gleaton, Ingrid Londono, Nichole McKee, Mandy Robinson, Kristin Shinner

Courtney welcomed the group. Nichole introduced Mandy Robinson. Courtney advised that attendance has been low over the past few meetings.

Courtney stated that she would like the group to set some common goals. Following the last meeting, a survey was sent out to the trauma centers to identify the top three injury mechanisms. Across all trauma centers, falls was the #1 injury mechanism and motor vehicle crashes were #2. The third differed among the centers. Courtney asked for the group's thoughts. Mandy stated that she has only been in this job for two months, but falls is a big issue. She is working with other departments, such as physicians and rehab. They are starting a new class next week on balance and fall prevention for 25 seniors. They sent out invitations to those age 65 or older who are a fall risk or have already experienced a fall.

Kristin Shinner shared her falls program; they are doing something similar in-house. She stated that some communities have paramedicine programs and suggested partnering with them. They can provide services such as home safety checks, and they can help patients apply what you teach them. She stated they will follow-up to ensure patients are fully educated and will follow them to see if they are re-admitted, which shows impact. She stated that they had one patient who fell every morning when getting out of bed. The paramedicines visited and found that his bed frame was broken, tilting and causing the falls. They got him a new bed frame and he has not been re-admitted since. They can code these visits and get paid without charging the patients. She stated that she has contact information and can provide information on their meetings. Courtney stated this is a great research project. Kristin stated that they are working on a pilot study and hope to publish this.

Ingrid Londono stated that she is learning from the others. They are also working on falls prevention program, using CDC materials, such as the self-assessment. They had a program from October through January, then they stopped for their survey and the director left. Falls are their #1 injury mechanism and she is working to get buy-in on the program from nurses and physicians. Kristin stated that she has had challenges in getting buy-in from nurses due to high turnover and that she has found better buy-in from working with the charge nurses. She stated that they had a trauma booklet printed with information on the falls program and they have the chaplains provide this to patients in the welcome package. Kristin stated that if you do not have chaplains, you can use case managers. Ingrid stated that she is concerned that a lot of the information provided goes into the trash and she will try to engage case managers and will also look at partnering with the paramedicine program. She stated that with all the different duties nurses have, they are reluctant to take on more. Courtney stated that they do this as part of the admission process, using Epic. Kristin stated that they also do a safety check upon admission and at every shift change. The nurses do this. She stated that she can show where this is in the electronic health records and that nurses are required to complete this. Ingrid stated that the assessment they do is much more comprehensive and allows them to provide specific resources, such as low or no-cost home improvements. Courtney also suggested asking case management to walk through the discharge assessment.

Courtney stated that they are having difficulty with pediatric falls; parents feel like children are always going to fall. Kristin stated that they are working with schools on playgrounds and equipment. Courtney stated that Arnold Palmer got a grant to put up fall prevention signs in playgrounds but there was no mechanism for tracking impact. There is a pediatric injury prevention conference coming up and she will look for ideas there. Ingrid will send Courtney information on their child injury prevention program.

Courtney asked if the group was interested in a quarterly or annual face-to-face meeting. All agreed to meet quarterly. In the past they have rotated meetings at different hospitals, and all agreed to continue that. Courtney will work out a schedule and send this out. The group will continue to focus on falls and look at motor vehicle crashes. Ingrid said there is a motor vehicle crash coalition meeting on June 20 and 21, targeting teens. She will send that information out to the group.

4-13-23 RDSTF-5 Trauma Advisory Board

Welcome: Dr. Pappas welcomed attendees.

Roll Call:
Trauma Chair/Orlando Health: Eric Alberts, Courtney Gleaton, Susan Ono
Trauma Co-Chai/Halifax Health: Not present
Level II/HCA Lake Monroe Hospital: Meghan Thomas
EMS Co-Chair/South: Chief Chris Kammel
EMS Co-Chair/North: Dr. John McPherson
EMS Central: Dr. Christian Zuver
DOH/St. Lucie: Clint Sperber, Lydia Williams
Acute Care Hospital/Sebastian River Medical Center: Not present
Extended Care/ Orlando Health and Rehab: not present
Municipal Government: Vacant
County Government/Orange County: Dr. Raul Pino

Seven members were present, and a quorum was reached

Other Stakeholders Present:
Dr. Alicia Buck, Lake EMS
Beverly Cook, CFDMC
Lynne Drawdy, CFDMC
Dr. Desmond Fitzpatrick, Orange County EMS
Courtney Gleaton, Arnold Palmer Hospital
Dr. Dustin Huynh, HCA Florida Osceola
Nichole McKee, Health First
Kimberly Wright, HCA Florida Osceola

Call to Order: The co-chair called the meeting to order at 9:31 a.m.

Review and Approval of Minutes: The February minutes were distributed with the meeting invitation. Dr. Zuver moved to approve the minutes as submitted; Chief Kammel seconded the motion. There was no discussion or opposition and the motion carried.

Executive Director's Report: Dr. Pappas recognized Dr. Huynh for recognition as Physician of the Year at HCA Florida Osceola. Dr. Pappas encouraged all to share other information, such as award, training opportunities, etc. within the trauma community.

The group discussed how to engage stakeholders. Suggestions included holding an EMS symposium to bring leaders together to discuss issues and share best practices. Each Medical Director could invite interested EMS and emergency medicine physicians, paramedics, etc. The

clinical leadership committee could send out a survey to the medical directors to ask for input on topics and speakers. The guidelines published need to have a review process. We can also add a section for EMS guidelines on the trauma web page to share resources and generate discussions.

CFDMC/RDSTF Update: There are no RDSTF updates. Lynne reported that we are finalizing plans for the April 20th regional medical surge full scale exercise. More than fifty hospitals in each county across the region will participate, with more than 1,900 students as victim volunteers. She advised that the Florida Division of Emergency Management Director and the new Florida Department of Health Emergency Coordinating Officer are coming to observe the exercise. We will share lessons learned at the June meeting. Lynne reported that Florida Hospital Association has funded the Juvare pilot, including EMResource and e-ICS for an additional two years, through April 2025. Eric advised that the UASI funded an ambu-bus for the metro Orlando area last year; however, costs have gone up and we have asked for additional funding to finalize that project. Lynne reminded the group that there will be a statewide virtual radiation surge tabletop exercise held on May 17th. The flyer with details and the registration link are on the coalition website.

Florida Department of Health/Office of Trauma Update: Kate Kocevar was not able to join the meeting. Dr. Pappas reminded the group that on August 31, DOH will release the updated assessment for trauma service centers and reminded the group of upcoming statewide trauma meetings.

Committee Updates:

System Support Committee: Courtney stated that Arnold Palmer and Orlando Regional Medical Center were the only participants on this month's call. She stated that the group is planning to meet in person every other meeting in the future. She stated that Lynne sent out a survey to the group and falls and motor vehicle crashes are the number 1 and 2 mechanisms for trauma injuries. The group will use this to establish goals and are looking at a regional event. They will capture data to see if projects make an impact. Dr. Pappas encouraged other committees to consider face-to-face meetings at least once or twice a year.

Clinical Leadership Committee: Dr. McPherson stated the group discussed engaging more EMS and physicians to participate in the committee. He has agreed to continue for another term as committee chair. He stated that he has begun a countywide study on head trauma and anticoagulation medications and suggested doing this regionally. We can also choose other research topics for the region. Dr. Zuver agreed this is a good idea. Dr. Pappas said trauma triage has changed a lot and getting data and regionalized standards would be a big help for emergency departments and trauma centers.

Preparedness Committee: the meeting was cancelled to focus on the April 20th exercise.

Extended Care Committee: Dr. Pappas will reach out for a report.

New Business:

New Terms: Dr. Pappas asked all Executive Committee members to confirm they will serve another term (April 2023 – April 2026).

Engagement: Dr. Pappas said the concept of engagement and engaging EMS will be a priority focus.

Adjournment: The meeting adjourned at 10:18 a.m.

Next Executive Committee Meeting: June 13, 2023

4-10-23 RDSTF-5 Trauma Advisory Board Clinical Leadership Committee Minutes

Attendees: Dr. Alicia Buck, Beverly Cook, Lynne Drawdy, Dr. Desmond Fitzpatrick, Dr. John McPherson, Matt Meyers, Dr. Peter Pappas, Dr. Tracy Zito

Welcome: Dr. McPherson called the meeting to order at 3:06 pm

Review and Approval of Minutes: Dr. Zito moved to approve the February minutes; the motion was seconded by Dr. Fitzpatrick. There was no discussion and the motion carried.

CFDMC Updates:

- **April 20th Regional Full Scale Medical Surge Exercise:** Lynne stated that we are just over a week away from the exercise. There are more than 50 hospitals in each county of the region participating, with more than 1,900 students acting as victims. A few hospitals are using paper victims only, and a few hospitals are not participating. We have a good number of evaluators but are still struggling with volunteer management personnel and are pushing out requests via social media. Dr. Zito asked if we have defined goals for exercise. Lynne stated that there are several defined objectives in the exercise plan; she will share that. Matt advised that we will post all exercise materials on the website prior to the exercise. Lynne stated that we have set up a special Everbridge group to send out injects via text and email. Appropriate injects will also be sent out through EMResource.
- **May 17th Radiation Surge Tabletop**: Lynne encouraged Trauma leaders to participate in this statewide virtual tabletop. The flyer with details and registration is on the website. CFDMC has taken the lead in developing the new radiation surge annex and the tabletop and the other coalitions around the region have joined our planning.

New Business:

Community and Hospital Recognitions. The group congratulated Dr. Dustin Huynh for being chosen as physician of the year by his institution. Dr. Pappas stated that it is important that we share this type of achievement.

Old Business:

- Dr. McPherson reported that Dr. Zuver shared the Orange County Trauma grey criteria at the last meeting, and Dr. Plumley shared information on pediatric trauma guidelines for children and button battery suggested protocols. Discussion and the documents were included in the February minutes.

New Term 2023 – 2026: Dr. Pappas thanked Dr. McPherson and Dr. Zito for their continued leadership.

Engagement: Dr. Pappas stated that the group has accomplished a lot, including guidelines for whole blood on ambulances, pediatric trauma, geriatric trauma and others. Dr. McPherson stated that it has been difficult in getting the EMS Medical Directors engaged. The group discussed strategies to engage this group. Dr. Fitzpatrick suggested sending out literature reviews and recommendations. Dr. Zito stated that she is not sure that the group knows what guidelines are available, such as the trauma grey criteria and geriatric head injury criteria, how to access these, of what to do with them. She asked how we get these out to the ender users. Dr. Fitzpatrick suggested identifying what the areas with which the EMS agencies are grappling. Dr. McPherson agreed and stated that we can share resources; for example, TBI and TXA videos were recently released. These can be posted to the trauma page on the website. Dr. Pappas stated that we need to review and make any needed updates to the guidelines. Dr. Zito suggested an annual webinar to review and update these. Dr. Buck stated that we need to clarify the mission of the group. Dr. McPherson shared at email to Dr. Pappas with recommendations:

1) Resource for EMS Medical Directors for development of the "dreaded" medical protocol updates/training that we all are required by statute to provide every 2-3 years.

+sharing current evidence-based quality research supporting best practice EMS trauma protocols the have recently updated or need to update

+sharing video lectures and webinars , and PPT training presentations they have recently developed/utilized to support best practice EMS trauma protocols they have recently updated

+sharing new evidenced based best practices protocols developed by the National Association of EMS Physicians for care of the trauma patient

2)Development of and participation in Region 5 EMS prospective/retrospective trauma research for validation of state and national guidelines for field triage of the trauma patient.

3) Utilize the RTAB/CFDMC website as a repository for EMS trauma related protocols currently developed, to be developed and annually updated based on evidence based best practice EMS care.

4) This committee does not have adequate representation from trauma surgeons or EMS medical directors throughout the region.

+It is important to identify and invite/include young trauma surgeons in R5 with an interest in EMS care of the trauma to join the Clinical Leadership Committee. We can solicit a reference for young trauma surgeons from the Trauma Directors in R5 that do not participate with the RTAB. I have one in mind in Brevard County that was a paramedic, and is now is trauma surgeon recently joining the Holmes Regional Medical Center trauma service.

5) Many busy EMS systems are now utilizing assistant medical directors. I have an assistant medical Director that also is an EMS medical Director for a municipality in Indian river county that I have in mind to invite to join the Clinical Leadership Committee. I would suspect that the county EMS medical directors in R5 that do not participate in the CLC are quite busy, but know and could recommend EMS Medical Directors for smaller municipalities in their county that may have more time and interest in joining the CLC.

I have been fortunate to recruited a medical director team recently in Brevard County that includes a nationally known pediatric EMS physician/lecturer (Dr Peter Antevy), the EMS medical director for Palm Beach County and the Florida Assistant Surgeon General for the DOH also recognized for excellence in EMS Medical Direction and best practice protocols, receiving State and National awards for "Medical Director of the Year" (Dr Ken Scheppke) and internationally recognized leader in EMS researcher developing who leads a weekly video conference with EMS medical directors of large metropolitan areas throughout the world (Dr Paul Pepe).

I may be able to convince them to provide virtual Trauma/EMS lecture for the CLC or attend a meeting to discuss controversial protocol changes supported by evidence based EMS trauma research ("the Eagles"). Dr Zuver is a member.

The group agreed to continue to identify ways to engage EMS in the next meeting.

Adjourn: The meeting adjourned at 3:36 p.m.

Next Meeting: June 12th at 3 pm

2-14-23 RDSTF-5 Trauma Advisory Board Executive Committee Meeting Minutes

Welcome: Dr. Pappas welcomed participants and thanked all for attending.

Roll Call:
Executive Committee Members:

- Trauma Chair – Orlando Regional/Orlando Health: Dr. Tracy Zito, Dr. Donald Plumley, Susan Ono
- Trauma Co-Chair – Halifax/Halifax Health – Not represented
- Level II Rep – Lake Monroe Hospital/HCA: Dr. Rick Ricardi
- EMS Chair – Martin County (South) – Not represented
- EMS Co-Chair – Brevard (North) – Not represented
- EMS Central Rep – Orange (Central): Dr. Christian Zuver, Dr. Desmond Fitzpatrick
- County DOH – St. Lucie County: Not represented
- Acute Care Hospital – Sebastian River Medical Center: Not represented
- Extended Care – Orlando Health and Rehab: Tino Manco
- Municipal Government – City of Leesburg: Not represented
- County Government – Orange: Not represented

Only four of the eleven Executive Committee members were present; a quorum was not reached

Other Stakeholders:
Beverly Cook, CFDMC
Lynne Drawdy, CFDMC
Courtney Gleaton, APH
Dr. Dustin Huynh, HCA Florida Osceola
Nichole McKee, Health First
Matt Meyers, CFDMC
Dr. Peter Pappas, Trauma Advisory Board Executive Director
Kimberly Wright, HCA Florida Osceola

Call to Order: Dr. Zito called the meeting to order at 11:03 a.m.

Review and Approval of Minutes: The minutes of the December meeting were sent out with the meeting invitation; approval will be postponed until the April meeting.

Executive Director's Report: Dr. Pappas recognized Tina Wallace for her work as Chair of the Trauma System Support Committee and wished her luck in her retirement. He thanked Courtney Gleaton for stepping into this role.

CFDMC/RDSTF Update: Lynne stated that she has no report from the RDSTF and will report at the next meeting. She mentioned that the Coalition has several upcoming exercises, including the Pediatric Tabletop on February 24th, the regional full scale medical surge exercise on April 20, and the radiation surge tabletop on May 17th. She advised that the Coalition is facilitating the annual review of all regional plans and these are sent out to all members for review and input. She announced that the next Coalition meeting is March 16; the agenda has been sent out and is posted to the website. Lynne advised that The Trauma Advisory Board has advocated for the use of EMResource across the region. The Coalition piloted this for 18 months with funding through Florida Hospital Association, and submitted a UASI project to sustain EMResource across the region. The project scored high and we will be able to maintain this system, which shares vital communication such as bed availability and alerts among hospitals, EMS, emergency management and law enforcement. A Steering Committee has been convened to standardize use of the system across the region.

Florida DOH Trauma Update: Dr. Pappas advised that Kate Kocevar from the Florida Department of Health Trauma Program was unable to attend the meeting but provided the following update:

- State Trauma Assessment moving forward with the collection of all 36 trauma centers GME Attestation statements
- Fl Trauma Standards peer group continues to move forward on draft revisions
- Fl TQIP Collaborative starting to initiate a deep dive into the 6 state trauma indicators with TBI taking the place of Unplanned OR
- ESO WAVE conference to be attended in April where the new ESO trauma registry application will be introduced for a 2024 rollout starting in hospitals first and state trauma registry last--- still waiting for ESO to provide more specifics on pricing
- FTSAC next meeting will be in June at the MES First There First Cares conference
- Looking forward to the February visit to the capital of FCOT members and with a Stop the Bleed campaign planned

Committee Updates

System Support Committee: Courtney Gleaton reported on the injury prevention activities shared during today's committee meeting, including car seat checks, pedestrian safety education, partnering with schools for World Heart Day, educating students on CPR, providing Stop the Bleed training, participating in mock drills with the Central Florida Zoo. The committee has decided to survey trauma centers to identify the top five injury mechanisms, and will identify and coordinate a regional injury prevention campaign or event. Dr. Huynh asked if we have seen an increase in tourniquet usage when patients come to the ER. Dr. Zito said that FCOT is looking at Stop the Bleed and is working with FDOH in examining outcome data. She is on the committee looking at Version 3 of Stop the Bleed and is chairing the tourniquet section; they have noticed increased use and some unindicated use. They are hoping to correct this with the next version. She emphasized that education is crucial. Dr. Pappas agreed, and stated that patient bleeding creates a high stress environment which needs to be addressed through education.

Preparedness Committee: Dr. Zito reported on the Monday meeting. The group discussed rolling out an education plan on the regional trauma coordination center plan across the region. The committee is reviewing the triage tags for the April full scale exercise; these will not be shared with the hospitals. She advised that the committee will also be looking at the different triage methodologies to determine what works best in a mass casualty incident.

Clinical Leadership Committee: Dr. Pappas thanked Dr. Zito for leading the meeting. Several topics were discussed, including:

- **Orange County Trauma Grey Criteria**: Dr. Zuver said Orange County reviewed the trauma red triage protocol which could lead to over transport to trauma centers. He stated they worked closely with Dr. Zito, Dr. Plumley and Susan Ono to modify these. The new guidelines were shared with the Executive Committee. Dr. Zuver stated the new guidelines began February 1 and they have collected data on 41 patients so far and so far they have seen significant patient improvement. Polk County is also piloting these. He stated they will share data on these at upcoming meetings.
- **Pediatric Field Care**: Dr. Plumley said there is a state workgroup reviewing these and they have also asked EMS medical directors to comment. The group is reviewing the use of TXA and is only recommending this for children over age 12. A study is coming out soon. Dr. Plumley will share these updated guidelines for distribution to the Trauma Advisory Board stakeholders.
- **Button Battery Ingestion**: Dr. Plumley stated that this is becoming a significant issue; when children swallow these it can cause severe injury or death. He distributed an algorithm for this to the Trauma Advisory Board on triage and treatment of these cases.

Extended Care Committee: Tino Manco said the committee held their first meeting on February 2. The committee consists of 14 facilities, including skilled nursing, assisted living and dialysis, representing all nine counties in the region. They will focus on hospital decompression and unnecessary return to the hospital. They will be meeting bimonthly at

different hospitals. The next meeting is in April in Volusia County. Dr. Pappas recognized Tino for his leadership in this effort.

Old Business

- **2021 COT Field Triage Criteria**: Dr. Pappas stated these have been out for almost a year and the most significant issue is Level 1 or Level 2. He stated that they are looking for further comments and discussions on creating a document that will work anywhere. Dr. Pappas serves on this group and can take any feedback to the group.
- **Whole Blood Implementation**: Dr. Pappas suggested making this a standing item on the agenda to look at data from this initiative.
- **EMSAC Trauma Pit Crew Model**: Dr. Pappas stated that the medical care committee is working on this initiative and it creates a model to help reinforce trauma life support with algorithms for optimal care. A draft has been completed and will be presented to EMSAC at the June meeting in Hollywood.

New Business

Upcoming Term 2023 – 2026: Dr. Pappas reminded the group that the new terms are from 2023 through 2025. He stated that he and Lynne will send out emails to ask representatives if they will continue to serve on the Executive Committee.

Next Meeting: April 13, 2023

Adjourn: The meeting adjourned at 11:54 a.m.

Suspect a battery ingestion in these situations

"Coin" ingested.
Carefully check AP x-ray for battery's double-rim or halo-effect and lateral view for step off. Use magnification.

Symptomatic patient, no ingestion history. Consider battery ingestion if:
- Airway obstruction or wheezing
- Drooling
- Vomiting
- Chest discomfort
- Difficulty swallowing, decreased appetite, refusal to eat
- Coughing, choking or gagging with eating or drinking

Battery ingestion known or suspected

Give honey 10 mL every 10 mins if child ≥12 months, lithium coin cell possibly ingested, and ingestion within prior 12 hours. (See text guideline below for detail, #2.) Do not delay going to ER to give honey. Otherwise, NPO until esophageal position ruled out.[1]

Take up to 5 minutes to determine imprint code (or diameter) of companion or replacement battery.

Consult National Battery Ingestion Hotline at **800-498-8666** for assistance with battery identification and treatment.

Patient ≤ 12 years

Patient > 12 years and battery > 12 mm

Patient > 12 years and battery ≤ 12 mm

X-ray immediately to locate battery.[2] Batteries lodged in esophagus must be removed within **2 hours** to avoid serious, delayed complications, including death. Batteries in the esophagus may be asymptomatic initially. **Do not wait for symptoms.**

Battery in Esophagus?

YES

Immediately remove batteries lodged in the esophagus.
- Consider sucralfate suspension or honey if ≤12 h post ingestion (see text guideline below for detail, #11).
- Do not delay removal if patient has eaten.
- Prefer endoscopic removal (instead of retrieval by balloon catheter or magnet affixed to tube) for direct visualization of tissue injury. Inspect mucosa for extent, depth and location of damage. Note position of battery and direction negative pole faces.
- If no endoscopic evidence of perforation, irrigate injured areas of esophagus with 50-150 mL 0.25% sterile acetic acid to neutralize residual alkali (see text guideline below, #13a).

NO (battery in stomach or beyond)

Was a magnet co-ingested?

YES

Do not wait for symptoms. Remove endoscopically if possible; surgically if not.

NO

Are related signs or symptoms present?

YES

NO

NO

Are *all* these conditions met?
- Patient is entirely asymptomatic and has been so since ingestion.
- Only one battery ingested.
- Magnet not also ingested.
- ≤ 12 mm diameter determination is certain
- No pre-existing esophageal disease.
- Patient or caregiver is reliable, mentally competent, and agrees to promptly seek evaluation if symptoms develop.

YES

Manage patient at home. Regular diet. Encourage activity. Confirm battery passage by inspecting stools. Consider x-ray to confirm passage if passage not observed in 10-14 days.

If symptoms develop later, promptly re-evaluate.

≥ 15 mm cell ingested by child < 6 years[3]

YES

X-ray 4 days post ingestion (or sooner if symptoms develop). If still in stomach, remove endoscopically (even if asymptomatic).

NO

After removal, if mucosal injury was present, observe for and anticipate delayed complications: tracheoesophageal fistula, esophageal perforation, mediastinitis, vocal cord paralysis, tracheal stenosis or tracheomalacia, aspiration pneumonia, empyema, lung abscess, pneumothorax, spondylodiscitis, or exsanguination from perforation into a large vessel.

If battery in stomach, remove endoscopically from symptomatic patient, even if symptoms appear minor. If battery beyond reach of endoscope, surgical removal reserved for unusual patients with occult or visible bleeding, persistent or severe abdominal pain, vomiting, signs of acute abdomen and/or fever, or profoundly decreased appetite (unless symptoms unrelated to battery).

Anticipate specific complications based on injury location, battery position and orientation (negative pole). Determine length of observation, duration of esophageal rest, need for serial imaging or endoscopy/bronchoscopy based on severity and location of injury. Monitor patients at risk of perforation into vessels as inpatients with serial imaging and stool guaiacs. Intervene early to prevent fatality. Monitor for respiratory symptoms, especially those associated with swallowing, to diagnose TE fistulas early. Expect perforations and fistulas to be delayed (98% diagnosed by 48 days after battery removal) and esophageal strictures delayed weeks to months.

TIPS, PITFALLS & CAVEATS

- 3 "N's" : **N**egative – **N**arrow – **N**ecrotic. The negative battery pole, identified as the narrowest side on lateral x-ray, causes the most severe, necrotic injury. The negative battery pole is the side opposite the "+" and without the imprint.
- 20 mm lithium coin cell is most frequently involved in esophageal injuries; smaller cells lodge less frequently but also cause serious injury or death.
- Definitive determination of the battery diameter prior to passage is unlikely in at least 40% of ingestions.
- Assume hearing aid batteries are < 12 mm.
- Manage ingestion of a hearing aid containing a battery as an ingestion of a small (≤ 12 mm) battery.
- Do not induce vomiting or give cathartics. Both are ineffective.
- Assays of blood or urine for mercury or other battery ingredients are unnecessary.

NOTES:

[1] NPO except for honey or sucralfate suspension.

[2] X-ray abdomen, esophagus and neck. Batteries above the range of the x-ray have been missed. If battery in esophagus, obtain AP and lateral to determine orientation of negative pole. If ingestion suspected and no battery visualized on x-rays, check ears and nose.

[3] If battery diameter is unknown, estimate it from the x-ray, factoring out magnification (which overestimates diameter).

National Capital Poison Center

Battery Ingestion
Triage and Treatment Guideline

REVISED JUNE 2018

For additional information contact the
National Battery Ingestion Hotline 24/7 at:

800-498-8666

The National Battery Ingestion Hotline is for both health professionals and the public.
It is staffed by toxicologists and poison information specialists, 24/7.

Guideline from the National Capital Poison Center.

Adapted from Litovitz T, Whitaker N, Clark L, White NC, Marsolek M: Emerging battery ingestion hazard: Clinical implications. Pediatrics 2010;125(6): 1168-1177. epub 24 May 2010.

Also see www.poison.org/battery.

Revised 7 May 2013 to incorporate new information that perforations and fistulas may be delayed even longer after removal of a battery from the esophagus.
Revised 17 Sept 2016 to incorporate new information about esophageal location and irrigation/neutralization with acetic acid immediately after endoscopic removal.
Revised 10 June 2018 to incorporate new information about pre-hospital and pre-removal use of honey and sucralfate as injury mitigation strategies.

Battery Ingestion Triage and Treatment Guideline (text version)

Suspect the diagnosis:

Most serious battery ingestions are not witnessed. Consider the possibility of a battery ingestion in every patient with acute airway obstruction; wheezing or other noisy breathing; drooling; vomiting; chest pain or discomfort; abdominal pain; difficulty swallowing; decreased appetite or refusal to eat; or coughing, choking or gagging with eating or drinking. Suspect a button battery ingestion in every presumed "coin" or other foreign body ingestion. Carefully observe (zoom in on x-ray imaging) for the button battery's double-rim or halo-effect on AP radiograph and step-off on the lateral view. Beware that the step-off may not be discernible if the battery is unusually thin or if the lateral film is not precisely perpendicular to the plane of the battery.

If battery ingestion is suspected:

1. Do not induce vomiting.
2. Administer honey immediately and while en route to the ER, if:
    a. A lithium coin cell may have been ingested (if you don't know what kind of button battery was swallowed, assume it is a lithium coin cell unless it is a hearing aid battery);
    b. The child is 12 months of age or older (because honey is not safe in children younger than one year);
    c. The battery was swallowed within the prior 12 hours (because the risk that esophageal perforation is already present increases after 12 hours);
    d. The child is able to swallow; and
    e. Honey is immediately available.

    How to dose honey:
    a. Give 10 mL (2 teaspoons) of honey by mouth every 10 minutes for up to 6 doses. Do not worry about the exact dose or timing.
    b. Use commercial honey if available, rather than specialized or artisanal honey (to avoid inadvertent use of large amounts of honey produced from potentially toxic flowers).
    c. Honey is NOT a substitute for immediate removal of a battery lodged in the esophagus. Honey slows the development of battery injury but won't stop it from occurring. Do not delay going to an ER to obtain or give honey.

    Why give honey?

    Honey is administered to coat the battery and prevent local generation of hydroxide, thereby delaying alkaline burns to adjacent tissue. Efficacy is based on a 2018 study (Anfang et al) assessing the *in vitro* protective effects of various liquids in the cadaveric porcine esophagus and *in vivo* protective effects of honey and sucralfate (Carafate®) compared to saline irrigations of batteries placed in the esophagus of live piglets. Both honey and sucralfate (Carafate®) effectively prevented the expected battery-induced pH increase and decreased the depth of the resulting esophageal injury.
3. Other than giving honey, keep the patient NPO until an esophageal battery position is ruled out by x-ray.

4. If the patient is asymptomatic, take up to 5 minutes to determine the imprint code from a companion or replacement battery, battery packaging, or product instructions. If no imprint code is available, measure or estimate the diameter based on the size of the slot the battery fits in or the size of a comparable battery. To estimate the battery diameter, compare the battery with a U.S. penny (19 mm) and nickel (21 mm).
5. Consult the National Battery Ingestion Hotline at 800-498-8666 for assistance in battery identification and patient management.
6. If the patient is ≤ 12 years, *immediately* obtain an x-ray to locate the battery. Batteries lodged in the esophagus may cause serious burns in as little as 2 hours. Do not wait for symptoms to develop. Patients with a battery in the esophagus may be asymptomatic initially. The 20 mm diameter lithium coin cell, with a diameter intermediate between a U.S. penny and nickel, is most frequently involved in esophageal injuries. Smaller cells lodge less frequently, but may also cause serious injury or death, especially in children younger than 1 year.
7. If the patient is > 12 years and the battery diameter is > 12 mm or unknown, *immediately* obtain an x-ray to locate the battery.
8. If the patient is > 12 years and the ingested battery is ≤ 12 mm, no x-ray to locate the battery is required if *all* of the following conditions are met:
    a. The patient is *entirely* asymptomatic and has been asymptomatic since the battery was ingested.
    b. Only *one* battery was ingested
    c. A magnet was *not* also ingested.
    d. The battery has been *reliably* identified based on imprint code or measurement of an identical cell, and the diameter is ≤ 12 mm. Definitive determination of the battery diameter prior to passage is unlikely in at least 40% of ingestions. Assume hearing aid batteries are less than 12 mm.
    e. There is no history of prior esophageal surgery, esophageal stricture/narrowing, motility disorders, or other esophageal disease.
    f. The patient (or caregiver) is reliable, mentally competent, and agrees to report symptoms that develop prior to battery passage, or over the subsequent month if passage is not documented, and understands the importance of promptly seeking evaluation for symptoms possibly related to the ingested battery.
9. X-rays obtained to locate the battery should include the entire neck, esophagus, and abdomen. Batteries located above the range of the x-ray have been missed, as have batteries assumed to be coins or cardiac monitor electrodes. On physical exam, check both ear canals and the nasal cavity to exclude battery insertion. Obtain both AP and lateral x-rays for batteries in the esophagus to determine orientation of the positive and negative poles. On the lateral film, the step-off is on the negative side of the battery. (The negative pole has a slightly smaller diameter, fitting within the battery can which forms the positive pole.) Anticipate complications based on battery position and orientation. Damage will be more severe in tissue adjacent to the negative pole.
10. *Immediately* remove batteries lodged in the esophagus. Serious burns can occur in 2 hours.
11. If possible, and if the child is able to swallow, administer sucralfate (Carafate® suspension, 1 g/10 mL). Give 10 mL PO every 10 minutes, up to 3 doses, from the time of x-ray determination that a battery is lodged in the esophagus until sedation is given for endoscopy. Honey has comparable

efficacy (Anfang, 2018) and may be substituted for sucralfate suspension in children 12 months of age or older, dosed as outlined in #2, above. Do not give sucralfate or honey if the battery was possibly in the esophagus for more than 12 hours. Sucralfate or honey administration is not a substitute for emergent battery removal as these agents slow but do not eliminate tissue damage.

12. Do not delay battery removal because a patient has eaten recently or because a patient was given honey or sucralfate (Carafate®) by mouth.
13. Endoscopic removal is preferred as it allows direct visualization of tissue injury. After removal, inspect the mucosa surrounding the battery to determine the extent, depth, and location of tissue damage. Note the orientation of the battery in the esophagus: is the negative pole (side with*out* the "+" and with*out* the imprint) facing anteriorly or posteriorly? If possible, avoid pushing an esophageal battery into the stomach as the risk of esophageal perforation may increase.
    a. After a battery is removed from the esophagus, inspect the area endoscopically for evidence of perforation. If none is evident, irrigate the injured areas with 50 mL to 150 mL of 0.25% sterile acetic acid (obtained from the hospital pharmacy). Irrigate in increments and suction away excess fluid and debris through the endoscope. For decades toxicologists have advised against neutralization for fear of causing a thermal injury. However, a recent study (Jatana, 2016) using piglet esophagus preparations after button battery removal, showed only a minimal increase in temperature (0-3 ^{o}C), effective tissue surface pH neutralization, and decrease in the visible injury using this neutralization strategy. The tissue surface pH neutralization may reduce the development of progressive, delayed-onset esophageal injury after battery removal.
14. After removing a battery from the esophagus, if mucosal injury was present, observe for delayed complications such as tracheoesophageal fistula, esophageal perforation, mediastinitis, vocal cord paralysis, tracheal stenosis or tracheomalacia, aspiration pneumonia, empyema, lung abscess, pneumothorax, spondylodiscitis, or exsanguination from perforation into a large vessel.
    a. Determine the length of observation, duration of esophageal rest, and need for serial imaging or endoscopy/bronchoscopy based on the severity and location of the injury, anticipating specific complications based on the injury location, battery position and orientation. Consider the proximity of the lodged battery and injured area to major arteries. Monitor patients at risk of fistulization into blood vessels carefully, as inpatients, with serial imaging (contrast CT or MRI of chest and/or neck) and stool guaiacs. Intervene early if perforation is imminent. Monitor for respiratory symptoms, especially with swallowing, to diagnose tracheoesophageal fistulas early.
    b. Expect delayed onset of esophageal perforations and fistulas involving the trachea or major vessels. Perforations were diagnosed by 48 days post removal in 98.1% of cases, and delays up to 27 days post removal were observed for esophageal-vascular fistulas. Recurrent laryngeal nerve injury may be evident on presentation or may not develop or be diagnosed for weeks after battery removal. Esophageal strictures and spondylodiscitis may not manifest for weeks to months post ingestion.
    c. Patients with esophageal injury should be admitted and observed due to the high risk of local edema developing with worsening symptoms, especially airway compromise when the battery is lodged high in the esophagus. In stable, well-appearing children, a clear liquid diet can be started after an esophagram shows no evidence of perforation. The esophagram is obtained at least 1-2 days after battery removal, earlier (1 day) for cases

with mucosal injury only, and later for cases with deeper injury. Diet may be advanced to soft as tolerated, but all children who have had an esophageal battery removed should be limited to soft foods for a full 28 days to avoid mechanical damage to a healing esophagus. In children with more severe injuries, subsequent care and diagnostic intervention is guided by clinical manifestations.

d. Patients with batteries removed from the upper esophagus should be monitored carefully for voice changes, respiratory distress, or stridor. If any of these are present or suggested, the cords should be visualized under direct laryngoscopic view in the awake patient to confirm bilateral vocal cord mobility. Unilateral or bilateral vocal cord paralysis is a common complication of battery ingestion due to damage to the recurrent laryngeal nerve(s). Paralysis may be delayed and not detected for days or weeks.
e. Always consider the possibility of battery proximity to the aorta or other major vessels. If this is anatomically likely due to the position of the battery, use a contrast CT or MRI diagnostically to confirm there is at least 3 mm of tissue between the area of esophageal injury and adjacent vessels. Watch for sentinel bleeds, which may be subtle. Engage cardiothoracic surgery early if there is any possibility of an impending esophageal-vascular fistula.

15. Retrieve batteries, endoscopically if possible, from the stomach or beyond if:
    a. A magnet was also ingested,
    b. The patient develops signs or symptoms that are likely related to the battery ingestion, or
    c. A large button battery (≥ 15 mm diameter), ingested by a child younger than 6 years, remains in the stomach for 4 days or longer. If battery diameter is unknown, estimate if from the x-ray, factoring out magnification (which tends to overestimate battery diameter).
    d. If a large button battery (≥ 20 mm) is in the stomach or beyond of a child younger than 5 years, and based on history, might have lodged in the esophagus for > 2 hours before passing to the stomach, *consider* diagnostic endoscopy to exclude the remote possibility of esophageal injury. (In a handful of cases, patients with significant and symptomatic esophageal injury have been found with batteries that have already passed beyond the esophagus.) If symptoms suggestive of esophageal or gastric injury are (or were) present, urgent endoscopy is recommended to exclude esophageal injury.
16. Allow batteries to pass spontaneously if they have passed beyond the esophagus (stomach and beyond) and no clinical indication of significant gastrointestinal injury is evident. Manage the patient at home on a regular diet. Encourage activity. Avoid unnecessary endoscopic or surgical removal in asymptomatic patients. Promptly re-evaluate all patients who develop signs or symptoms possibly related to the battery. Endoscopic removal of batteries still in the stomach should be pursued for even minor symptoms. For batteries beyond the reach of the endoscope, surgical battery removal may be required in the unusual patients with evidence of occult or visible bleeding, abdominal pain, profoundly decreased appetite, vomiting, signs of an acute abdomen, and/or fever, unless these clinical manifestations are clearly unrelated to the battery. Confirm battery passage by inspecting stools. Consider repeat radiographs to confirm passage if passage not observed in 10-14 days. Confirming passage may avoid urgent diagnostic intervention for minor symptoms developing later.
17. Manage ingestion of a hearing aid containing a battery as an ingestion of a small battery (≤ 12 mm).

18. Avoid these ineffective, unnecessary or unproven therapeutic interventions:
    a. Ipecac administration (ineffective).
    b. Blind battery removal with a balloon catheter or a magnet affixed to a nasogastric tube (can't determine extent of injury).
    c. Blood or urine concentrations of mercury or other battery ingredients (unnecessary).
    d. Chelation (unnecessary).
    e. Laxatives (ineffective) or polyethylene glycol electrolyte solution (unproven effectiveness and unknown if solution enhances electrolysis).

References:

Litovitz T, Whitaker N, Clark L, White NC, Marsolek M: Emerging battery ingestion hazard: Clinical implications. *Pediatrics* 2010;125(6): 1168-1177. epub 24 May 2010.

Jatana KR, Rhoades K, Milkovich S, Jacobs IN. Basic mechanism of button battery ingestion injuries and novel mitigation strategies after diagnosis and removal. *Laryngoscope* 2017; 127(6):1276-1282.

Anfang RR, Jatana KR, Linn RL, Roades K, Fry J, Jacobs IN: pH-neutralizing esophageal irrigations as a novel mitigation strategy for button battery injury. Laryngoscope. 2018 Jun 11; Epub ahead of print.

Revised: 9/2016; 6/2018

Prehospital Pediatric Trauma guidelines: RTSDF Region 5

Trauma is a leading cause of morbidity and mortality in children. The evaluation and resuscitation of the pediatric trauma patient is vitally important and sets the tone, intensity and pace of subsequent care. Although the overall process is similar to adults, there are unique anatomic, physiologic, developmental and social characteristics of children that must be accounted for during the resuscitation phase.

General Approach to Pediatric Trauma

Airway: asses airway
- Modified jaw thrust if obstructed
- Supplemental 100 % oxygen (including ETCO2 levels 35-45 normal)

Breathing:
- If breathing spontaneously in no distress, supplemental oxygen
- If breathing with distress, assist with BMV and determine need for secure airway
- If not breathing, Intubation, if difficult airway supplement with BMV or supraglottic airway if available, Failure to ventilate consider a surgical airway
- Pneumothorax
  - Needle decompression
    - Placement of a 14–18 gauge catheter at the 2nd Intercostal space midclavicular line
- Open Pneumothorax
  - Immediately apply an occlusive dressing sealing 2 sides
- FLAIL CHEST: (paradoxical movement of portion of chest wall)
- • position patient with injured side down, unless contraindicated.
- • provide manual stabilization of the flail segment.
- NOTE: Assisted positive pressure ventilations using a BVM device may be indicated and may also serve as an "internal splinting" of the flail segment due to lung expansion

Circulation:
- Control active bleeding with direct pressure, hemostatic gauze packing and/or tourniquet, as indicated
- Place one or two peripehral IV
- If failure, place an IO
- Bolus 20/kg crystalloid solution, may repeat x 1
- If TXA available ,the FCOT Pediatric Subcommittee recommends that an adolescent trauma patient, age 12 or older, (or longer than the Broselow tape), administration of TXA in the field for hemorrhagic shock (especially penetrating mechanism) may be of benefit, and adult dosing is appropriate(1 gram)

Disability and exposure:
- Goal is to prevent secondary injury
- Keep patients warm
- Stabilize/immobilize as indicated
- Document any neurodeficits and GCS

PEDIATRIC GLASGOW COMA SCALE (PGCS)				
	> 1 Year		**< 1 Year**	**Score**
EYE OPENING	Spontaneously		Spontaneously	4
	To verbal command		To shout	3
	To pain		To pain	2
	No response		No response	1
MOTOR RESPONSE	Obeys		Spontaneous	6
	Localizes pain		Localizes pain	5
	Flexion-withdrawal		Flexion-withdrawal	4
	Flexion-abnormal (decorticate rigidity)		Flexion-abnormal (decorticate rigidity)	3
	Extension (decerebrate rigidity)		Extension (decerebrate rigidity)	2
	No response		No response	1
	> 5 Years	**2-5 Years**	**0-23 months**	
VERBAL RESPONSE	Oriented	Appropriate words/phrases	Smiles/coos appropriately	5
	Disoriented/confused	Inappropriate words	Cries and is consolable	4
	Inappropriate words	Persistent cries and screams	Persistent inappropriate crying and/or screaming	3
	Incomprehensible sounds	Grunts	Grunts, agitated, and restless	2
	No response	No response	No response	1
TOTAL PEDIATRIC GLASGOW COMA SCORE (3-15):				

Pediatric Burns

Thermal Burns

Remove clothing, Stop burning process with water or saline, prevent hypothermia
Cool compress for minor burns
Dry, clean burn sheet for 2nd, 3rd degree, electrical and chemical burns
Establish IV access if possible and fluid bolus 20/kg Normal Saline
For transport times greater than an hour contact medical control for further fluid recs
Pain medicine per local protocols

Chemical burns:

Determine offending agent(s) and consider HAZMAT intervention
Wash with copious amounts of clean water and/or sterile normal saline for 10-15 minutes, unless contraindicated by chemical agent (i.e., sodium, potassium and/or lithium metals). **CAUTION**: Primary water irrigation is contraindicated for Dry Lime/Lye and/or Phenol exposure (may produce further chemical reactions). Dry powders should be brushed off prior to flushing with large amounts of water. It is advised to contact **MEDICAL CONTROL** for further advice.
If chemical viscous, remove with tongue depressor.

Inhalation Injury

Supplemental oxygen or controlled airway if unconscious
Suspected cyanide toxicity consider hydroxocobalamin 70mg/kg(to maximum 5 grams) IV?IO over 15 min

In patients with suspected CO poisoning high flow oxygen

Consider transfer to a pediatric trauma center

Partial thickness burns greater than **10%** total body surface area (TBSA)
Second degree burns involving "sensitive areas"
Third degree burns of any TBSA
Electrical burns, including lightning injury
Burns to patients who also suffered an inhalation injury or concomitant trauma
Significant burns from caustic chemicals
Burn injury in patients who require special social, emotional, or long-term rehabilitative intervention
Burn injury in patients with pre-existing medical disorders that could complicate management, prolong recovery, or affect mortality

Pediatric Eye Emergency

Obtain visual history (use of corrective lens, surgeries, use of protective equipment)
Assist patient in removal of contacts if applicable
Chemical irritants (ie pepper spray) flush with copious amounts of water or saline
Thermal burns to eyelids, patch both eyes and cool saline compress
Impaled object: Immobilize object and patch both eye
Puncture wound: place rigid eye shield over both eyes
Foreign body: patch both eyes
If cannot close eyelids, keep eye moist with a sterile saline dressing

Pediatric Head Trauma and Injuries

1. **Airway**:
   Assess airway for patency (suction),
   Intubate for GCS less than 8 (unresponsive to stimuli) or signs of herniation (blown pupil or hemiparesis or agonal breathing or posturing) or loss of pharyngeal reflex, persistent hypoxemia.
   Maintain cervical spine precautions while intubating or applying bag-valve-mask ventilation.
   Do not tape tube over neck area to avoid compression of venous return.
   Avoid nasotracheal intubation.
   Rapid sequence cerebroprotective intubation cocktail preferred (lidocaine, fentanyl, vecuronium) or per local protocol
2. **Ventilate**
   Maintain normocarbia.
   Administer 100% O2.
   Oxygenation and ventilation should be assessed continuously by pulse oximetry and end tidal CO2 monitoring.
   Prophylactic hyperventilation is *not* recommended.
3. **Circulation**:
   Recognize and stop bleeding.
   Wrap head firmly for open wounds or active bleeding.
   Apply hemostatic agents ie trauma gauze or QuickClot.
   Minimize IV fluid resuscitation with isotonic crystalloid if possible
   GCS score (motor response, eye opening, verbal response).

A quick assessment “AVPU” awake, responds to verbal, responds to pain, unresponsive can be used.
Hypotension and hypoxemia and seizure activity affect GCS score.
Check pupils for symmetry.
Prophylactic use of mannitol *not* recommended, consider 1 gram/kg dose of mannitol for signs of herniation in euvolemic patient.
Elevate head of backboard 15-30 degrees if normotensive or hypertensive

4. **Immobilize spine**
   ASSUME a cervical spine injury is present.
   Cervical collar and backboard.
   Avoid excessive neck flexion
   Elevate head of backboard 15-30 degrees if normotensive or hypertensive
5. If available and especially if a long transport time consider,
   Keppra 60 mg/kg to max of 2 grams
   Hypertonic saline 3%, 5 cc/kg to max of 250 ml

Spinal Motion Restriction (SMR)

Every injured child should receive an assessment for SMR. The need for spinal immobilization is based on mechanism of injury, mental status, and exam. Not all injured children require a C collar or longboard immobilization.

Blunt Trauma that requires SMR

High risk mechanism: Fall from height, axial load injury, high speed MVC unrestrained, ejection
Exam: Spinal tenderness or limited ROM, focal deficits (paralysis, paresthesias), child > 2 that can’t walk
Altered sensorium: intoxicated, abnormal GCS, unconscious
Co morbidities: Downs, hydrocephalus, dwarfism, Osteogenesis imperfects, Marfans, Ehler Danlos, JRA, spinal surgery

If SMR is indicated but patient cannot tolerate supine position apply all elements they will tolerate and maintain spinal alignment as best as possible

Infants in rear facing car seat can be immobilized in cars eat as long as stable with no respiratory distress or shock
Children in high backed car seat can be extricated in car seat and then placed in SMR if indicted

BUTTON BATTERY INGESTION

Due to the extreme difficulty diagnosing a foreign body ingestion in the field, button battery ingestion should never be an activation from the field. In transfer, however, once a button battery ingestion is identified, it should be transported by EMS as expeditiously as possible, including as a Trauma Activation depending on local guidelines. In addition, we recommend initiating poison control guidelines prior to transfer. (https://www.poison.org/battery/guideline)

Musculoskeletal Injuries

General care

- Remove clothing to expose injury
- If pulseless limb, attempt to place in anatomic position
- For dislocations immobilize to prevent movement of joint
- Pain control per local protocol

Closed Fractures

- Extremity fractures with obvious deformity, apply splint extending over the joint above and below the deformity in position of comfort, most commonly with small amount of flexion at elbow or knee.
- Femur fractures do not require Hare Traction splinting, especially given the extremely rapid transport times. Initial management for transportation can be through long leg splinting extending above the hip and ending above the ankle. This allows for improved documentation of pulses and sensibility
- Pelvis and suspected spine injuries, immobilization will be with cervical collar and through use of the back board for transportation.

Open Fractures

- Open fractures need a clean dressing, if possible with Betadine or saline soaked gauze over wound.
- If bleeding from an open fracture not controlled with direct pressure on the wound, then apply tourniquet above the level of the fracture or above the adjacent joint, may require a double tourniquet.
- If agency can administer antibiotics, Ancef 30/kg to max does of 2 Grams

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FROM THE AMERICAN ACADEMY OF PEDIATRICS

Management of Pediatric Trauma

AMERICAN ACADEMY OF PEDIATRICS, PEDIATRIC ORTHOPAEDIC SOCIETY OF NORTH AMERICA Section on Orthopaedics, Committee on Pediatric Emergency Medicine, Section on Critical Care, Section on Surgery, Section on Transport Medicine, Committee on Pediatric Emergency Medicine

Maria J. Mandt, Kari Hayes, Fred Severyn & Kathleen Adelgais (2019):
Appropriate Needle Length for Emergent Pediatric Needle Thoracostomy Utilizing Computed Tomography, Prehospital Emergency Care, DOI: 10.1080/10903127.2019.1566422

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Medical Director Bulletin

Date: **January 27, 2023**

To: **All Orange County EMS System providers**

Subject: **Trauma Grey Protocol**

After reviewing the Trauma Triage Red Protocol and discussing difficulties surrounding the protocol with OCEMS providers and the local trauma system, we have decided to rescind the Trauma Triage Red protocol.

In place we will be initiating a Trauma Grey protocol. The Trauma Grey Protocol was developed based on input from the Trauma Centers, the CDC Trauma Triage Guidelines and prevailing medical evidence. The goal remains to transport high risk patients to facilities that are best equipped to care for them. Trauma Grey will pertain to both Adult and Pediatric patients.

A major discussion in development of this protocol surrounded discussion of expectations once arriving at the hospital. As part of the new protocol, patients treated and transported as Trauma Grey are expected to be prioritized with rapid off load.

The Trauma Grey protocol is similar in many ways to the old Trauma Triage Red Protocol but excludes trauma to the thorax or abdomen.

The Trauma Grey protocol will be effective February 1, 2023, at 0700. At that time the Trauma Triage Red protocol will no longer be authorized.

Please see the attached updates for both Adult and Pediatric Trauma Grey Protocols. Contact the Office of the Medical Director with any questions.

Thank you for your cooperation.

Christian C. Zuver MD, FACEP
Medical Director
Orange County EMS System

Trauma Grey

Immediately assess all trauma patients for Trauma Alert Criteria. If Trauma Alert criteria are met, begin transport to SATC within 10 minutes of arrival on scene whenever possible.

All Patients meeting the following criteria, who do not meet Trauma Alert criteria will automatically be classified as a "Trauma Grey" and should be transported to the nearest SATC.

- Any patients with **significant head impact** who are:
  - **Age 65 or older**
    OR
  - Any age on **systemic anticoagulation or antiplatelet agents**.

  - Examples may include (not limited to):
    - Apixiban (Eliquis)
    - Betrixaban (Bevyxxa)
    - Dabigatran (Pradaxa)
    - Edoxabam (Savaysa)
    - Enoxaparin (Lovenox)
    - Rivaroxiban (Xarelto)
    - Warfarin (Coumadin)
    - Clopidrogel (Plavix)
    - Ticagrelor (Brilinta)
    - Prasugrel (Effient)
    - Cangrelor (Kangreal)
    - Vopraxar (Zontivity)

If patients meet Trauma Grey criteria and refuse transport to a State Approved Trauma Center, contact Medical Control.

Trauma Grey - Pediatric

Immediately assess all trauma patients for Trauma Alert Criteria. If Trauma Alert criteria are met, begin transport to State Approved Pediatric Trauma Center within 10 minutes of arrival on scene whenever possible.

All Patients meeting the following criteria, who do not meet Trauma Alert criteria will automatically be classified as a "Trauma Grey" and should be transported to the nearest State Approved Pediatric Trauma Center.

- Any patients with **significant head impact** who are:
  - On **systemic anticoagulation or antiplatelet agents.**

  - Examples may include (not limited to):
    - Apixiban (Eliquis)
    - Betrixaban (Bevyxxa)
    - Dabigatran (Pradaxa)
    - Edoxabam (Savaysa)
    - Enoxaparin (Lovenox)
    - Rivaroxiban (Xarelto)
    - Warfarin (Coumadin)
    - Clopidrogel (Plavix)
    - Ticagrelor (Brilinta)
    - Prasugrel (Effient)
    - Cangrelor (Kangreal)
    - Vopraxar (Zontivity)

If patients/guardians refuse transport to a State Approved Pediatric Trauma Center, contact Medical Control.

RDSTF5 Trauma Advisory Board Clinical Leadership Committee Minutes

Attendees: Beverly Cook, Lynne Drawdy, Dr Desmond Fitzpatrick, Dr. Dustin Huynh, Matt Meyers, Dr. Peter Pappas, Dr. Donald Plumley, Dr. Rick Ricardi, Dr. Tracy Zito, Dr. Christian Zuver

Call to Order: Dr. Pappas welcomed the group and reminded the group that this is the steering committee for the Trauma Advisory Board. Dr. Zito called the meeting to order.

Review and Approval of Minutes: The minutes were distributed with the calendar invitation. A motion to approve was made by Dr. Zuver and seconded by Dr. Zito; there was no opposition, and the minutes were approved.

CFDMC Update: Lynne reported that April 20th is the regional full scale medical surge hospitals, with most hospitals participating. The focus this year is on burn surge. Dr. Bilski stated that focusing on burn surge is needed. She asked if we are activating the regional trauma coordination center and Lynne explained that the plan is to do an educational campaign on the trauma coordination center over the coming year and then include this in the 2024 exercise. Lynne stated that there is a pediatric tabletop on February 24th and Dr. Plumley was invited to attend. Dr. Zito and Nichole McKee also asked for an invitation. Lynne also said that the coalition has led a statewide effort to draft a radiation surge annex; this has been distributed. A radiation tabletop will be held on May 17th and an invitation will be sent out soon.

New Business

TXA for Pediatric Trauma: Dr. Plumley stated that the Florida Committee on Trauma (FCOT) has a subcommittee for pediatrics and he was asked to look at TXA use for pediatrics. He has amended the pediatric guidelines including use of TXA and will send those to Lynne to send out and post on the website.

Management of Pediatric Button Battery: Dr. Plumley advised that there have been several cases with children swallowing button batteries. He shared an algorithm and triage and treatment guidelines for these and these were sent to the Clinical Leadership Committee and the Executive Committee. Lynne asked if he could share these at the February 24th pediatric tabletop and the regional hospital committee meeting in March.

Orange County Trauma Grey Criteria: Dr. Zuver said that the current trauma red protocol has caused issues and he is working to readdress the criteria. He shared a copy of the Orange County adult and pediatric trauma grey criteria (these were sent to the Clinical Leadership Committee and Executive Committee). He stated that they will implement these and gather data for a comparison. Dr. Zito stated that she feels the trauma red criteria is confusing and feels this will be a huge improvement. Dr. Zuver will present this at the Tuesday Executive Committee meeting.

EMSAC January 18 - 20th, 2023 Daytona Beach: Dr. Pappas reminded the group of the upcoming EMSAC. He stated that beginning next year, these will be held at the Orange County Convention Center.

Geriatric Trauma: Dr. Zito asked that this be a topic at the April Clinical Leadership Committee meeting.

Old Business

EMSAC Trauma Pit Crew Initiative: Dr. Pappas stated that these are almost ready to be distributed and he expects a final draft at the June meeting in Hollywood. He stated these help align resources and they hope to make this a competition at the statewide meeting

COT 2021 Triage Guidelines for EMS: Dr. Pappas stated that a pediatric version is being developed this year and we should have a rough draft in the coming months. He is on the national committee and will be one of the contact persons for Florida.

Next Meeting/Adjourn: The next meeting is April 10, 2023. The meeting adjourned at 3:32 p.m.

Suspect a battery ingestion in these situations

"Coin" ingested.
Carefully check AP x-ray for battery's double-rim or halo-effect and lateral view for step off. Use magnification.

Symptomatic patient, no ingestion history. Consider battery ingestion if:
- Airway obstruction or wheezing
- Drooling
- Vomiting
- Chest discomfort
- Difficulty swallowing, decreased appetite, refusal to eat
- Coughing, choking or gagging with eating or drinking

Battery ingestion known or suspected

Give honey 10 mL every 10 mins if child ≥12 months, lithium coin cell possibly ingested, and ingestion within prior 12 hours. (See text guideline below for detail, #2.) Do not delay going to ER to give honey. Otherwise, NPO until esophageal position ruled out.[1]

Take up to 5 minutes to determine imprint code (or diameter) of companion or replacement battery.

Consult National Battery Ingestion Hotline at **800-498-8666** for assistance with battery identification and treatment.

Patient ≤ 12 years

Patient > 12 years and battery > 12 mm

Patient > 12 years and battery ≤ 12 mm

X-ray immediately to locate battery.[2] Batteries lodged in esophagus must be removed within **2 hours** to avoid serious, delayed complications, including death. Batteries in the esophagus may be asymptomatic initially. **Do not wait for symptoms.**

Battery in Esophagus?

YES

Immediately remove batteries lodged in the esophagus.
- Consider sucralfate suspension or honey if ≤12 h post ingestion (see text guideline below for detail, #11).
- Do not delay removal if patient has eaten.
- Prefer endoscopic removal (instead of retrieval by balloon catheter or magnet affixed to tube) for direct visualization of tissue injury. Inspect mucosa for extent, depth and location of damage. Note position of battery and direction negative pole faces.
- If no endoscopic evidence of perforation, irrigate injured areas of esophagus with 50-150 mL 0.25% sterile acetic acid to neutralize residual alkali (see text guideline below, #13a).

NO (battery in stomach or beyond)

Was a magnet co-ingested?

YES

Do not wait for symptoms. Remove endoscopically if possible; surgically if not.

NO

Are related signs or symptoms present?

YES

NO

NO

Are *all* these conditions met?
- Patient is entirely asymptomatic and has been so since ingestion.
- Only one battery ingested.
- Magnet not also ingested.
- ≤ 12 mm diameter determination is certain
- No pre-existing esophageal disease.
- Patient or caregiver is reliable, mentally competent, and agrees to promptly seek evaluation if symptoms develop.

YES

Manage patient at home. Regular diet. Encourage activity. Confirm battery passage by inspecting stools. Consider x-ray to confirm passage if passage not observed in 10-14 days.

If symptoms develop later, promptly re-evaluate.

≥ 15 mm cell ingested by child < 6 years[3]

YES

X-ray 4 days post ingestion (or sooner if symptoms develop). If still in stomach, remove endoscopically (even if asymptomatic).

NO

After removal, if mucosal injury was present, observe for and anticipate delayed complications: tracheoesophageal fistula, esophageal perforation, mediastinitis, vocal cord paralysis, tracheal stenosis or tracheomalacia, aspiration pneumonia, empyema, lung abscess, pneumothorax, spondylodiscitis, or exsanguination from perforation into a large vessel.

If battery in stomach, remove endoscopically from symptomatic patient, even if symptoms appear minor. If battery beyond reach of endoscope, surgical removal reserved for unusual patients with occult or visible bleeding, persistent or severe abdominal pain, vomiting, signs of acute abdomen and/or fever, or profoundly decreased appetite (unless symptoms unrelated to battery).

Anticipate specific complications based on injury location, battery position and orientation (negative pole). Determine length of observation, duration of esophageal rest, need for serial imaging or endoscopy/bronchoscopy based on severity and location of injury. Monitor patients at risk of perforation into vessels as inpatients with serial imaging and stool guaiacs. Intervene early to prevent fatality. Monitor for respiratory symptoms, especially those associated with swallowing, to diagnose TE fistulas early. Expect perforations and fistulas to be delayed (98% diagnosed by 48 days after battery removal) and esophageal strictures delayed weeks to months.

TIPS, PITFALLS & CAVEATS

- 3 "N's" : **N**egative – **N**arrow – **N**ecrotic. The negative battery pole, identified as the narrowest side on lateral x-ray, causes the most severe, necrotic injury. The negative battery pole is the side opposite the "+" and without the imprint.
- 20 mm lithium coin cell is most frequently involved in esophageal injuries; smaller cells lodge less frequently but also cause serious injury or death.
- Definitive determination of the battery diameter prior to passage is unlikely in at least 40% of ingestions.
- Assume hearing aid batteries are < 12 mm.
- Manage ingestion of a hearing aid containing a battery as an ingestion of a small (≤ 12 mm) battery.
- Do not induce vomiting or give cathartics. Both are ineffective.
- Assays of blood or urine for mercury or other battery ingredients are unnecessary.

NOTES:

[1] NPO except for honey or sucralfate suspension.

[2] X-ray abdomen, esophagus and neck. Batteries above the range of the x-ray have been missed. If battery in esophagus, obtain AP and lateral to determine orientation of negative pole. If ingestion suspected and no battery visualized on x-rays, check ears and nose.

[3] If battery diameter is unknown, estimate it from the x-ray, factoring out magnification (which overestimates diameter).

National Capital Poison Center

Battery Ingestion
Triage and Treatment Guideline

REVISED JUNE 2018

For additional information contact the
National Battery Ingestion Hotline 24/7 at:

800-498-8666

The National Battery Ingestion Hotline is for both health professionals and the public.
It is staffed by toxicologists and poison information specialists, 24/7.

Guideline from the National Capital Poison Center.

Adapted from Litovitz T, Whitaker N, Clark L, White NC, Marsolek M: Emerging battery ingestion hazard: Clinical implications. Pediatrics 2010;125(6): 1168-1177. epub 24 May 2010.

Also see www.poison.org/battery.

Revised 7 May 2013 to incorporate new information that perforations and fistulas may be delayed even longer after removal of a battery from the esophagus.
Revised 17 Sept 2016 to incorporate new information about esophageal location and irrigation/neutralization with acetic acid immediately after endoscopic removal.
Revised 10 June 2018 to incorporate new information about pre-hospital and pre-removal use of honey and sucralfate as injury mitigation strategies.

Battery Ingestion Triage and Treatment Guideline (text version)

Suspect the diagnosis:

Most serious battery ingestions are not witnessed. Consider the possibility of a battery ingestion in every patient with acute airway obstruction; wheezing or other noisy breathing; drooling; vomiting; chest pain or discomfort; abdominal pain; difficulty swallowing; decreased appetite or refusal to eat; or coughing, choking or gagging with eating or drinking. Suspect a button battery ingestion in every presumed "coin" or other foreign body ingestion. Carefully observe (zoom in on x-ray imaging) for the button battery's double-rim or halo-effect on AP radiograph and step-off on the lateral view. Beware that the step-off may not be discernible if the battery is unusually thin or if the lateral film is not precisely perpendicular to the plane of the battery.

If battery ingestion is suspected:

1. Do not induce vomiting.
2. Administer honey immediately and while en route to the ER, if:
    a. A lithium coin cell may have been ingested (if you don't know what kind of button battery was swallowed, assume it is a lithium coin cell unless it is a hearing aid battery);
    b. The child is 12 months of age or older (because honey is not safe in children younger than one year);
    c. The battery was swallowed within the prior 12 hours (because the risk that esophageal perforation is already present increases after 12 hours);
    d. The child is able to swallow; and
    e. Honey is immediately available.

    How to dose honey:
    a. Give 10 mL (2 teaspoons) of honey by mouth every 10 minutes for up to 6 doses. Do not worry about the exact dose or timing.
    b. Use commercial honey if available, rather than specialized or artisanal honey (to avoid inadvertent use of large amounts of honey produced from potentially toxic flowers).
    c. Honey is NOT a substitute for immediate removal of a battery lodged in the esophagus. Honey slows the development of battery injury but won't stop it from occurring. Do not delay going to an ER to obtain or give honey.

    Why give honey?

    Honey is administered to coat the battery and prevent local generation of hydroxide, thereby delaying alkaline burns to adjacent tissue. Efficacy is based on a 2018 study (Anfang et al) assessing the *in vitro* protective effects of various liquids in the cadaveric porcine esophagus and *in vivo* protective effects of honey and sucralfate (Carafate®) compared to saline irrigations of batteries placed in the esophagus of live piglets. Both honey and sucralfate (Carafate®) effectively prevented the expected battery-induced pH increase and decreased the depth of the resulting esophageal injury.
3. Other than giving honey, keep the patient NPO until an esophageal battery position is ruled out by x-ray.

4. If the patient is asymptomatic, take up to 5 minutes to determine the imprint code from a companion or replacement battery, battery packaging, or product instructions. If no imprint code is available, measure or estimate the diameter based on the size of the slot the battery fits in or the size of a comparable battery. To estimate the battery diameter, compare the battery with a U.S. penny (19 mm) and nickel (21 mm).
5. Consult the National Battery Ingestion Hotline at 800-498-8666 for assistance in battery identification and patient management.
6. If the patient is ≤ 12 years, *immediately* obtain an x-ray to locate the battery. Batteries lodged in the esophagus may cause serious burns in as little as 2 hours. Do not wait for symptoms to develop. Patients with a battery in the esophagus may be asymptomatic initially. The 20 mm diameter lithium coin cell, with a diameter intermediate between a U.S. penny and nickel, is most frequently involved in esophageal injuries. Smaller cells lodge less frequently, but may also cause serious injury or death, especially in children younger than 1 year.
7. If the patient is > 12 years and the battery diameter is > 12 mm or unknown, *immediately* obtain an x-ray to locate the battery.
8. If the patient is > 12 years and the ingested battery is ≤ 12 mm, no x-ray to locate the battery is required if *all* of the following conditions are met:
    a. The patient is *entirely* asymptomatic and has been asymptomatic since the battery was ingested.
    b. Only *one* battery was ingested
    c. A magnet was *not* also ingested.
    d. The battery has been *reliably* identified based on imprint code or measurement of an identical cell, and the diameter is ≤ 12 mm. Definitive determination of the battery diameter prior to passage is unlikely in at least 40% of ingestions. Assume hearing aid batteries are less than 12 mm.
    e. There is no history of prior esophageal surgery, esophageal stricture/narrowing, motility disorders, or other esophageal disease.
    f. The patient (or caregiver) is reliable, mentally competent, and agrees to report symptoms that develop prior to battery passage, or over the subsequent month if passage is not documented, and understands the importance of promptly seeking evaluation for symptoms possibly related to the ingested battery.
9. X-rays obtained to locate the battery should include the entire neck, esophagus, and abdomen. Batteries located above the range of the x-ray have been missed, as have batteries assumed to be coins or cardiac monitor electrodes. On physical exam, check both ear canals and the nasal cavity to exclude battery insertion. Obtain both AP and lateral x-rays for batteries in the esophagus to determine orientation of the positive and negative poles. On the lateral film, the step-off is on the negative side of the battery. (The negative pole has a slightly smaller diameter, fitting within the battery can which forms the positive pole.) Anticipate complications based on battery position and orientation. Damage will be more severe in tissue adjacent to the negative pole.
10. *Immediately* remove batteries lodged in the esophagus. Serious burns can occur in 2 hours.
11. If possible, and if the child is able to swallow, administer sucralfate (Carafate® suspension, 1 g/10 mL). Give 10 mL PO every 10 minutes, up to 3 doses, from the time of x-ray determination that a battery is lodged in the esophagus until sedation is given for endoscopy. Honey has comparable

efficacy (Anfang, 2018) and may be substituted for sucralfate suspension in children 12 months of age or older, dosed as outlined in #2, above. Do not give sucralfate or honey if the battery was possibly in the esophagus for more than 12 hours. Sucralfate or honey administration is not a substitute for emergent battery removal as these agents slow but do not eliminate tissue damage.

12. Do not delay battery removal because a patient has eaten recently or because a patient was given honey or sucralfate (Carafate®) by mouth.
13. Endoscopic removal is preferred as it allows direct visualization of tissue injury. After removal, inspect the mucosa surrounding the battery to determine the extent, depth, and location of tissue damage. Note the orientation of the battery in the esophagus: is the negative pole (side with*out* the "+" and with*out* the imprint) facing anteriorly or posteriorly? If possible, avoid pushing an esophageal battery into the stomach as the risk of esophageal perforation may increase.
    a. After a battery is removed from the esophagus, inspect the area endoscopically for evidence of perforation. If none is evident, irrigate the injured areas with 50 mL to 150 mL of 0.25% sterile acetic acid (obtained from the hospital pharmacy). Irrigate in increments and suction away excess fluid and debris through the endoscope. For decades toxicologists have advised against neutralization for fear of causing a thermal injury. However, a recent study (Jatana, 2016) using piglet esophagus preparations after button battery removal, showed only a minimal increase in temperature (0-3 ^{o}C), effective tissue surface pH neutralization, and decrease in the visible injury using this neutralization strategy. The tissue surface pH neutralization may reduce the development of progressive, delayed-onset esophageal injury after battery removal.
14. After removing a battery from the esophagus, if mucosal injury was present, observe for delayed complications such as tracheoesophageal fistula, esophageal perforation, mediastinitis, vocal cord paralysis, tracheal stenosis or tracheomalacia, aspiration pneumonia, empyema, lung abscess, pneumothorax, spondylodiscitis, or exsanguination from perforation into a large vessel.
    a. Determine the length of observation, duration of esophageal rest, and need for serial imaging or endoscopy/bronchoscopy based on the severity and location of the injury, anticipating specific complications based on the injury location, battery position and orientation. Consider the proximity of the lodged battery and injured area to major arteries. Monitor patients at risk of fistulization into blood vessels carefully, as inpatients, with serial imaging (contrast CT or MRI of chest and/or neck) and stool guaiacs. Intervene early if perforation is imminent. Monitor for respiratory symptoms, especially with swallowing, to diagnose tracheoesophageal fistulas early.
    b. Expect delayed onset of esophageal perforations and fistulas involving the trachea or major vessels. Perforations were diagnosed by 48 days post removal in 98.1% of cases, and delays up to 27 days post removal were observed for esophageal-vascular fistulas. Recurrent laryngeal nerve injury may be evident on presentation or may not develop or be diagnosed for weeks after battery removal. Esophageal strictures and spondylodiscitis may not manifest for weeks to months post ingestion.
    c. Patients with esophageal injury should be admitted and observed due to the high risk of local edema developing with worsening symptoms, especially airway compromise when the battery is lodged high in the esophagus. In stable, well-appearing children, a clear liquid diet can be started after an esophagram shows no evidence of perforation. The esophagram is obtained at least 1-2 days after battery removal, earlier (1 day) for cases

with mucosal injury only, and later for cases with deeper injury. Diet may be advanced to soft as tolerated, but all children who have had an esophageal battery removed should be limited to soft foods for a full 28 days to avoid mechanical damage to a healing esophagus. In children with more severe injuries, subsequent care and diagnostic intervention is guided by clinical manifestations.

d. Patients with batteries removed from the upper esophagus should be monitored carefully for voice changes, respiratory distress, or stridor. If any of these are present or suggested, the cords should be visualized under direct laryngoscopic view in the awake patient to confirm bilateral vocal cord mobility. Unilateral or bilateral vocal cord paralysis is a common complication of battery ingestion due to damage to the recurrent laryngeal nerve(s). Paralysis may be delayed and not detected for days or weeks.
e. Always consider the possibility of battery proximity to the aorta or other major vessels. If this is anatomically likely due to the position of the battery, use a contrast CT or MRI diagnostically to confirm there is at least 3 mm of tissue between the area of esophageal injury and adjacent vessels. Watch for sentinel bleeds, which may be subtle. Engage cardiothoracic surgery early if there is any possibility of an impending esophageal-vascular fistula.

15. Retrieve batteries, endoscopically if possible, from the stomach or beyond if:
    a. A magnet was also ingested,
    b. The patient develops signs or symptoms that are likely related to the battery ingestion, or
    c. A large button battery (≥ 15 mm diameter), ingested by a child younger than 6 years, remains in the stomach for 4 days or longer. If battery diameter is unknown, estimate if from the x-ray, factoring out magnification (which tends to overestimate battery diameter).
    d. If a large button battery (≥ 20 mm) is in the stomach or beyond of a child younger than 5 years, and based on history, might have lodged in the esophagus for > 2 hours before passing to the stomach, *consider* diagnostic endoscopy to exclude the remote possibility of esophageal injury. (In a handful of cases, patients with significant and symptomatic esophageal injury have been found with batteries that have already passed beyond the esophagus.) If symptoms suggestive of esophageal or gastric injury are (or were) present, urgent endoscopy is recommended to exclude esophageal injury.
16. Allow batteries to pass spontaneously if they have passed beyond the esophagus (stomach and beyond) and no clinical indication of significant gastrointestinal injury is evident. Manage the patient at home on a regular diet. Encourage activity. Avoid unnecessary endoscopic or surgical removal in asymptomatic patients. Promptly re-evaluate all patients who develop signs or symptoms possibly related to the battery. Endoscopic removal of batteries still in the stomach should be pursued for even minor symptoms. For batteries beyond the reach of the endoscope, surgical battery removal may be required in the unusual patients with evidence of occult or visible bleeding, abdominal pain, profoundly decreased appetite, vomiting, signs of an acute abdomen, and/or fever, unless these clinical manifestations are clearly unrelated to the battery. Confirm battery passage by inspecting stools. Consider repeat radiographs to confirm passage if passage not observed in 10-14 days. Confirming passage may avoid urgent diagnostic intervention for minor symptoms developing later.
17. Manage ingestion of a hearing aid containing a battery as an ingestion of a small battery (≤ 12 mm).

18. Avoid these ineffective, unnecessary or unproven therapeutic interventions:
    a. Ipecac administration (ineffective).
    b. Blind battery removal with a balloon catheter or a magnet affixed to a nasogastric tube (can't determine extent of injury).
    c. Blood or urine concentrations of mercury or other battery ingredients (unnecessary).
    d. Chelation (unnecessary).
    e. Laxatives (ineffective) or polyethylene glycol electrolyte solution (unproven effectiveness and unknown if solution enhances electrolysis).

References:

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Medical Director Bulletin

Date: **January 27, 2023**

To: **All Orange County EMS System providers**

Subject: **Trauma Grey Protocol**

After reviewing the Trauma Triage Red Protocol and discussing difficulties surrounding the protocol with OCEMS providers and the local trauma system, we have decided to rescind the Trauma Triage Red protocol.

In place we will be initiating a Trauma Grey protocol. The Trauma Grey Protocol was developed based on input from the Trauma Centers, the CDC Trauma Triage Guidelines and prevailing medical evidence. The goal remains to transport high risk patients to facilities that are best equipped to care for them. Trauma Grey will pertain to both Adult and Pediatric patients.

A major discussion in development of this protocol surrounded discussion of expectations once arriving at the hospital. As part of the new protocol, patients treated and transported as Trauma Grey are expected to be prioritized with rapid off load.

The Trauma Grey protocol is similar in many ways to the old Trauma Triage Red Protocol but excludes trauma to the thorax or abdomen.

The Trauma Grey protocol will be effective February 1, 2023, at 0700. At that time the Trauma Triage Red protocol will no longer be authorized.

Please see the attached updates for both Adult and Pediatric Trauma Grey Protocols. Contact the Office of the Medical Director with any questions.

Thank you for your cooperation.

Christian C. Zuver MD, FACEP
Medical Director
Orange County EMS System

Trauma Grey

Immediately assess all trauma patients for Trauma Alert Criteria. If Trauma Alert criteria are met, begin transport to SATC within 10 minutes of arrival on scene whenever possible.

All Patients meeting the following criteria, who do not meet Trauma Alert criteria will automatically be classified as a "Trauma Grey" and should be transported to the nearest SATC.

- Any patients with **significant head impact** who are:
  - **Age 65 or older**
    OR
  - Any age on **systemic anticoagulation or antiplatelet agents**.

  - Examples may include (not limited to):
    - Apixiban (Eliquis)
    - Betrixaban (Bevyxxa)
    - Dabigatran (Pradaxa)
    - Edoxabam (Savaysa)
    - Enoxaparin (Lovenox)
    - Rivaroxiban (Xarelto)
    - Warfarin (Coumadin)
    - Clopidrogel (Plavix)
    - Ticagrelor (Brilinta)
    - Prasugrel (Effient)
    - Cangrelor (Kangreal)
    - Vopraxar (Zontivity)

If patients meet Trauma Grey criteria and refuse transport to a State Approved Trauma Center, contact Medical Control.

Trauma Grey - Pediatric

Immediately assess all trauma patients for Trauma Alert Criteria. If Trauma Alert criteria are met, begin transport to State Approved Pediatric Trauma Center within 10 minutes of arrival on scene whenever possible.

All Patients meeting the following criteria, who do not meet Trauma Alert criteria will automatically be classified as a "Trauma Grey" and should be transported to the nearest State Approved Pediatric Trauma Center.

- Any patients with **significant head impact** who are:
  - On **systemic anticoagulation or antiplatelet agents.**

  - Examples may include (not limited to):
    - Apixiban (Eliquis)
    - Betrixaban (Bevyxxa)
    - Dabigatran (Pradaxa)
    - Edoxabam (Savaysa)
    - Enoxaparin (Lovenox)
    - Rivaroxiban (Xarelto)
    - Warfarin (Coumadin)
    - Clopidrogel (Plavix)
    - Ticagrelor (Brilinta)
    - Prasugrel (Effient)
    - Cangrelor (Kangreal)
    - Vopraxar (Zontivity)

If patients/guardians refuse transport to a State Approved Pediatric Trauma Center, contact Medical Control.

Prehospital Pediatric Trauma guidelines: RTSDF Region 5

Trauma is a leading cause of morbidity and mortality in children. The evaluation and resuscitation of the pediatric trauma patient is vitally important and sets the tone, intensity and pace of subsequent care. Although the overall process is similar to adults, there are unique anatomic, physiologic, developmental and social characteristics of children that must be accounted for during the resuscitation phase.

General Approach to Pediatric Trauma

Airway: asses airway
- Modified jaw thrust if obstructed
- Supplemental 100 % oxygen (including ETCO2 levels 35-45 normal)

Breathing:
- If breathing spontaneously in no distress, supplemental oxygen
- If breathing with distress, assist with BMV and determine need for secure airway
- If not breathing, Intubation, if difficult airway supplement with BMV or supraglottic airway if available, Failure to ventilate consider a surgical airway
- Pneumothorax
  - Needle decompression
    - Placement of a 14–18 gauge catheter at the 2nd Intercostal space midclavicular line
- Open Pneumothorax
  - Immediately apply an occlusive dressing sealing 2 sides
- FLAIL CHEST: (paradoxical movement of portion of chest wall)
- • position patient with injured side down, unless contraindicated.
- • provide manual stabilization of the flail segment.
- NOTE: Assisted positive pressure ventilations using a BVM device may be indicated and may also serve as an "internal splinting" of the flail segment due to lung expansion

Circulation:
- Control active bleeding with direct pressure, hemostatic gauze packing and/or tourniquet, as indicated
- Place one or two peripehral IV
- If failure, place an IO
- Bolus 20/kg crystalloid solution, may repeat x 1
- If TXA available ,the FCOT Pediatric Subcommittee recommends that an adolescent trauma patient, age 12 or older, (or longer than the Broselow tape), administration of TXA in the field for hemorrhagic shock (especially penetrating mechanism) may be of benefit, and adult dosing is appropriate(1 gram)

Disability and exposure:
- Goal is to prevent secondary injury
- Keep patients warm
- Stabilize/immobilize as indicated
- Document any neurodeficits and GCS

PEDIATRIC GLASGOW COMA SCALE (PGCS)				
	> 1 Year		**< 1 Year**	**Score**
EYE OPENING	Spontaneously		Spontaneously	4
	To verbal command		To shout	3
	To pain		To pain	2
	No response		No response	1
MOTOR RESPONSE	Obeys		Spontaneous	6
	Localizes pain		Localizes pain	5
	Flexion-withdrawal		Flexion-withdrawal	4
	Flexion-abnormal (decorticate rigidity)		Flexion-abnormal (decorticate rigidity)	3
	Extension (decerebrate rigidity)		Extension (decerebrate rigidity)	2
	No response		No response	1
	> 5 Years	**2-5 Years**	**0-23 months**	
VERBAL RESPONSE	Oriented	Appropriate words/phrases	Smiles/coos appropriately	5
	Disoriented/confused	Inappropriate words	Cries and is consolable	4
	Inappropriate words	Persistent cries and screams	Persistent inappropriate crying and/or screaming	3
	Incomprehensible sounds	Grunts	Grunts, agitated, and restless	2
	No response	No response	No response	1
TOTAL PEDIATRIC GLASGOW COMA SCORE (3-15):				

Pediatric Burns

Thermal Burns

Remove clothing, Stop burning process with water or saline, prevent hypothermia
Cool compress for minor burns
Dry, clean burn sheet for 2nd, 3rd degree, electrical and chemical burns
Establish IV access if possible and fluid bolus 20/kg Normal Saline
For transport times greater than an hour contact medical control for further fluid recs
Pain medicine per local protocols

Chemical burns:

Determine offending agent(s) and consider HAZMAT intervention
Wash with copious amounts of clean water and/or sterile normal saline for 10-15 minutes, unless contraindicated by chemical agent (i.e., sodium, potassium and/or lithium metals). **CAUTION**: Primary water irrigation is contraindicated for Dry Lime/Lye and/or Phenol exposure (may produce further chemical reactions). Dry powders should be brushed off prior to flushing with large amounts of water. It is advised to contact **MEDICAL CONTROL** for further advice.
If chemical viscous, remove with tongue depressor.

Inhalation Injury

Supplemental oxygen or controlled airway if unconscious
Suspected cyanide toxicity consider hydroxocobalamin 70mg/kg(to maximum 5 grams) IV?IO over 15 min

In patients with suspected CO poisoning high flow oxygen

Consider transfer to a pediatric trauma center

Partial thickness burns greater than **10%** total body surface area (TBSA)
Second degree burns involving "sensitive areas"
Third degree burns of any TBSA
Electrical burns, including lightning injury
Burns to patients who also suffered an inhalation injury or concomitant trauma
Significant burns from caustic chemicals
Burn injury in patients who require special social, emotional, or long-term rehabilitative intervention
Burn injury in patients with pre-existing medical disorders that could complicate management, prolong recovery, or affect mortality

Pediatric Eye Emergency

Obtain visual history (use of corrective lens, surgeries, use of protective equipment)
Assist patient in removal of contacts if applicable
Chemical irritants (ie pepper spray) flush with copious amounts of water or saline
Thermal burns to eyelids, patch both eyes and cool saline compress
Impaled object: Immobilize object and patch both eye
Puncture wound: place rigid eye shield over both eyes
Foreign body: patch both eyes
If cannot close eyelids, keep eye moist with a sterile saline dressing

Pediatric Head Trauma and Injuries

1. **Airway**:
   Assess airway for patency (suction),
   Intubate for GCS less than 8 (unresponsive to stimuli) or signs of herniation (blown pupil or hemiparesis or agonal breathing or posturing) or loss of pharyngeal reflex, persistent hypoxemia.
   Maintain cervical spine precautions while intubating or applying bag-valve-mask ventilation.
   Do not tape tube over neck area to avoid compression of venous return.
   Avoid nasotracheal intubation.
   Rapid sequence cerebroprotective intubation cocktail preferred (lidocaine, fentanyl, vecuronium) or per local protocol
2. **Ventilate**
   Maintain normocarbia.
   Administer 100% O2.
   Oxygenation and ventilation should be assessed continuously by pulse oximetry and end tidal CO2 monitoring.
   Prophylactic hyperventilation is *not* recommended.
3. **Circulation**:
   Recognize and stop bleeding.
   Wrap head firmly for open wounds or active bleeding.
   Apply hemostatic agents ie trauma gauze or QuickClot.
   Minimize IV fluid resuscitation with isotonic crystalloid if possible
   GCS score (motor response, eye opening, verbal response).

A quick assessment “AVPU” awake, responds to verbal, responds to pain, unresponsive can be used.
Hypotension and hypoxemia and seizure activity affect GCS score.
Check pupils for symmetry.
Prophylactic use of mannitol *not* recommended, consider 1 gram/kg dose of mannitol for signs of herniation in euvolemic patient.
Elevate head of backboard 15-30 degrees if normotensive or hypertensive

4. **Immobilize spine**
   ASSUME a cervical spine injury is present.
   Cervical collar and backboard.
   Avoid excessive neck flexion
   Elevate head of backboard 15-30 degrees if normotensive or hypertensive
5. If available and especially if a long transport time consider,
   Keppra 60 mg/kg to max of 2 grams
   Hypertonic saline 3%, 5 cc/kg to max of 250 ml

Spinal Motion Restriction (SMR)

Every injured child should receive an assessment for SMR. The need for spinal immobilization is based on mechanism of injury, mental status, and exam. Not all injured children require a C collar or longboard immobilization.

Blunt Trauma that requires SMR

High risk mechanism: Fall from height, axial load injury, high speed MVC unrestrained, ejection
Exam: Spinal tenderness or limited ROM, focal deficits (paralysis, paresthesias), child > 2 that can’t walk
Altered sensorium: intoxicated, abnormal GCS, unconscious
Co morbidities: Downs, hydrocephalus, dwarfism, Osteogenesis imperfects, Marfans, Ehler Danlos, JRA, spinal surgery

If SMR is indicated but patient cannot tolerate supine position apply all elements they will tolerate and maintain spinal alignment as best as possible

Infants in rear facing car seat can be immobilized in cars eat as long as stable with no respiratory distress or shock
Children in high backed car seat can be extricated in car seat and then placed in SMR if indicted

BUTTON BATTERY INGESTION

Due to the extreme difficulty diagnosing a foreign body ingestion in the field, button battery ingestion should never be an activation from the field. In transfer, however, once a button battery ingestion is identified, it should be transported by EMS as expeditiously as possible, including as a Trauma Activation depending on local guidelines. In addition, we recommend initiating poison control guidelines prior to transfer. (https://www.poison.org/battery/guideline)

Musculoskeletal Injuries

General care

- Remove clothing to expose injury
- If pulseless limb, attempt to place in anatomic position
- For dislocations immobilize to prevent movement of joint
- Pain control per local protocol

Closed Fractures

- Extremity fractures with obvious deformity, apply splint extending over the joint above and below the deformity in position of comfort, most commonly with small amount of flexion at elbow or knee.
- Femur fractures do not require Hare Traction splinting, especially given the extremely rapid transport times. Initial management for transportation can be through long leg splinting extending above the hip and ending above the ankle. This allows for improved documentation of pulses and sensibility
- Pelvis and suspected spine injuries, immobilization will be with cervical collar and through use of the back board for transportation.

Open Fractures

- Open fractures need a clean dressing, if possible with Betadine or saline soaked gauze over wound.
- If bleeding from an open fracture not controlled with direct pressure on the wound, then apply tourniquet above the level of the fracture or above the adjacent joint, may require a double tourniquet.
- If agency can administer antibiotics, Ancef 30/kg to max does of 2 Grams

Pediatrics
April 2008, VOLUME 121 / ISSUE 4
FROM THE AMERICAN ACADEMY OF PEDIATRICS

Management of Pediatric Trauma

AMERICAN ACADEMY OF PEDIATRICS, PEDIATRIC ORTHOPAEDIC SOCIETY OF NORTH AMERICA Section on Orthopaedics, Committee on Pediatric Emergency Medicine, Section on Critical Care, Section on Surgery, Section on Transport Medicine, Committee on Pediatric Emergency Medicine

Maria J. Mandt, Kari Hayes, Fred Severyn & Kathleen Adelgais (2019):
Appropriate Needle Length for Emergent Pediatric Needle Thoracostomy Utilizing Computed Tomography, Prehospital Emergency Care, DOI: 10.1080/10903127.2019.1566422

2-13-23 Trauma Preparedness Committee Minutes

Participating: Eric Alberts, Ashley Bueche, Beverly Cook, Lynne Drawdy, Rachael Hamlett, Nichole McKee, Matt Meyers, Dr. Tracy Zito

RTCC Educational Campaign: Lynne reminded the group that following the April 2022 exercise, they agreed we need to educate stakeholders on the regional trauma coordination center (RTCC). She sent out a draft presentation, updating what we presented at the national conference in December 2021. The presentation focuses on why we need the RTCC, how it works, and how to activate it. The group discussed the best way to roll out this campaign. The four target groups are leaders from hospitals and trauma centers, emergency management, EMS and ESF8. After discussing options, the group agreed to hold one meeting for the region, in a central location, and include a virtual option. Lynne stated that we need champions to issue invitations and present to engage these leaders. Dr. Zito and Eric Alberts agreed to present and Dr. Zito will reach out to ask Dr. Zuver to champion. Lynne will ask one of our emergency management board members to champion, and will ask Clint Sperber for ESF8. The group will review and provide feedback on the draft presentation.

Triage Guidelines: Matt did triage research; documents were distributed with the calendar invitation. Matt reviewed the Military vs. Civilian triage differences. Lynne asked what the is purpose of these triage guidelines and it was agreed that we need to review past minutes to determine what we were trying to accomplish with this. Lynne will review and report back.

NOTE: In reviewing previous minutes, the goal was to identify what triage method works best in a catastrophic mass casualty event.

April Full Scale Exercise: Eric stated that we need to be sure we have the right number and complexity in the triage tags for the exercise. Matt has drafted these and will send them to Eric, Dr. Zito, Ashley and Nichole for review with a deadline for input. Dr. Zito reminded all not to share this information with hospital staff. Dr. Zito stated that we need to ensure that we have appropriate burn symptoms to activate the burn surge plan.

Dr. Zito will present the Preparedness Committee report at the Tuesday Executive Committee meeting.

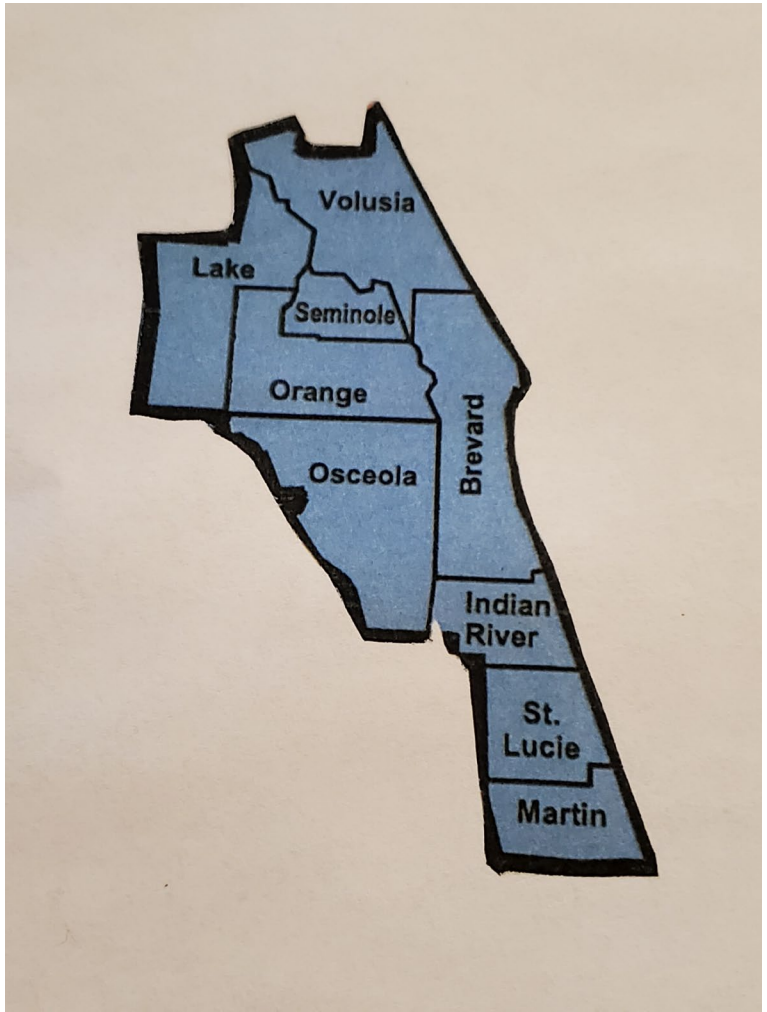
Meeting adjourned at 4:33 p.m.

Region 5 Trauma Coordination Center Presentation (Dr. Zito, Dr. Zuver, Eric Alberts, Alan Harris, Clint Sperber)

OBJECTIVES

1. **Understand the need for/importance of having a regional trauma coordination plan**
2. **Understand key elements of the plan**
3. **Understand how to activate the plan**

CENTRAL FLORIDA DISASTER MEDICAL COALITION (CFDMC)



- RDSTF Region 5 - 9 Counties
- Population Almost 4 Million
- 21 Member Board of Directors
- 700+ Organizational Members
- 2,000+ Individual Members
- Five Year Work Plan (focused on building and sustaining regional capabilities)
- Robust Trauma System

REGION 5 TRAUMA ADVISORY BOARD

- Florida Pilot in 2017
- Executive Committee
- Clinical Leadership Committee
- System Support Committee
- Preparedness Committee
- Stakeholders are Trauma Centers, Acute Care Hospitals, EMS, Emergency Management, Public Health, Post Acute Care, City and County Government

THE THREAT AND GAP

August 4, 2020 – Beirut warehouse explosion (largest non-nuclear explosion in history)

August 10, 2020, the Trauma Advisory Board Preparedness Committee looked at the incident and asked the question:

“Are we ready to respond to an event like that, one which produces an overwhelming number of trauma patients?”

The answer was NO!

https://www.bing.com/videos/search?q=beirut+explosion&docid=608054969983524687&mid=7FC5831D11EA3799405E7FC5831D11EA3799405E&view=detail&FORM=VIRE

NOT AN ORDINARY MCI

- 39 hospitals admitted 5554 patients (
- Most transported in private cars
- 3 hospitals closest to blast were destroyed,
  10 partially destroyed
- 2 days post blast:
  - Patient discharged within 24 hours – 4617
  - Admitted to regular floor– 830
  - Admitted to ICU – 107
  - Deceased 104

SEPTEMBER 2020 TRAUMA TABLETOP

CENTRAL FLORIDA THUNDER TTX

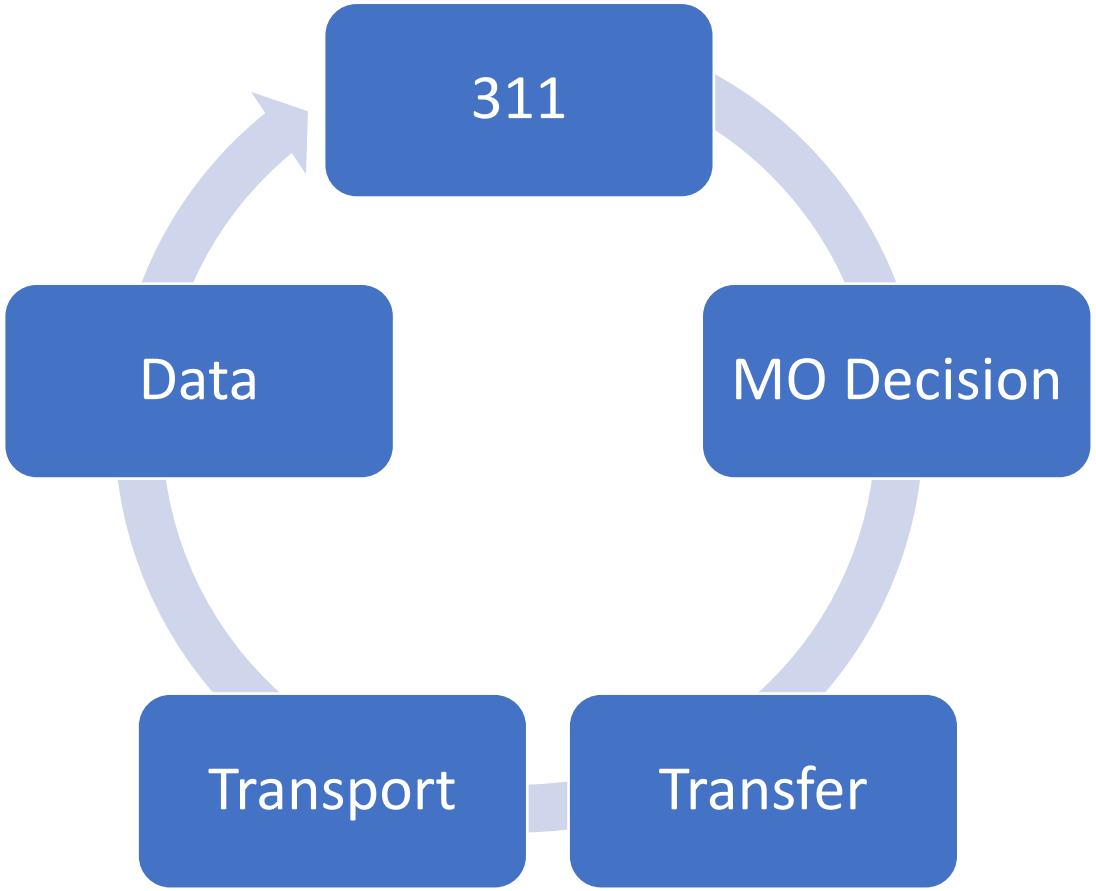
- The Trauma Preparedness Committee and Clinical Leadership Committee worked with the Central Florida Disaster Medical Coalition to develop a tabletop exercise.
- More than 70 Trauma stakeholders participated in this tabletop exercise, exploring the management of 1000+ trauma patients from a large chemical explosion in Orange County.
- The after-action report highlighted the need to develop and exercise a regional trauma coordination plan and to assure treatment and effective communication through the region.

DEVELOPING THE PLAN

- Based on the AAR, the Trauma Preparedness Committee drafted the Region 5 Trauma Coordination Plan in March 2021.
- We used a new federal concept called a MOCC (Multi-organization coordinating center) in developing the plan
- The Regional Trauma Coordination Center (RTCC) is designed to load balance large numbers of trauma patients
- This is a resource that can be requested via Emergency Management

- The plan was vetted with:
  - Trauma Center Medical Directors
  - EMS Medical Directors
  - Acute Care Hospitals
  - Emergency Managers
  - Other Trauma Stakeholders
- The plan was approved in June 2021 by the Region 5 Trauma Advisory Board Executive Committee and the Coalition Board.

THE PLAN



The Plan includes:

- Director (Regional IMT)
- Call Takers (Orange County 311)
- Medical Officer (EMS Medical Directors)
- Transfer Coordinators (hospital staff experienced in transfers)
- Transport Coordinators (PM/EMTs with knowledge of ICS and regional systems)
- Data Input

AUGUST 2021 FUNCTIONAL DRILL

CENTRAL FLORIDA BOOM

OBJECTIVES

- **Educate stakeholders on the trauma coordination center process/roles**
- **Demonstrate, validate and improve the trauma coordination center plan/process/roles**
- **Recruit additional individuals to staff trauma coordination center**

70+ Participants from 42 Organizations

April 2022 Full Scale Medical Surge Exercise

- 50 Hospitals Participating
- 1500 Live Victim Volunteers
- 1000 Simulated Patients for RTCC
- Improvements identified included changes to 311 script to better triage patients, adding support to Medical Director, expanding transfer/transport resources

Activation

- Recommended for any MCI producing large number of trauma patients (in excess of XX)
- Local EOC submits mission request (for tracking)
- CFDMC activates RTCC

QUESTIONS

CONTACT:

(suggest adding clinical contact)

CFDMC

info@centralfladisaster.org

www.centralfladisaster.org

CFDMC Triage Methodology & Civilian vs. Military

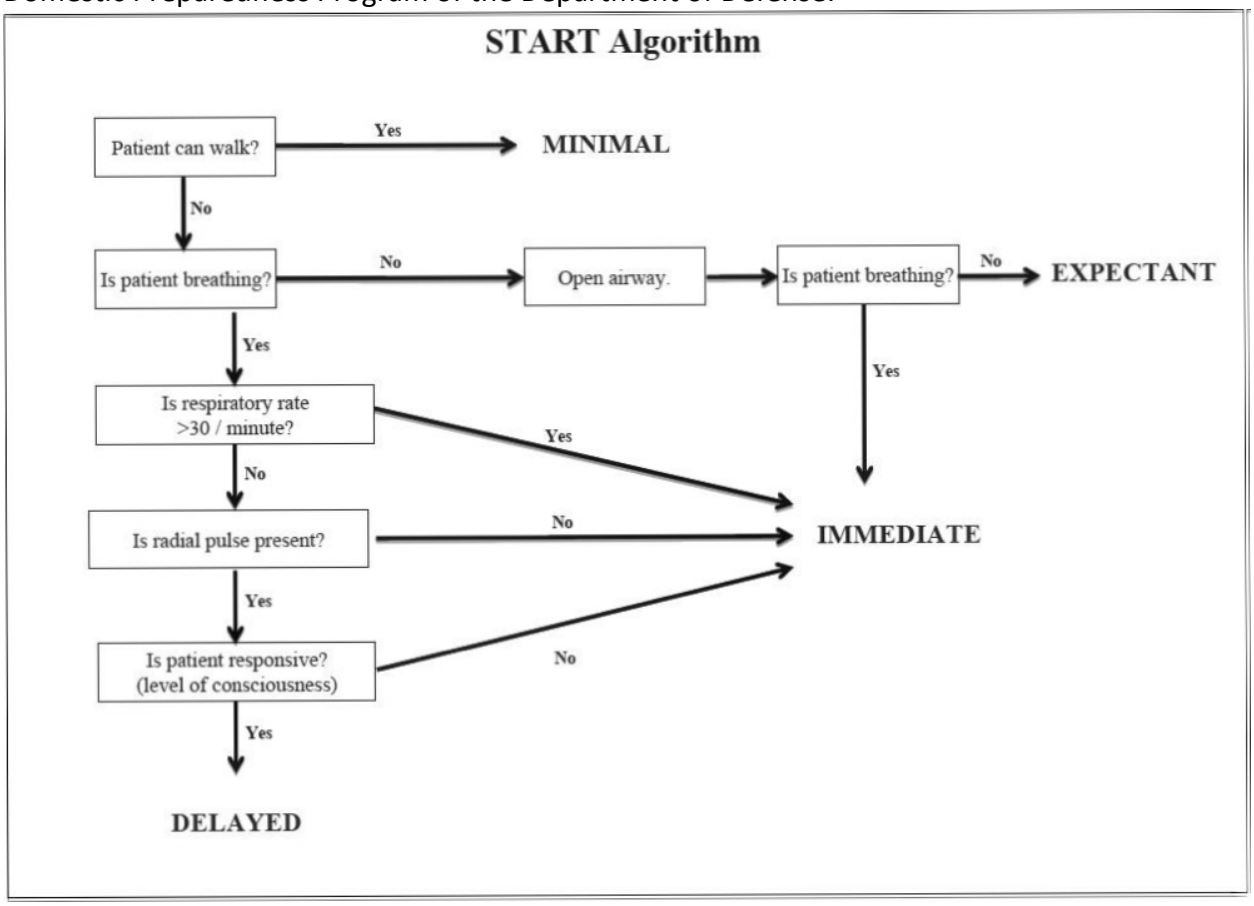
Triage Levels and Color Coding

A color-coded tagging method to categorize disaster victims in the field has been almost universally adopted and incorporated into existing triage systems.

1. Red Triage Tag ("Immediate" or T1 or Priority 1): Patients whose lives are in immediate danger and who require immediate treatment;
2. Yellow Triage Tag ("Delayed" or T2 or Priority 2): Patients whose lives are not in immediate danger and who will require urgent, not immediate, medical care;
3. Green Triage Tag ("Minimal" or T3 or Priority 3): Patients with minor injuries who will eventually require treatment;
4. Black Triage Tag ("Expectant" or No Priority): Patients who are either dead or who have such extensive injuries that they can not be saved with the limited resources available.

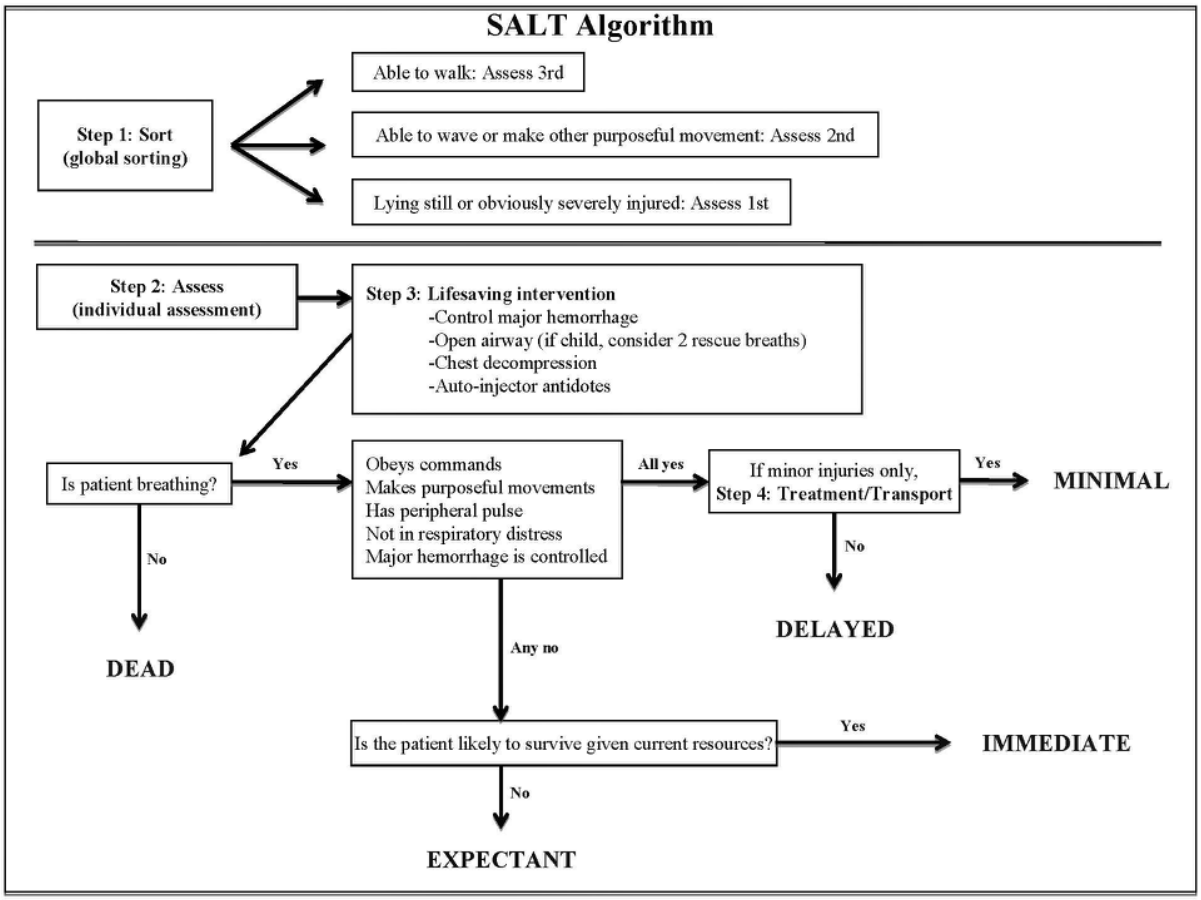
START (Simple Triage and Rapid Transport)

START was developed in the 1980s in Orange County, California as one of the first civilian triage systems and was subsequently adopted as the de facto disaster triage standard by the Domestic Preparedness Program of the Department of Defense.



SALT (Sort-Assess-Lifesaving Interventions-Treatment/Transport)

Centers for Disease Control and Prevention (CDC) formed an advisory committee to analyze the existing systems and recommend a national standard for disaster triage and developed SALT by combining the best features of the existing systems. SALT is endorsed by several national organizations, including the American College of Emergency Physicians, the American College of Surgeons Committee on Trauma, the American Trauma Society, and the National Association of EMS Physicians.



Civilian

- According to the Centers for Disease Control and Prevention, the leading cause of civilian death from age 1 to 44 in the United States is unintentional injury
- Upon arrival at the scene of an injury, EMS professionals identify the severity and type of injury. Considering the evidence-based guidelines, prehospital professionals then determine which hospital or specialty care center would be most appropriate to improve patient outcome.
- Research demonstrates that the overall risk of death is 25 percent lower when care is provided at a Level I trauma center than when it is provided by a non-trauma center.
- In the civilian setting the patient is the mission, in combat situations, the patient is only part of the mission. The triage priorities of TCCC accomplish three main goals:
    - 1. Treat the casualty
      2. Prevent further casualties
      3. Complete the mission.
- SWIFT and SWAT type civilian training mirror combat trainings

Military

- In the world of combat, the leading cause of death is hemorrhage
- On the battlefield, the most critical phase of care is the period from the time of injury until the time that the patient arrives at a surgically capable medical treatment facility (MTF).
- It is estimated that almost 90 percent of military service men and women die from combat wounds before they arrive at an MTF.
- The TCCC guidelines discuss the specifics of casualty care (care in the combat setting). Casualty care in the tactical setting will depend on three main factors:
- 1. The tactical situation
  2. The injuries sustained
  3. The medical equipment available coupled with the knowledge and skills of the first responder
- Care Under Fire is the most dangerous time to deliver care. In this phase, the tactical operator will remain engaged with the perpetrators.
- Hospital specialty and trauma center capasity is not a consideration for combat triage

2-14-23 RTAB System Support Committee Minutes

Participants: Sheryl Aldarondo (ORMC), Beverly Cook (CFDMC), Lynne Drawdy (CFDMC), Courtney Gleaton (APH), Ingrid Londono (HCA Osceola), Nichole McKee (Health First), Matt Meyers (CFDMC), Kristin Shinner (Lake Monroe)

Welcome: Courtney Gleaton welcomed all and called the meeting to order. She announced that Tina Wallace has retired and she will serve as the new System Support Committee Chair.

Minutes: The minutes of the last meeting went out with the meeting notice.

APH: Courtney announced that they host quarterly child passenger safety technician trainings. They have completed multiple car seat checks at Orange County libraries, at APH and fire stations. They have hosted 192 car seat checks. Courtney announced that the Florida child passenger meetings address barriers and keeping people certified. They assisted the Children's Safety Village on bike and pedestrian safety, the best foot forward program and pedestrian safety. They held helmet fitting events in December for 195 children. APH participated in an injury prevention event with 268 kids served. World Heart Day was January 26 at all high schools (20) teaching hands only CPR training.

ORMC: Sheryl said they participated in the best foot forward pedestrian safety program which is now a two week event, and participated in other events with APH including EAST. They have completed Stop the Bleed training in Orange County schools. She mentioned the hospital just completed their site survey at the trauma center. They will be working on burn prevention/burn awareness week on grilling safety, Stop the Bleed calls, and trying to get virtual program started.

HCA Osceola: Ingrid shared they provided Stop the Bleed and participated in a helmet fitting event in December. They were part of a driving program to educate teens on risk factors for distracted driving, and participated in car seat training. They are now members of safe mobility for seniors. They presented Stop the Bleed class with 90 attendees recently.

Lake Monroe: Kristin has also worked on Stop the Bleed with ORMC. They also conducted First Aid classes with a Girl Scout group. They have been participating in mock drills with the Sanford Zoo , including one on snake bites and a mock chain saw accident. They are starting mock training in the hospital as well. New physicians hosted their first one and they are hoping to do this weekly. They have a new director and are working on state recertification and ACS accreditation. There is an upcoming big school event with seat belt safety and a mock crash in Lake Mary.

Other Discussions: Lynne stated that it has been several years since the committee reviewed data on the top injury mechanisms. She offered to do a survey with the trauma centers to capture this for the committee. She also recommended that the committee use the data and identify a national recognition event to work on jointly.

Ingrid asked if the coalition can create a fall prevention coalition for this area. Lynne advised that the coalition would support this effort but the committee would have to be the champions and lead the effort.

Next Call: The next call is scheduled for April 11th.

Adjournment: The meeting adjourned at 10:20 am