Florida EMS-C Advisory Committee Meeting

January 19, 2023, 1-3 pm EST

Ocean Center Convention Center – Daytona Beach

Room C

HRSA Maternal & Child Health

FLORIDA PEDREADY

EMSC IIC NEDARC The National EMSC Data Analysis Resource Center PECARN

EMSC IIC Emergency Medical Services for Children | Innovation & Improvement Center

Welcome and Call to Order

- Welcome committee members, liaisons, visitors and PECCs

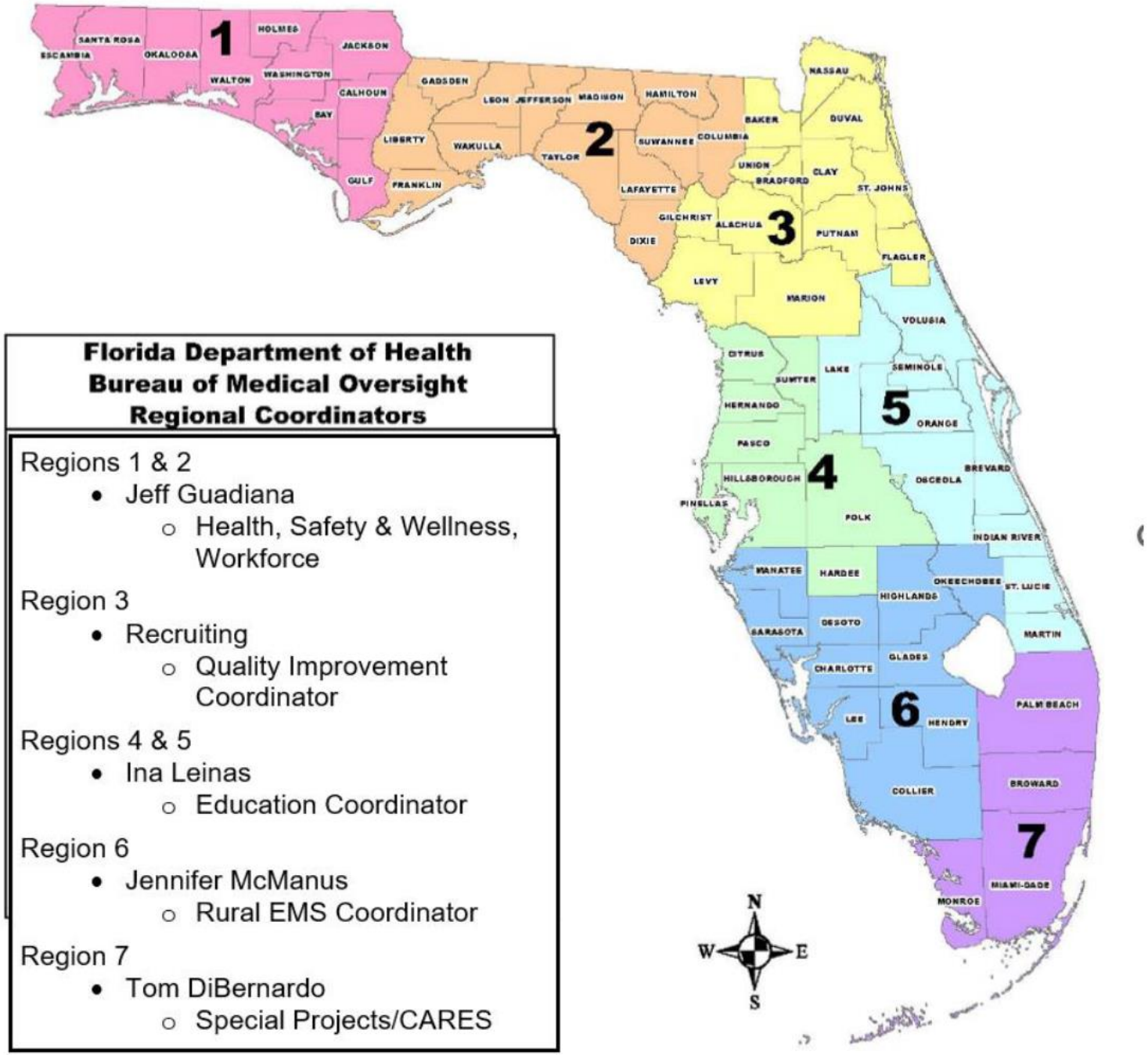
- Sign roster or email attendance confirmation with name/title/contact info to pedready@jax.ufl.edu

- September 2022 meeting summary emailed and posted on PEDReady website, email corrections to pedready@jax.ufl.edu

- November online meeting cancelled due to Hurricane Ian response and conflicting state meetings

Opening Announcements and Key Updates

- Bureau updates: new educational opening session
- Farewell to Samantha League (Communications Director EMLRC)
- Review of 2022
- Focus on new HRSA EMSC State Partnership Grant and 2023-2027 performance measures beginning April 2023



Florida Department of Health
Bureau of Medical Oversight
Regional Coordinators

Regions 1 & 2
- Jeff Guadiana
  - Health, Safety & Wellness, Workforce

Region 3
- Recruiting
  - Quality Improvement Coordinator

Regions 4 & 5
- Ina Leinas
  - Education Coordinator

Region 6
- Jennifer McManus
  - Rural EMS Coordinator

Region 7
- Tom DiBernardo
  - Special Projects/CARES

Updated: 08/015/2022

Coordinator Site Visit Potential EMSC Topics

- Inquire about agency PECC status, pediatric equipment and training, pediatric protocols including disaster and safe pediatric transport restraint
- Ask permission to sign up PECC or pediatric point of contact for PEDReady listserv and for weekly E-News
- Share national and state EMSC & PEDReady resources and website (National equipment list, JumpSTART badge buddies, ABCs of Pediatric Emergencies, distraction and comfort kits, communication cards, pain and fever dosing guides, etc.)
- Ask about pediatric challenges
- Recognize pediatric champions and model programs.

FL EMSC and PEDReady Contact Information

Medical Director and EMSC Advisory Committee Chair:
Dr. Phyllis Hendry
Phyllis.hendry@jax.ufl.edu
904-244-4986 (office)

FL EMSC Program Manager: Lori JeanJacques
Lorrianna.JeanJacques@flhealth.gov
850-558-9500

FL EMSC Program Director: Christina Parmer
Christina.Parmer@FLHealth.gov
850-558-9542

FL EMSC/PEDReady Education Outreach Coordinator
Kevin Meade, CEP kevin.meade@jax.ufl.edu

Group email:
pedready@jax.ufl.edu

Key Websites:
https://www.emlrc/flpedready

https://emscimprovement.center

http://www.floridahealth.gov/provider-and-partner-resources/emsc-program/index.html

Appointed FL EMSC Advisory Committee Members

Term ends: 08/25/2024

- Tricia Swan, MD, MEd, FAAP, FACEP
  - Physician with Pediatric Experience
  - Associate Professor of Emergency Medicine, UF COM (Gainesville)
  - Program Director, Pediatric Emergency Medicine Fellowship
  - Chair, ACEP Pediatric Emergency Medicine Section
- Barbara Tripp RN, EMT-P
  - Emergency Medical Technician/Paramedic
  - Fire Chief, City of Tampa Fire Rescue
- Marshall Frank DO, MPH, FACEP, FAEMS
  - Emergency Physician
  - Medical Director, Sarasota County Fire Department
  - Officer FAEMSMD
- Sandra Nasca, RN
  - FAN (Family Advocacy Network) Representative
  - Former ED Nurse, Forensic Medical Investigator
- Nichole Shimko, RN, MSN, CCRN, CPN, C-NPT
  - Nurse with Emergency Pediatric Experience
  - Manager, Transport Team, Golisano Children's Hospital of Southwest FL
  - Representative, Florida Neonatal and Pediatric Transport Network Association

Florida EMSC Advisory Committee Liaisons

- Michael Rushing, NRP, RN, BSN, CEN….
  - FL ENA
  - AHA Coordinator, Baptist Healthcare
- Tracey D. Vause, MPA, CPM, EMT-P
  - Rural EMS
  - EMS Chief, Walton County Fire Rescue
- Ernest (Sonny) Weishaupt EMT-P
  - PECC (EMS/ED)
  - EMS Liaison, Arnold Palmer Hospital for Children
- Julie Downey
  - Disaster
  - Chair, EMS Advisory Disaster Response
  - Committee
  - Fire Chief, Davie Fire Rescue
- Lauren Young Work, LCSW
  - Mental health
  - Medical Social Work & MIH Coordinator, Palm Beach County Fire Rescue

- Jeremiah Rabish, PMD
  - PECC (EMS)
  - Operations Captain and PECC, Sarasota County Fire Department
- Sarah Weed
  - PECC (EMS)
  - Health & Safety Captain, Alachua County Fire Rescue
- Lisa Nichols, MBA, BSN, RN, CCRN-K
  - Trauma program manager
  - Pediatric Trauma Program Manager at Wolfson Children’s Hospital
- Jennifer N. Fishe, MD
  - Research and Data
  - Associate Professor of Emergency Medicine and Director, Center for Data Solutions, UF College of Medicine-Jacksonville
  - PECARN’s WPEMR node- Affiliate Researcher

EMSC/DOH BEMO Advisory Staff

- Steve McCoy
  - Bureau Chief, Bureau of Emergency Medical Oversight at Florida Health
- Jane Bedford
  - Community paramedicine/MIH/HART
- Kate Kocevar
  - Trauma Administrator
- Jennifer McManus
  - Rural EMS

- Michael Hall
  - EMS Administrator, Florida DOH Bureau of Emergency Medical Oversight
- Angus Jameson, MD, MPH, FAEMS
  - State EMS Medical Director, Florida Department of Health
- And many more: Data, CARES, Operations, Regional Coordinators, etc.

EMSC Advisory Committee and Liaisons

New committee members and liaisons

- *Marvin Walters*, EMS Chief, PMD, Wakulla County Fire Rescue
  Rural PECC liaison
- *Joshua G. Thomas*, Director, Child Abuse Death Review Unit, Division of Children's Medical Services (CMS), Florida Department of Health liaison
  Child abuse and CMS liaison
- *Tricia Swan, MD, M.Ed, FAAP, FACEP*
  Appointed committee member, physician with pediatric experience
- Slide set of committee members and liaisons from 2020- update

Name and credentials

- Professional title
- EMSCAC appointment or liaison category
- Improving pediatric emergency care in Florida
- Top 2 Florida EMSC/PEDReady education topics
- 1 fun fact no one would guess about you!
- Favorite movie or book
- Favorite food(s)

- Add pics of yourself (professional and fun)
- Most Memorable Pediatric Case or Call (de-identified)
- EMS, ED, Prevention

Joshua G. Thomas, CADR Unit Director Child Abuse Death Review Liaison

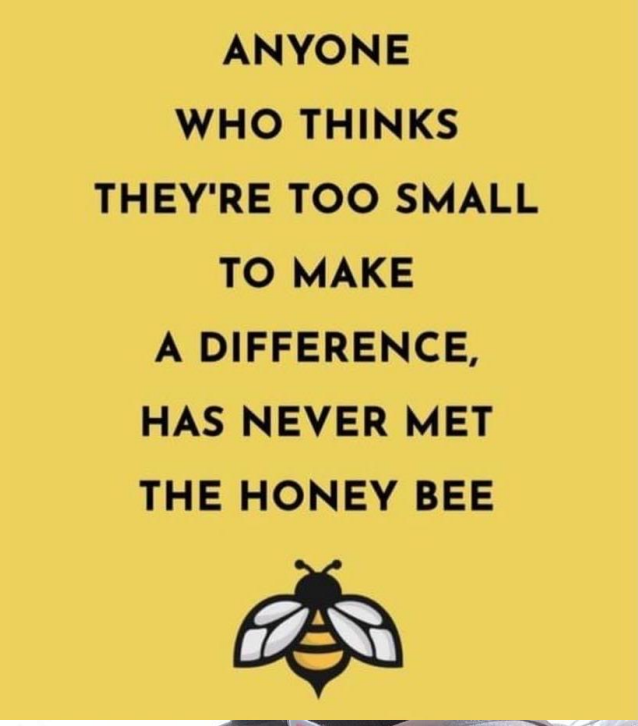
- Director, Child Abuse Death Review Unit, Division of Children's Medical Services, Florida Department of Health
- Further exploration of guidelines for EMS termination of resuscitation and pronouncement of death in pediatric cases
- Safe Sleep education in hospitals; child abuse/neglect prevention
- I own a Silent Event Rental company named BobbleHeadz
- Favorite Movie: Fast Five; Favorite Food: This was a tough one, but I've narrowed it down to Wings, Salmon, Salad, and Pho

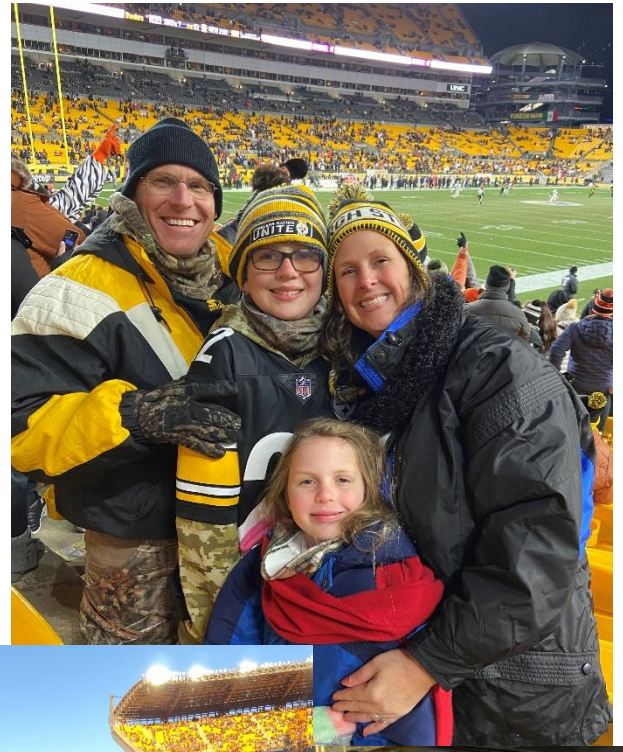
Most Memorable Pediatric Case or Call

- In October 2014, a four-month-old baby girl was found unresponsive by the mother while sleeping on the couch with the father. The child was transported to the hospital where she was pronounced deceased.
- The mother of the infant placed her to sleep on the floor next to the couch where the father was sleeping. At some point while the mother was away taking her other child to an appointment, the father picked up the baby girl to feed her a bottle and fell asleep again with the infant next to him on the couch.
- When the mother returned, she initially did not think anything was wrong, as the child was lying on her back next to her father who was still asleep. When the mother went to pick up the baby girl, she immediately noticed that she was unresponsive, not breathing, and cold to the touch.
- Cause of Death: Sudden Unexpected Infant Death due to unsafe sleeping conditions; Manner of Death: Undetermined
- This was one of the first child fatality cases I worked on when I started at DOH immediately after college. Additionally, my wife and I just found out that my wife was pregnant and that we were having a girl. This case was so impactful to me, that my wife and I decided to name our daughter after the baby girl from this case.

Tricia Swan, MD, MEd, FAAP, FACEP

- Associate Professor, University of Florida in Gainesville; Program Director- Pediatric Emergency Medicine Fellowship
- EMSC Committee appointment: Physician with Pediatric Experience
- Things I would most like to improve:
  - Access to pediatric education and simulation
  - Unified Statewide disaster preparedness and response
- Top Florida EMSC education topics:
  - Neonatal delivery and resuscitation
  - Pediatric airway management
- 1 fun fact no one would guess about you!
  - I am a beekeeper
- Movie: Tombstone; Food: Anything Italian!






EMS
UFHealth

Most memorable pediatric case

- About 3 months ago, 5 minutes before my shift started- EMS called and reported they were bringing in a 5-year-old that swallowed a bead and they were a little concerned because of his breathing
- Arrived sitting up on a NRB
- About 5 min later, he turned his head and completely occluded his airway
- And we got this out with basic BLS maneuvers…

Abdominal thrusts save the day!

Marvin Walters, Paramedic
EMS PECC Liaison

EMS Division Chief, Wakulla County Fire Rescue

Realistic Scenario Based Training and Pain Management

Pain Management and Safe Pediatric Transport

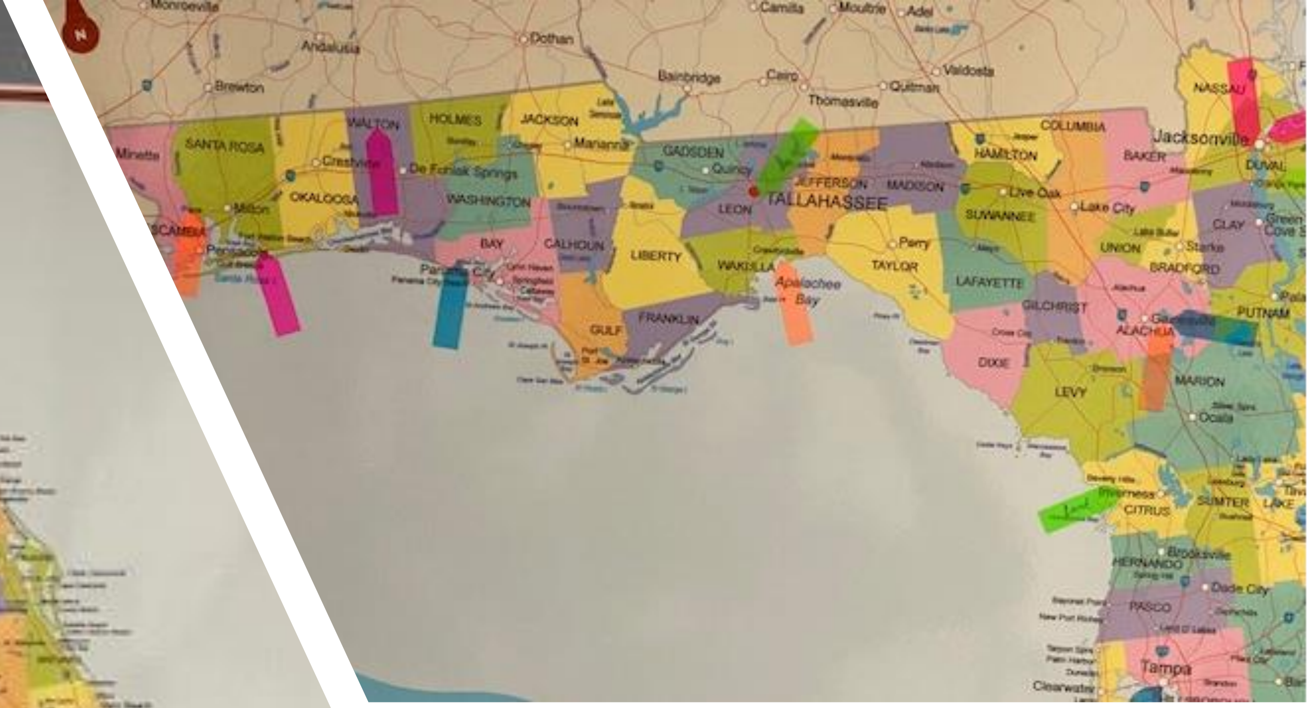
I love to sing and dance

Favorite Movie: When Harry meets Sally

Favorite Food: Seafood

Most Memorable Pediatric Call

- This was a 4-year-old little girl involved in a vehicle vs pedestrian incident. The child had a fractured femur and was in pain. It was difficult to manage due to lack of protocol, availability of medical control, equipment issues (size of traction splint) and distance to appropriate receiving facility.
- This occurred back in the 80’s and I have worked with our Department to improve on these and other issues with concern to Pediatric Care.


ALABAMA
GEORGIA
Gulf of Mexico
FLORIDA

Andalusia
Dothan
Brewton
Thomasville
Valdosta
SANTA ROSA
WALTON
HOLMES
JACKSON
GADSDEN
TALLAHASSEE
LEON
JEFFERSON
MADISON
HAMILTON
COLUMBIA
NASSAU
Jacksonville
BAKER
OKALOOSA
WASHINGTON
BAY
CALHOUN
LIBERTY
WAKULLA
TAYLOR
SUWANNEE
LAFAYETTE
UNION
BRADFORD
CLAY
FRANKLIN
GULF
GILCHRIST
ALACHUA
PUTNAM
DIXIE
LEVY
MARION
Ocala
CITRUS
SUMTER
LAKE
Brooksville
HERNANDO
PASCO
Dade City
Tampa
Clearwater
Apalachee Bay

TAYLOR
LAFAYETTE
UNION
BRADFORD
CLAY
St. Augustine
ST JOHNS
GILCHRIST
ALACHUA
PUTNAM
FLAGLER
DIXIE
LEVY
MARION
VOLUSIA
CITRUS
SUMTER
LAKE
SEMINOLE
Orlando
ORANGE
HERNANDO
PASCO
Dade City
Tampa
HILLSBOROUGH
POLK
OSCEOLA
BREVARD
INDIAN RIVER
MANATEE
HARDEE
OKEECHOBEE
ST LUCIE
SARASOTA
DESOTO
HIGHLANDS
GLADES
CHARLOTTE
Punta Gorda
HENDRY
PALM BEACH
W. Palm Beach


NLY TWO MAY JUMP AT ONE
SWIM WITHIN THE ROPES ON
CLIMBING ON SITTING ON OR JU
FROM RAILS IS PROHIBITED.
NO GAINERS INWARD OR HANDSTA
STEN TO LIFEGUARDS WHEN ON D
NO SPITTING.


GATORMOBILE—
DRIVING IN THE
SUNNY SOUTH
Gatormobile - Driving in the sunny south (Gladyes, Mildred and J.M. Smith of W
February 17, 1924

Presentations and Feature Topics

Hurricane Ian Debrief*

2023 National EMSC EMS Survey

Florida Child Abuse Death Review Annual Report

STARS Program Update

Florida EMSC/PEDReady Updates:
FL PEDReady resource kits, pediatric and neonatal educational needs, safe transport, etc.

Feature Topics and Presentations: Hurricane Ian Debrief and Survey Tool

EMSC Debrief and Survey Tool
- results and challenges, what tool should we use?
- isolette incubator shortages and teams with neonatal training

Report from Florida Neonatal Pediatric Transport Network Association

Isolette incubator shortages and teams with neonatal training

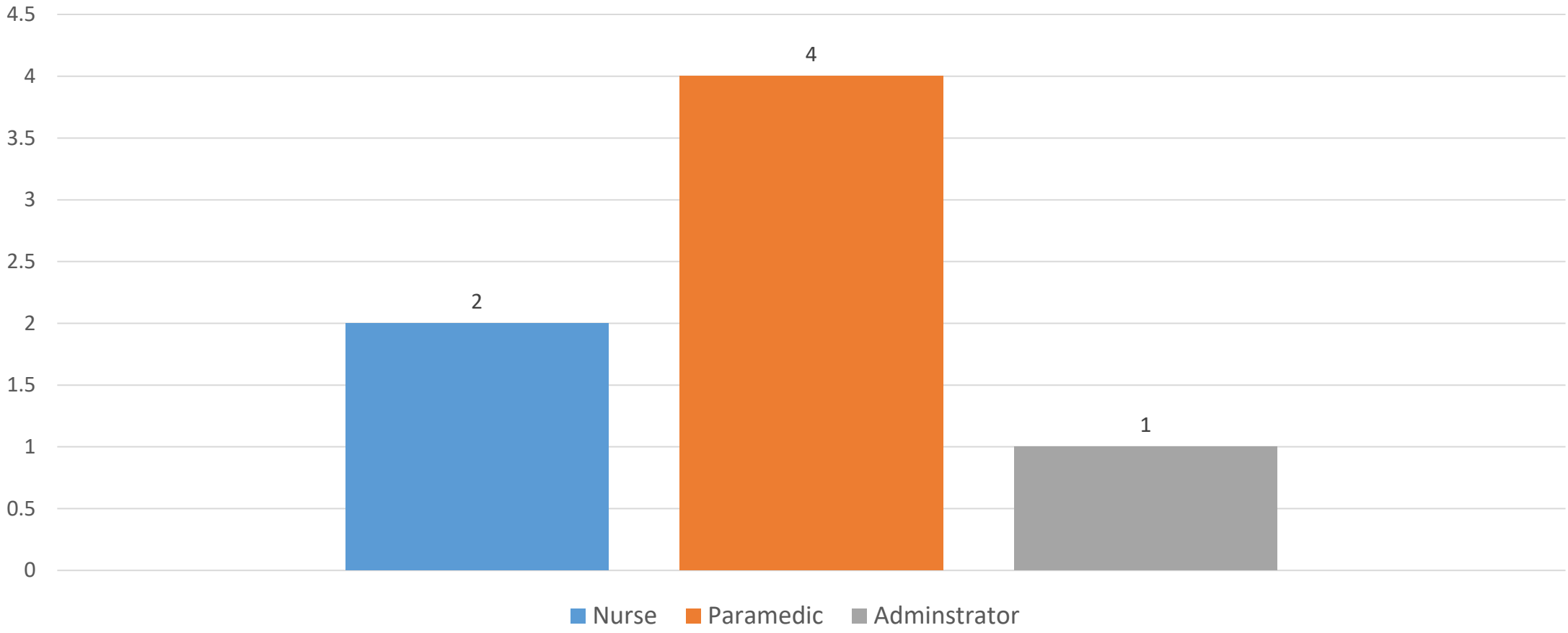
15 “Til 50 course

Future steps

Qualtrics Survey – Hurricane Ian 2023 EMSC SWOT Analysis

https://ufl.qualtrics.com/jfe/form/SV_6J24F5ng3BNpIcS

What is your profession?



What is the one thing you are personally the proudest of during the Hurricane Ian response?

- *Readiness to help*
- *The organization the IMT did for the county*
- *The way the neo-peds group pulled together under the direction of Niki to pull off a quick and seamless activation and evacuation as well as repatriation of the patients.*
- *How all agencies federal, local, and state work together.*
- *Ambulance Transfer Centers that we set up to utilizing the FEMA and state Strike Teams to transport patients out of the county due to 3 out of the 4 hospitals being closed due to the storm. The following day we actually lost all of our primary receiving facilities due to other issues. Transport times to the next closest facility was around 90-120 minutes due to limited roadway access. US 41 and I75 being shut down on/off due to post storm flooding.*
- *Very organized and well communicated tasks given*

What is the one thing that surprised you the most during this event?

- *The degree of devastation*
- *How many people utilized our shelters I would be more organized on how to feed personnel at shelters*
- *The level of internal communication and how well without drilling together we all worked effortlessly as one unit.*
- *The amount water the storm carried.*
- *Flooding issues post storm from inland drainage cutting off our primary north south routes. Additionally, this storm shut down not just our primary receiving hospitals, but also the county to our south and effecting two in the county to our north.*
- *How many residents utilized the shelters*

If you had a magic wand, what is the one thing that you would go back and do differently?

- *Help out the fellow nurses who lost everything*
- *Had more time to evacuate but in this instance that wasn't possible.*
- *Strategically locate resources for better response.*
- *Have predetermined transfer sites already established.*
- *Prepare or plan better for meals pertaining to the shelter workers*

What is the top pediatric disaster related issue you would like to see addressed in future disaster responses?

- *Family re-unification*
- *Evacuation*
- *Accountability for children at shelters if they get displaced*
- *Identify resources available for pediatric population. Identify those with special needs.*
- *Limited OB facilities post storm event.*
- *Maintain a good plan to track children and families if they get separated from each other*

Strengths: an internal attribute or resource which is helpful in achieving an objective or supports a successful outcome

Questions to consider: What did we do best? What unique knowledge, talent, advantages, or resources did we have? What did other people say we did well? What was our greatest achievement?

- *Readiness exercise*
- *Very thorough and organized*
- *One person calling the shots and everyone doing their best to get the job done.*
- *We were able to run 911 calls once winds were <45. While we did have some station damage, we were at least functional. The ambulance transfer centers were a great asset. This allowed our units to run the initial 911 call, and then transfer to a waiting FEMA unit to transport to another our of the area ER. Our Operational Leadership, BCs and Station Officers were present during Hurricane Charlie. I think that this assisted with how things operated post the storm.*

Weaknesses: an internal attribute or resource which is harmful to achieving an objective or works against successful outcomes

Questions to consider: What could we improve? What knowledge, talent, skills, and/or resources were we lacking? What disadvantages did we have? What did others complain about or state we did not do well in accomplishing? In what areas do we need more training, protocols, or resources?

- *Family reunification*
- *Wetter record keeper and report writing at shelters*
- *Given the circumstances I don't know how it could have gone better.*
- *Not having a complete plan in place for a major storm. Our SOPs are written for the time up to the storm then not much else for post storm efforts. A big issue that we ran into was the lack of portable O2 supply for our very elderly population and lack of power post storm. This turned into a very big issue requiring us to transport people to either the D-MAT facility, or out of the area hospitals for something that could have been setup sooner.*

Opportunities: an external factor which an organization can capitalize on or use to its advantage

Questions to consider: How can we turn our strengths into opportunities? How can we turn our weaknesses into opportunities? Is there a need that no one is meeting? What could we realistically change before the next hurricane or disaster event? How is our field changing and how can we take advantage of those changes? Are there other groups we should support in pediatric disaster response efforts?

- *More evac exercises*
- *Do a hot wash*.
- *We have the talent (people) to run our operations with very limited resources post storm. Having a set plan in place prior to the storm would be helpful for us to use as a guideline.*

Threats: an external factor that stands in the way of an organization's success.

- Questions to consider: What obstacles did we face? Could any of our weaknesses prevent our agency/organization/unit from meeting our goals? Who and/or what might cause problems in the future? Are there any current or upcoming standards, policies, and/or legislation that might negatively impact our pediatric disaster response? Are there changes in our field or in technology that could threaten our success?"

- *Lack of technology during disasters make us vulnerable*
- *Roadway hazards*
- *Obstacles were exhaustion of crews, availability of food, supplies, and Av gas*

Hurricane Ian - Golisano Children's Hospital of SWFL and FNPTNA

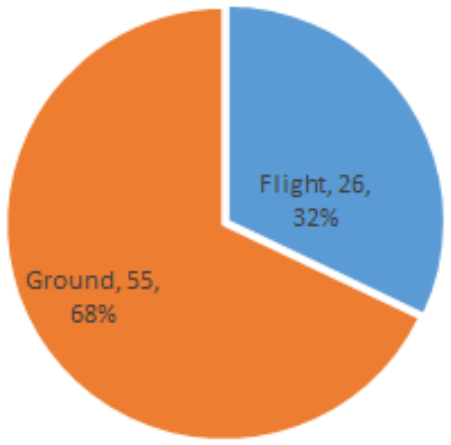
- https://www.youtube.com/watch?v=CRpFrX3P8hM

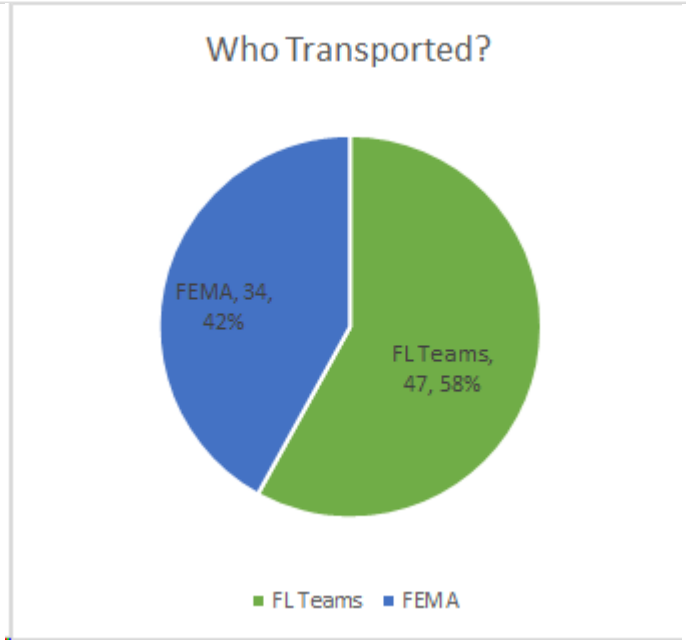
Hurricane Ian Evacuation Recap

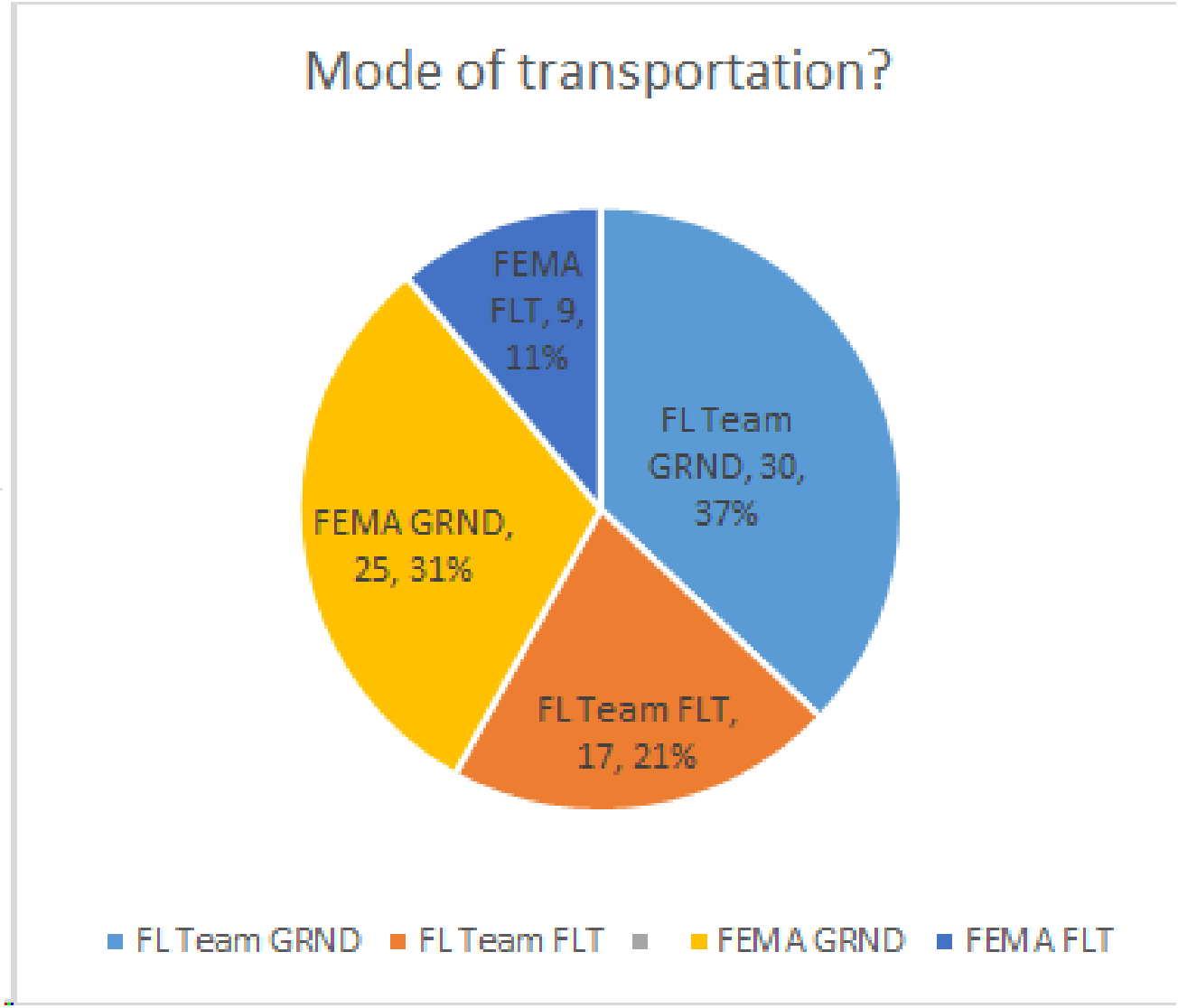
Niki Shimko, MSN CCRN CPN C-NPT

All moved in 36 hours

- 81 total patients
- 62 Neonates
- 8 PICU
- 6 Peds
- 3 PONC
- 2 Peds ED

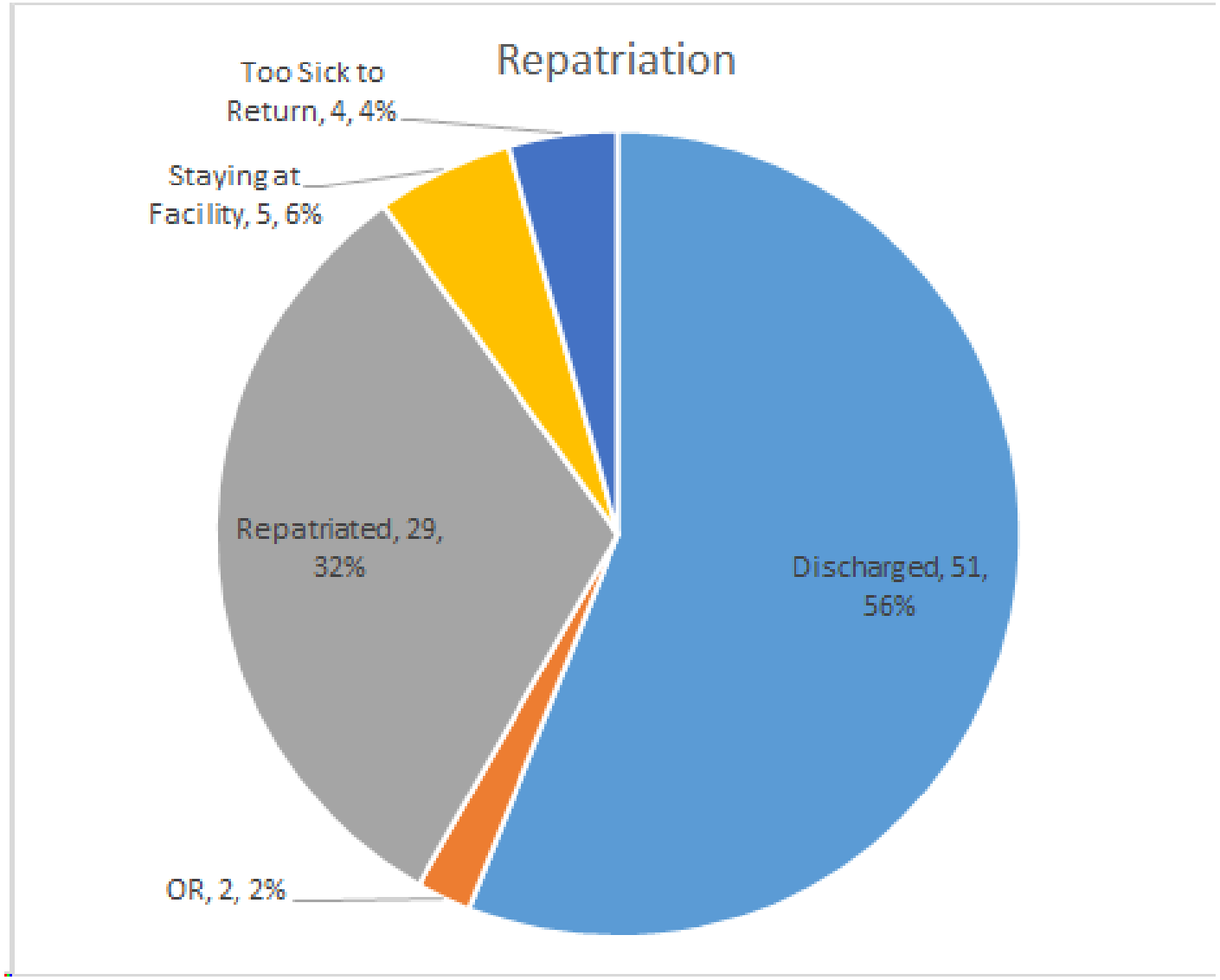

Flight, 26, 32%
Ground, 55, 68%
Flight
Ground

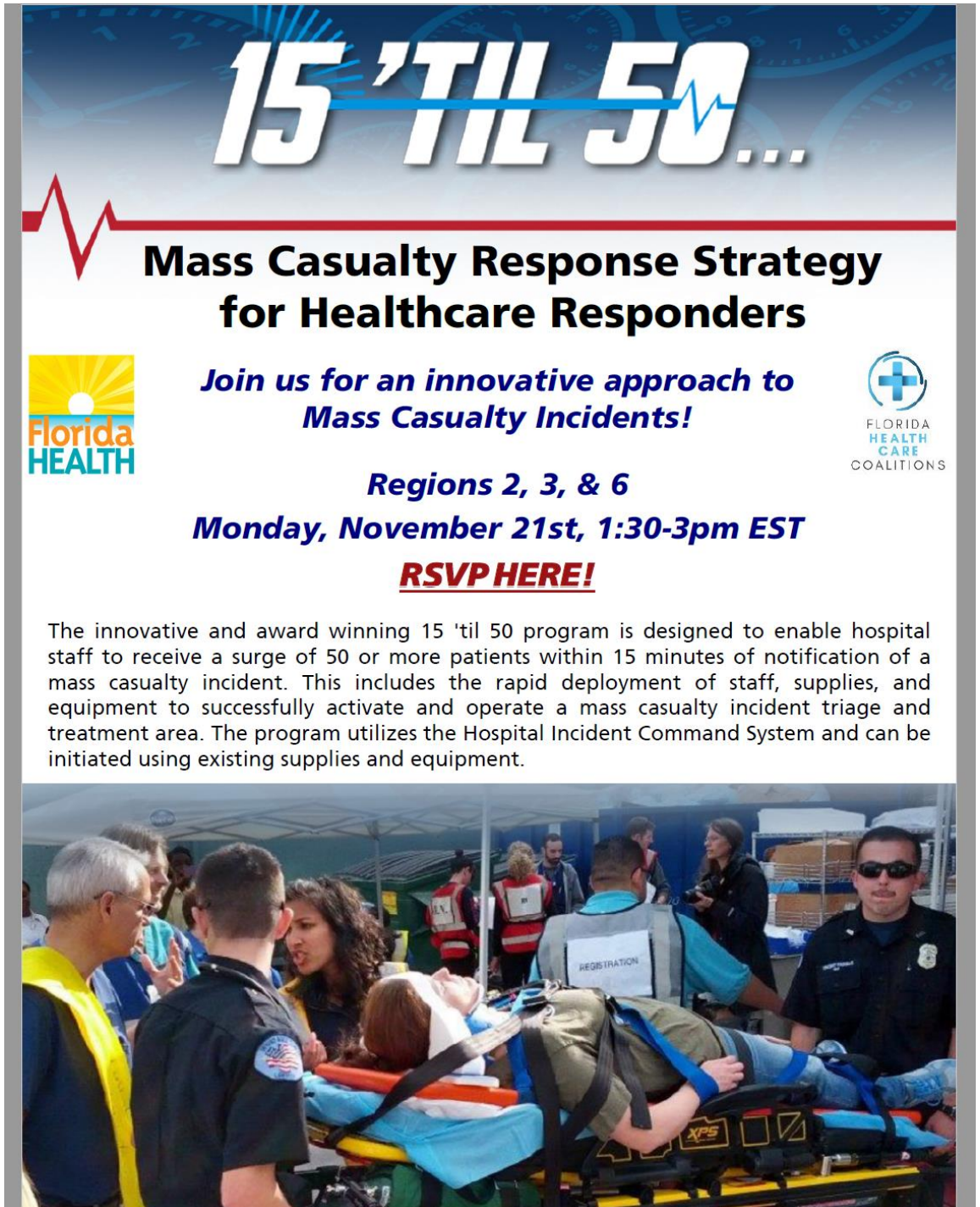

Who Transported?
FEMA, 34, 42%
FL Teams, 47, 58%
FL Teams
FEMA


Mode of transportation?
FEMA FLT, 9, 11%
FL Team GRND, 30, 37%
FEMA GRND, 25, 31%
FL Team FLT, 17, 21%
FL Team GRND
FL Team FLT
FEMA GRND
FEMA FLT


15 Facilities
Across
The State
Pensacola
Valparaiso
Fort Walton Beach
Santa Rosa I
Panama City
Tallahassee
Madison
Live Oak
Lake City
Perry
Port St Joe
Apalachicola
Dog I
Apalachee Bay
Cape San Blas
St George I
Gainesville
Starke
Palatka
Jacksonville
Jacksonville Beach
St Augustine
Palm Coast
Ormond Beach
Daytona Beach
De Land
New Smyrna Beach
Deltona
Eustis
Leesburg
Sanford
Titusville
Cape Canaveral
Merritt Island
Melbourne
Palm Bay
Vero Beach
Fort Pierce
Port St Lucie
Ocala
Cedar Keys
Waccasassa Bay
Brooksville
Spring Hill
Dade City
MCO
Kissimmee
Lakeland
Winter Haven
Bartow
Lake Wales
Avon Park
Sebring
Clearwater
Largo
St Petersburg
Tampa Bay
Bradenton
Sarasota
Arcadia
Okeechobee
Lake Okeechobee
Pahokee
Belle Glade
Jupiter
West Palm Beach
Port Charlotte
Punta Gorda
Moore Haven
Fort Myers
RSW
Cape Coral
Sanibel I
Bonita Springs
Naples
Big Cypress Swamp
Cape Romano
Everglades City
The Everglades
Coral Springs
Delray Beach
Boca Raton
Pompano Beach
Fort Lauderdale
Hollywood
Hialeah
Miami
Miami Beach
Kendall
Biscayne Bay
Homestead
Cape Sable
Key Largo
Gulf of Mexico
Atlantic Ocean
St Johns River
Suwannee R
Apalachicola R
N
0 20 40 60 80 100 150 km
0 20 40 60 80 100 mi
Albers equal area projection

IN THE END: 33 TOTAL CAME BACK OVER 2 WEEKS





15 'til 50 Links

15 'til 50 Toolkit Page
http://cdphready.org/15-til-50-mass-casualty-incident-toolkit/

Mass Casualty Incident (MCI) Guide
http://cdphready.org/wp-content/uploads/2016/01/15-til-50-MCI-Guide.pdf

15 'til 50 MCI Plan Template
http://cdphready.org/wp-content/uploads/2016/01/15-til-50-MCI-Plan-Template.docx

Multimedia
The multimedia section includes:

- Videos
- Photos

http://cdphready.org/15-til-50-mass-casualty-incident-toolkit-multimedia/

Toolkit Library
The library includes links for:

- Executive Briefings
- Exercise Materials
- Training Materials
- Equipment Lists
- Job Action Sheets
- Incident Action Plan
- Standing Order Copies
- Checklists
- Maps and Layouts

http://cdphready.org/15-til-50-mass-casualty-incident-toolkit-toolkit-library/

Chris Riccardi Documents
Other resources included as attachments:

- Pediatric Decontamination Algorithm
- In-patient Code Triage Flow Chart

Recorded Webinar (CA)
http://cdphready.org/recorded-webinar-15-til-50/

Recorded Webinar Slides (CA)
http://nspa1.org/wp-content/uploads/2020/02/15-til-50-For-Peds-NSPA-2_20_20.pptx

Pediatric Decontamination Process

- Critical injuries are decontaminated first
- Untie hair braids/pony tails prior to decon
- Children and their families (parents/guardians) should not be separated unless critical medical issues take priority

Non-ambulatory

- Disrobe by cutting clothing off to minimize inhalation of contaminate
- Place on a stretcher, or restraining device
- <2 yrs use laundry baskets as transport device to eliminate patient fall risk
- Escort through decon shower by 2 decon team members & caregiver
- Direct supervision of decon process of patient & of caregiver
- **Shower for 90 seconds** (minimum)

Ambulatory

Estimate child's age by visual inspection

School Age 8-18 yrs old

- Disrobe by cutting clothing off to minimize inhalation of contaminate or by having victim hold breath while pulling clothing over face & mouth
- Respect modesty/ privacy
- Patient decons self
- Patient proceeds through shower in succession with caregiver, parent or classmates
- **Shower for 90 seconds** (minimum)

Preschool 2-8 yrs

- Assist with disrobing by cutting clothing off to minimize inhalation of contaminate or by having victim hold breath while pulling clothing over face & mouth (caregiver or decon team members)
- Direct supervision of decon process
- Escort through shower by caregiver or decon team members
- **Shower for 90 seconds** (minimum)

Infants & Toddlers < 2 yrs old

- Disrobed by child's caregiver or decon team member by cutting clothing off to minimize inhalation of contaminate
- **Monitor airway**
- Place on stretcher or restraining device
- Escort through shower by 2 decon team members **AND** caregiver
- Direct supervision of decon process of child and caregiver
- ***NOTE:*** Child should not be carried by caregiver due to risk of trauma from accidental fall or from dropping child in shower
- Use laundry baskets as transport device to eliminate patient fall risk
- **Shower for 90 seconds** (minimum)

- Treat or prevent hypothermia by drying patient immediately following decon (towels, gowns and blankets)
- Register patient with unique identifiers (wristband, triage tag, etc...)
- Label ALL patient belongings
- Triage to appropriate treatment area (immediate, delayed, minor)
- ***KEY POINT: Incorporate Child Life Specialists in the decon and post decon process where/when possible***

15 til 50 trailer video

Pediatric Decon

- Different ages = different considerations
- Infants/Toddlers (<2yrs)
- Pre-School (2yrs-8yrs)
- School Age (8yrs-18yrs)
- Special equipment needed
- Laundry basket pros and cons

Special needs Tracking and Awareness Response System

See June 2022 EMSCAC slides

LEE HEALTH

SSMHealth
CardinalGlennon
Children's Hospital

Golisano
Children's Hospital
of Southwest Florida
LEE HEALTH

LEE COUNTY
PUBLIC SAFETY
EM
911

LEHIGH
FIRE
RESCUE
ACRES

FORT MYERS BEACH
EST 1949
FIRE-RESCUE-EMS

STARS UPDATE

- COUNTY UPDATE
- 130 CHILDREN ENROLLED
- AVERAGING 4 DISPATCHES A MONTH OF THE CARE PLAN
- EDUCATION OUTREACH

2023 National EMSC EMS Survey

Due to size of FL- EDC (NEDARC) sending out email correspondence

- emsc@hsc.utah.edu

PLEASE PARTICIPATE: only for agencies responding to 911 emergency medical calls

- *emscsurveys.org*

Full copy of survey: https://emscsurveys.org/docs/EMS%20for%20Children%20Assessment.pdf

Please email pedready@jax.ufl.edu for any questions

2023 National EMSC EMS Survey: Topics

1. Evaluating EMS Providers' Skills Using Pediatric-Specific Equipment

2. Coordination of Pediatric Emergency Care: * DESIGNATING AN INDIVIDUAL who is responsible for coordinating pediatric specific activities (training, protocols, equipment, etc.). Not using the term PECC (Pediatric Emergency Care Coordinator) this year due to confusion over terminology.

3. Agency demographics

Show them all the great work Florida EMS is doing to provide excellent care to children! FL PEDReady

EDC
EMSC Data Center

To better understand the EMS system's **readiness** to care for pediatric patients, the **EMS for Children Program** conducted a national survey of EMS agencies. The following are the results of this quality improvement effort. EMS agencies can learn more about their state efforts by contacting their state EMS for Children Program Manager shown in the Resources sections of this 3-page report.

2022 National *EMS for Children Survey* Results

15,309 EMS agencies were sent survey

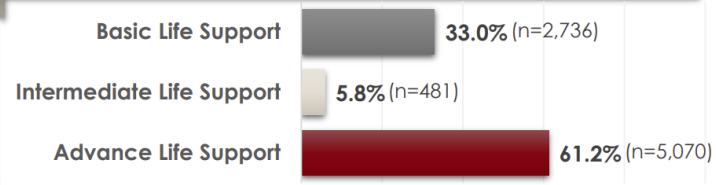
Who took the survey?

8,347 EMS agencies

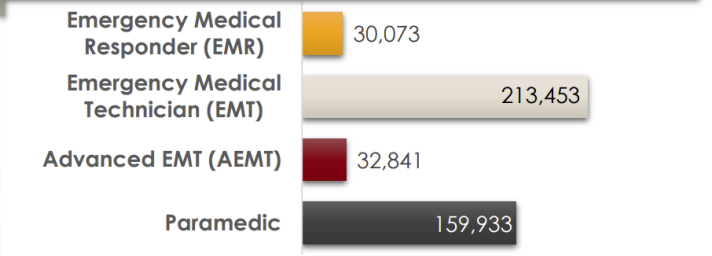
public 911 **non**-transporting & **transporting** agencies

from **58** US states & territories

Agencies by Highest Licensure



Type of Providers Reported



Pediatric Call Volume by Number and % of Agencies

Call Volume	#	%
NONE: No pediatric calls in the last year	240	**2.9%**
LOW: Twelve (12) or fewer pediatric calls in the last year (1 or fewer pediatric calls per month)	3,238	**39.1%**
MEDIUM: Between 13-100 pediatric calls in the last year (1-8 pediatric calls per month)	3,265	**39.4%**
MEDIUM HIGH: Between 101-600 pediatric calls in the last year (8-50 pediatric calls per month)	1,165	**14.1%**
HIGH: More than 600 pediatric calls in the last year (more than 50 pediatric calls per month)	352	**4.2%**
No Response	27	**0.3%**
Grand Total	8,287	**100%**

Prepared by the EMS for Children Data Center (EDC), formerly known as NEDARC, located at the University of Utah School of Medicine. July 2022 www.nedarc.org

This report is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of the Emergency Medical Services for Children Data Center award totaling $3,200,000 with 0% financed with non-governmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit HRSA.gov.

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Types of Methods for Physically Demonstrating Correct Use of *PEDIATRIC-SPECIFIC* Equipment

- Demonstration Skill
- Simulation Observation
- Field Observation

Resources

- Pediatric Readiness in EMS Systems
  - Joint Policy Statement
  - Technical Report
- Prehospital Pediatric Readiness
  - Toolkit *(Education and Competencies for Providers)*
  - Checklist
- Pediatric Education and Advocacy Kits *(PEAK)*
- Use of Pediatric-Specific Equipment *(video)*
- State EMS for Children Program Manager List *(online database)*

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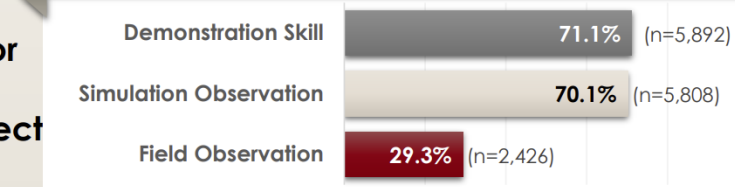
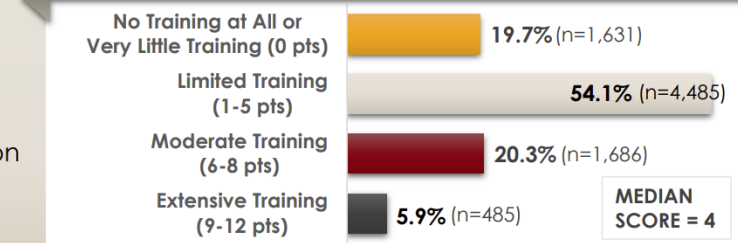
Percent & Type/Method Skill Checking Reported



Frequency of Skill-Checking on Pediatric Equipment



Click here and go to page 35 to see how the skill-checking points were calculated.

Significance

The processes & frequency of skill-checking evaluations for EMS providers has long been established as important for the maintenance of skills when treating patients for improved patient outcomes.[1-3]

Miller's Model of Clinical Competence provides a framework for clinical evaluation that theorizes that competency for clinical skills can be demonstrated for EMS through a combination of skill stations, case scenarios & simulations, & real-life field observations with a frequency of at least twice a year.[3-4]

1. Lammers, R. L., Byrwa, M. J., Fales, W. D., & Hale, R. A. (2009). Simulation-based Assessment of Paramedic Pediatric Resuscitation Skills. *Prehospital Emergency Care*, 13(3), 345–356.
2. Su, E., Schmidt, T. A., Mann, N. C., & Zechnich, A. D. (2000). A Randomized Controlled Trial to Assess Decay in Acquired Knowledge Among Paramedics Completing a Pediatric Resuscitation Course. *Academic Emergency Medicine*, 7(7), 779-786.
3. Miller GE. The Assessment of Clinical Skills/Competence/Performance. *Acad Med* 1990; 65:S63-67.
4. National EMS for Children Data Analysis Resource Center (NEDARC). EMS for Children Performance Measures: Implementation Manual for State Partnership Grantees. Salt Lake City, UT: NEDARC; 2017.

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2022 National *EMS for Children Survey* Results

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What is a PECC?

A designated individual(s), often called a **Pediatric Emergency Care Coordinator** or PECC, who is responsible for coordinating and ***championing PEDIATRIC-SPECIFIC*** activities for an EMS agency. This individual(s) could serve as the PECC for one or more EMS agencies.

Resources

- **Pediatric Readiness in EMS Systems**
  - Joint Policy Statement
  - Technical Report
- Pediatric Emergency Care Coordinator *(video)*
- **Prehospital Pediatric Readiness**
  - Toolkit
  - Checklist
- Quality Improvement
- Additional PECC Resources
- State EMS for Children Program Manager List *(online database)*

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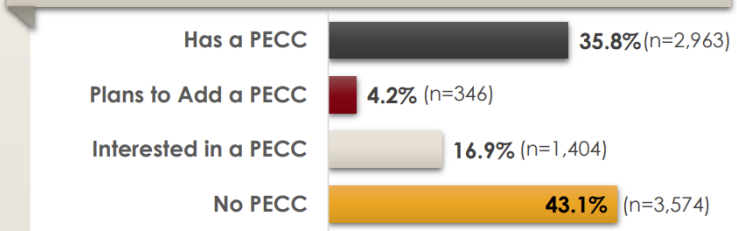
PECC at Agencies



Agencies who Have a PECC – Top 5 Reported PECC Duties

Promote pediatric continuing education opportunities	**96.8%**
Ensure that fellow providers follow pediatric clinical practice guidelines and/or protocols	**94.9%**
Ensure the availability of pediatric medications, equipment, and supplies	**92.5%**
Oversee pediatric process improvement initiatives	**87.3%**
Ensure the pediatric perspective is included in the development of EMS protocols	**83.9%**

Significance

A study of the readiness of hospital emergency departments (EDs) to care for children has shown that EDs are more prepared to care for children when there is a PECC who is responsible for championing & making recommendations for policies, training, & resources pertinent to the emergency care of children.[1] While this study was conducted in EDs, the 2020 joint policy statement,[2] Pediatric Readiness in EMS Systems, states the importance of EMS physicians, administrators, & personnel to collaborate with pediatric acute care experts to optimize EMS care for children to improve outcomes. In further support of the importance of EMS agency PECCs, a recent study "found that the availability of a PECC in an agency is associated with increased frequency of pediatric psychomotor skills evaluations."[3]

1. Gausche-Hill, M., Ely, M., Schmuhl, P., Telford, R., Remick, K. E., Edgerton, E. A., & Olson, L. M. (2015). A National Assessment of Pediatric Readiness of Emergency Departments. *JAMA Pediatrics*, 169(6), 527–534.
2. Moore, B., Shah, M. I., Owusu-Ansah, S., Gross, T., Brown, K., Gausche-Hill, M., Remick, K., Adelgais, K., Lyng, J., Rappaport, L., & Snow, S. (2020). Pediatric Readiness in Emergency Medical Services Systems. *Prehospital Emergency Care*, 24(2), 175-179.
3. Hewes HA, Genovesi AL, Codden R, Ely M, Ludwig L, Macias CG, Schmuhl P, Olson LM. (2021). Ready for Children Part II: Increasing Pediatric Care Coordination and Psychomotor Skills Evaluation in the Prehospital Setting. *Prehospital Emergency Care*, pp.1-8.

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Florida EMS Survey 2022 Results

FL response rate 81%! A lot of calls and work to get this rate.

- First year survey was *not* part of the FL annual EMS survey
- FL feedback given to NEDARC and HRSA
- National score PECC: 35.8%; **Florida 2022 score: 44.7%**

- National score use of pediatric equipment: 26.1%, Median score 4 points; **Florida 2022 score 32.6%, score 4**

Florida Use of Pediatric-Specific Equipment Overview for ALL 2022 Agencies

Pediatric-Specific Equipment Score by Percentage of Agencies and Percentage of PECCs

	% of Agencies	% of Agencies with a PECC
Scored 6 pts or Higher	32.4% (n=46)	54.3% (n=25)
Scored Less than 6 pts	67.6% (n=96)	40.6% (n=39)

Survey Year: 2022

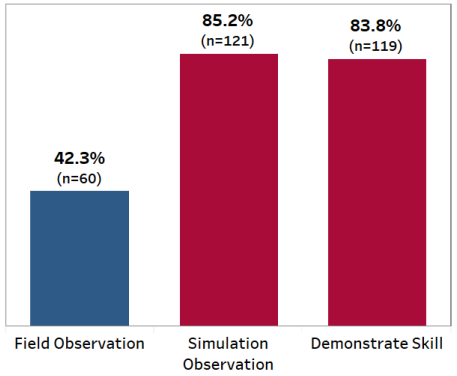
PECC/No PECC: All

County: All

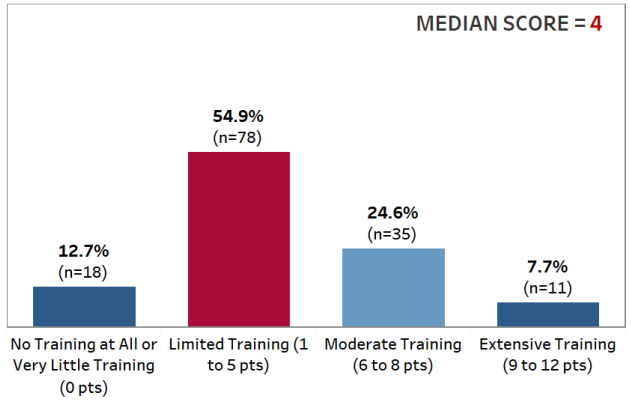
Agency Type*: All

*Agency Type: Default = All Agencies Surveyed. Drop-down the Menu to Filter by Sub-Groups IF Available (IHS/Tribal/Military/Etc.).

Percent by Type/Method of Skill Checking:



Breaking Down the Score = Frequency of Training:



Use of Pediatric-Specific Equipment Matrix:

% of Agencies: 3.5% – 57.7%

	Two or more times per year (4pts)	At least once per year (2pts)	At least once every two years (1pt)	Less frequency than once every two years (0 pts)	None
How often are your providers required to demonstrate skills via a SKILL STATION?	16.2% (n=23)	38.7% (n=55)	25.4% (n=36)	3.5% (n=5)	16.2% (n=23)
How often are your providers required to demonstrate skills via a SIMULATED EVENT?	15.5% (n=22)	38.7% (n=55)	27.5% (n=39)	3.5% (n=5)	14.8% (n=21)
How often are your providers required to demonstrate skills via a FIELD ENCOUNTER?	11.3% (n=16)	16.9% (n=24)	4.9% (n=7)	9.2% (n=13)	57.7% (n=82)

This matrix was used to score the type of skill demonstration/simulation and the frequency of **occurrence**. A score of 6 pts or higher "met" the measure. The darker the box the higher the percentage of agencies in that group. See pg. 35 in the "EMSC for Children Performance Measures, Implementation Manual for State Partnership Grantees, Effective March 1st, 2017" for additional information about this matrix.

Use of Pediatric-Specific Equipment Overview for ALL 2022 Agencies

Pediatric-Specific Equipment Score by Percentage of Agencies and Percentage of PECCs

	% of Agencies	% of Agencies with a PECC
Scored 6 pts or Higher	26.2% (n=2,171)	53.2% (n=1,154)
Scored Less than 6 pts	73.8% (n=6,116)	29.6% (n=1,809)

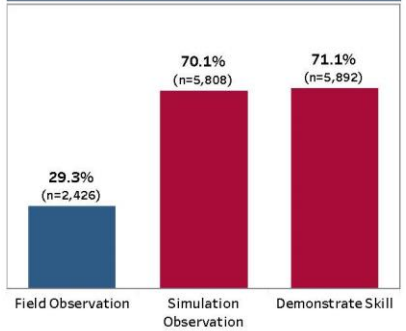
Survey Year: 2022

PECC/No PECC: All

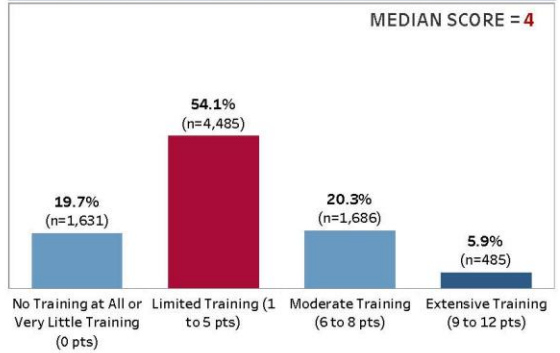
Agency Type*: All

*Agency Type: Default = All Agencies Surveyed. Drop-down the Menu to Filter by Sub-Groups IF Available (IHS/Tribal/Military/Etc.).

Percent by Type/Method of Skill Checking:



Breaking Down the Score = Frequency of Training:



Use of Pediatric-Specific Equipment Matrix:

% of Agencies: 2.1% – 70.7%

	Two or more times per year (4pts)	At least once per year (2pts)	At least once every two years (1pt)	Less frequency than once every two years (0 pts)	None
How often are your providers required to demonstrate skills via a SKILL STATION?	15.0% (n=1,243)	42.1% (n=3,488)	11.9% (n=987)	2.1% (n=174)	28.9% (n=2,395)
How often are your providers required to demonstrate skills via a SIMULATED EVENT?	12.1% (n=1,000)	41.0% (n=3,395)	14.2% (n=1,175)	2.9% (n=238)	29.9% (n=2,479)
How often are your providers required to demonstrate skills via a FIELD ENCOUNTER?	6.9% (n=570)	15.1% (n=1,252)	4.0% (n=333)	3.3% (n=271)	70.7% (n=5,861)

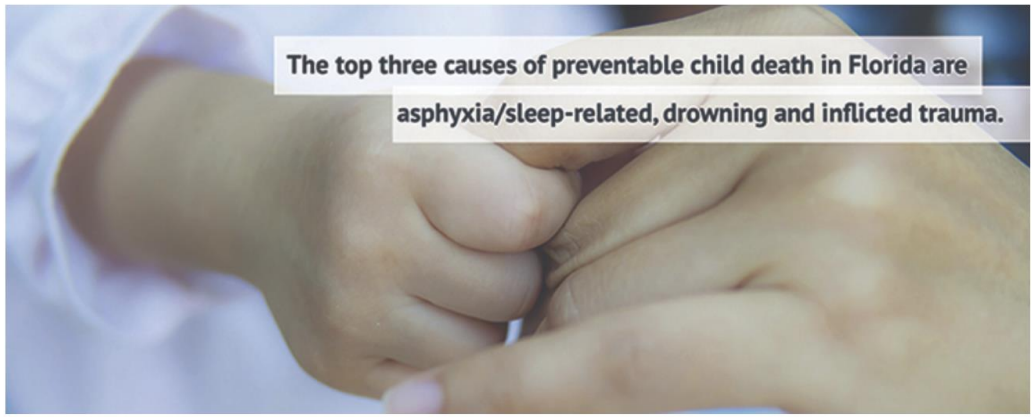
This matrix was used to score the type of skill demonstration/simulation and the frequency of **occurrence**. A score of 6 pts or higher "met" the measure. The darker the box the higher the percentage of agencies in that group. See pg. 35 in the "EMSC for Children Performance Measures, Implementation Manual for State Partnership Grantees, Effective March 1st, 2017" for additional information about this matrix.

Undeliverable Survey Emails from EDC

- Putnam County Fire-EMS
- Union County Department of Emergency Services
- Oldsmar Fire Rescue
- Desoto County Fire-Rescue Department
- Levy County Department of Public Safety
- Transcare Medical Transportation
- Glades County EMS
- Hardee County Fire Rescue
- Key Largo Volunteer Ambulance Corps. Inc.
- Longboat Key Fire Rescue
- Miami-Dade County Fire Rescue Department
- Riviera Beach Fire Rescue
- Americare Ambulance Service
- Boca Raton Fire-Rescue
- City of Gulfport
- Delray Beach Fire Rescue
- Daytona Beach Shores Department of Public Safety
- East Lake Tarpon Special Fire Control District
- Flagler County Fire Rescue
- Lake County Bcc Office of EMS
- Miami Beach Fire Rescue
- Miramar Fire Rescue
- North Lauderdale Fire Rescue
- North Port Fire Rescue District
- Sarasota County Fire Department
- St. Lucie County Fire District
- Winter Garden Fire Rescue Department

State Child Abuse Death Review System

CADR works to eliminate preventable child abuse & neglect deaths in Florida.



2022 Annual Report

2022 Annual Report Executive Summary

"Since 1999, the Child Abuse Death Review Committee has been working diligently with a multitude of partners to make every effort to reduce deaths in Florida from child abuse or neglect."

Read full letter from Chairperson Robin Perry, Ph.D.

Purpose of Child Death Reviews

Achieve a greater understanding of the causes and contributing factors of deaths resulting from child abuse.

Whenever possible, develop a communitywide approach to address such cases and contributing factors.

Identify any gaps, deficiencies, or problems in the delivery of services to children and their families by public and private agencies which may be related to deaths that are the result of child abuse.

Make and implement recommendations for changes in law, rules, and policies, as well as develop practice standards that support the safe and healthy development of children and reduce preventable child abuse deaths.

4052 Bald Cypress Way, Bin A06, Tallahassee, Florida 32399
PHONE: 850-245-4223 | FAX: 850-414-7350 | CADR@flhealth.gov

The FDOH **Division of Children's Medical Services (CMS)** provides a continuum of health services for eligible children including essential preventive, evaluative, and early intervention services for children who are at risk for, or who have special health care needs, in order to prevent or reduce long-term disabilities.

- The division comprises two bureaus: Bureau of Early Steps and Newborn Screening and Bureau of Child Protection and Special Technologies.

- The purpose of the **Bureau of Early Steps and Newborn Screening** is to ensure early identification, treatment, and access to follow-up services for newborns and to provide early intervention services to eligible infants and toddlers, 0-36 months.

- The purpose of the **Bureau of Child Protection and Special Technologies** is to administer the Child Protection Team Program and the Sexual Abuse Treatment Program. The bureau provides technology services statewide and support for telemedicine medical examinations. The Sexual Abuse Treatment Program provides individual and family therapy to children who have been sexually abused, their siblings, and non-offending caregivers.

- The Bureau also provides oversight to the **Child Abuse Death Review (CADR) system** within the state of Florida. This program includes a Statewide CADR Committee and local CADR committees located in each judicial circuit throughout the state.

Florida Child Abuse Death Review System, Annual Reports, and website

- Purpose of Child Death Reviews:

Achieve a greater understanding of the causes and contributing factors of deaths resulting from child abuse. Whenever possible, develop a communitywide approach to address such cases and contributing factors. Identify any gaps, deficiencies, or problems in the delivery of services to children and their families by public and private agencies which may be related to deaths that are the result of child abuse. Make and implement recommendations for changes in law, rules, and policies, as well as develop practice standards that support the safe and healthy development of children and reduce preventable child abuse deaths.

Florida Child Abuse Death Review System, Annual Reports, and website

- The three leading causes of preventable child death in 2021, identified through CADR case reviews and subsequent analysis, are ***sleep-related infant death, drowning, and inflicted trauma***.

- https://www.flcadr.com/

- https://www.flcadr.com/documents/2022-FLCADR-Annual-Report.pdf

National EMSC Related Updates

- Pediatric Respiratory Surge Resources
  - https://www.npdcoalition.org/
  - WRAP-EM (Western Regional Alliance for Pediatric Emergency Management) Just-in-Time Basic Clinical Guidance for Pediatric Respiratory Illness https://app.box.com/s/6xh2yaaaeahjegav6x9uqaukpjxoheib

- EIIC Collaboratives: https://emscimprovement.center/collaboratives/all/

- 2021 NPRP Assessment (ED pediatric readiness):

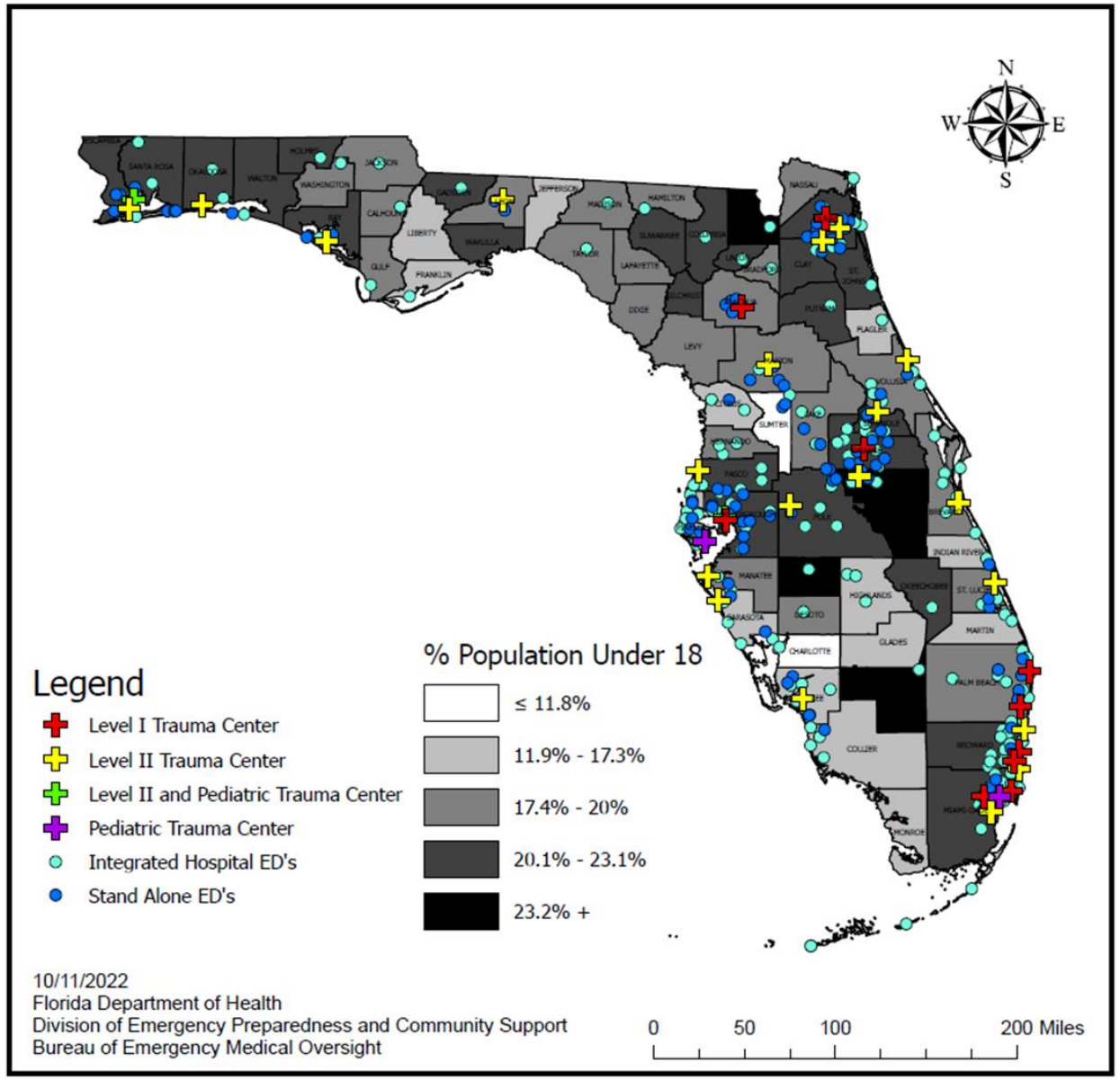
  - FL 58% response rate. Average FL score 75/100, median 76.
  - Still pending national comparison scores due to wait for publication: https://pedsready.org/

New HRSA EMSC State Partnership Grant Performance Measures

UFCOM- J submitted application in collaboration with DOH BEMO

1. **Establish an EMSC Advisory Committee** with the required core members, convening at least four times each grant year. √
2. **Ensure sufficient oversight of the EMSC grant program** by maintaining one full-time SP program manager that is dedicated solely to the EMSC SP Program.
3. **Support data collection, analysis, and continuous quality improvement**. Include the collection of data from hospital EDs and prehospital EMS agencies, maintain the Program's Contact List Management System for your state/jurisdiction; disseminate information.
4. **Expand the uptake of Pediatric Readiness in Emergency Departments** where not already done, by establishing a state, territorial, or regional Pediatric Readiness Recognition Program for hospital EDs; designating PECCs in EDs; and ensuring hospital EDs weigh and record children's weight in kilograms.
5. **Improve Pediatric Readiness in EMS Systems** by establishing a state, territorial, or regional standardized Prehospital Pediatric Readiness Recognition Program for prehospital EMS agencies; increasing PECCs in prehospital EMS agencies; and increasing the number of prehospital EMS agencies that have a process for pediatric skills-check on the use of pediatric equipment.
6. **Increase pediatric disaster readiness in hospital EDs and prehospital EMS agencies** by ensuring that disaster plans address the needs of children.
7. **Prioritize and advance family partnership and leadership** in efforts to improve EMSC systems of care.

2022 EMSC Map of EDs and Trauma Centers



Percent of Population Under 18 Years of Age In Relation to Trauma Centers and Emergency Departments

Disclaimer: This thematic map is for reference purposes. Any reliance on the information contained herein is at the user's own risk. The Florida Department of Health and its agents assume no responsibility for any use of the information contained herein or any loss resulting there from.

318 EDs: 219 Integrated ED's, 99 Stand Alone EDs

303 EMS agencies: 255 ALS

17 Children's Hospitals
(4 free standing)

15 state designated Trauma Centers serving children (Level I, Pediatric or Level II/Pediatric)

4 Burn Centers with pediatric capability

Florida EMSC/PEDReady Updates

New Facebook page! **@floridaemsforchildren** (UF)
Search as a page not a group. Please like us and share!

Email pedready@jax.ufl.edu to have information shared on the page.
PEDReady website: https://emlrc.org/flpedready/

Florida EMSC/PEDReady Updates

Weekly PEDReady and FL EMSC news in *weekly FCEP news briefs* and monthly FAEMSMD newsletter:

-pediatric related announcements, resources, literature, news from national, state and local organizations, PECC updates, champions

-email pedready@jax.ufl.edu to sign up for news briefs

Florida EMSC/PEDReady Updates: PEDReady resource kits or bags

History and background:
-distraction toolkits, PEDReady bags, sensory comfort kits, etc.
-EMS vs ED

PEDReady Resource kits 2023
Available now (obtained with discounted rates)- communication cards (3 languages) , JumpSTART/START revised badge buddies, PALS pocket card, Handtevy badge buddies, Difficult Airway Course pocket card or app (adult and pediatric), ABC's of Pediatrics Emergencies chart, pain scale cards, EMRA Pediatric ECG card, pediatric acetaminophen/ibuprofen dosing magnets, NRP pocket cards, poison center magnets, and ????

DRUG DOSES

Optimization	Dose/kg	80 kg adult
Fentanyl (HTN Emergency)	3 µg/kg	250 µg
Induction Agent	**Dose/kg**	**80 kg adult**
Etomidate	0.3 mg/kg	24 mg
Propofol (Higher doses may be required in younger children)	1.5 mg/kg	120 mg
Ketamine	1.5 mg/kg	120 mg
Paralytic Agent	**Dose/kg**	**80 kg adult**
Succinylcholine	1.5 mg/kg	120 mg
Rocuronium	1.5 mg/kg	120 mg

Maintenance	Infusion Rate
Propofol (Higher doses may be required in younger children)	5–100 mcg/kg/min IV
Midazolam	100–200 mcg/kg/hr IV
Fentanyl	50–300 mcg/hr IV

SCH RELATED HYPERKALEMIA

Absolute contraindications to SCh

- History of malignant hyperthermia (MH)
- Burns >3 days — until healed
- Muscle damage (crush) >3 days — until healed
- Spinal cord injury, stroke >3 days — 6 months
- Neuromuscular disease (e.g. MS, ALS), myopathy — indefinitely
- Intra-abdominal sepsis >3 days — resolution of infection

Treatment of Hyperkalemia

- 10% Ca gluconate 10–20 cc IV over 2 min.
- $NaHCO_3$ 50–100 mEq IV over 5–10 min.
- Glucose 50 gm, regular insulin 10 units (500 cc D10 W, 10 units regular insulin) IV over 45–60 min.
- Hemodialysis

PEARLS

- During RSI, BMV patient only if saturation drops below 93%
- All drugs are IV push except fentanyl which should be given slowly over 1–2 minutes, monitoring closely for respiratory depression
- Patients with ↑age, ↓cardiac output or hypovolemia/hypotension should receive reduced doses of induction agents
- Sellick's maneuver: We recommend use during BMV to minimize gastric insufflation
- **ELM**: Use optimal **E**xternal **L**aryngeal **M**anipulation to improve view of cords

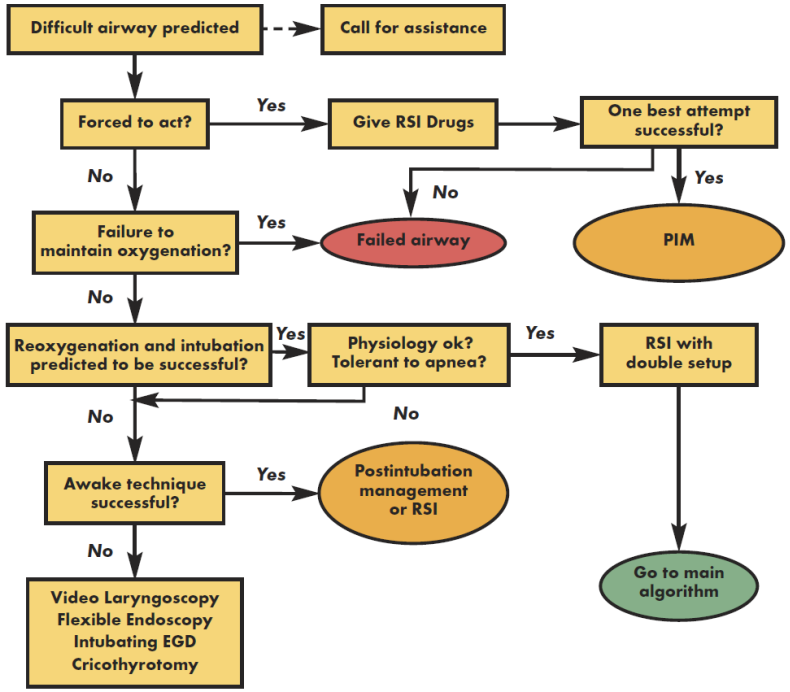
the difficult airway course™

theairwaysite.com

the airway card™

version 5.0

DIFFICULT AIRWAY ALGORITHM



DIFFICULT AIRWAY ASSESSMENT

- **LEMON** (direct laryngoscopy): **L**ook externally (gestalt); **E**valuate 3-3-2; **M**allampati; **O**bstruction/**O**besity; **N**eck mobility
- **ROMAN** (mask ventilation): **R**adiation/**R**estriction; **O**bstruction/**O**besity/**O**SA; **M**ask seal/**M**ale/**M**allampati; **A**ged; **N**o teeth
- **SMART** (cricothyrotomy): **S**urgery; **M**ass; **A**ccess/**A**natomy; **R**adiation; **T**umor
- **RODS** (Extraglottic device): **R**estriction; **O**bstruction/**O**besity; **D**istorted anatomy; **S**hort thyromental distance

INDICATIONS FOR INTUBATION

- Failure to protect the airway
- Failure to oxygenate or ventilate
- Anticipated clinical course
  - Deterioration
  - Transport
  - Impending airway compromise

RAPID SEQUENCE INTUBATION

zero – 10+ min. — Preparation

Monitoring (SpO_2, ECG, BP, $ETCO_2$), IV access

Preoxygenation (highest concentration oxygen)

8 vital capacity breaths or 3 minutes of tidal volume breathing

Flush rate O_2 by NRB mask

Nasal Cannula oxygen 15 lpm for apneic oxygenation

Pediatrics: apneic oxygenation 1-2 lpm/year of age, max 15 lpm

Physiologic Optimization

Normal saline, blood or pressors – for hypotension

BiPAP if still hypoxic

Pediatrics: Atropine optional, used principally for infants < 1 yr

zero — Paralysis with Induction

zero + 15 sec. — Positioning

Position patient optimally for laryngoscopy

Pediatrics: consider shoulder roll for infants < 6 months

zero + 45 sec. — Placement with Proof

Intubate and confirm with $ETCO_2$ or waveform capnography

Secure tube

zero + 1 min. — Post-Intubation Management

Sedation and analgesia

Paralysis only if necessary

Hemodynamic, oxygen, and $ETCO_2$ monitoring

Appropriate ventilator settings

PEDIATRIC TIPS

- Consider shoulder roll for infants <6 months of age.
- Apneic oxygenation is 1-2 lpm/year of age to max of 15 lpm/year of age.
- Consider atropine for pretreatment under 1 year of age.
- Straight (Miller) blades preferred under 2 years of age.
- Use a cuffed tube if appropriate size available.
- Consider marking endotracheal tube at appropriate lip-to-tip distance.

The Broselow Luten zones for PEDIATRIC DRUGS AND EQUIPMENT

the difficult airway course™

theairwaysite.com

INTUBATION CONSIDERATIONS IN CHILDREN

Insertion Depth – *see color chart*
Ventilator Settings
FiO_2: 100%
PEEP: 5 cm H_2O initial
PIP: 20–30 cm H_2O
Inspiratory Time: *see color chart*
Tidal Volume* and RR: *see color chart*
Post Intubation – Secure tube at lip *and* stabilize neck

*Tidal volume of 6–10 mL/kg frequently used, but assess patient to determine there is chest rise and distal air entry on exam. Adequate tidal volume typically requires PIP of at least 15 cm H_2O if lung compliance is normal.

ZONE	3kg	4kg	5kg	PINK	RED	PURPLE	YELLOW	WHITE	BLUE	ORANGE	GREEN
Length (cm)	46–52	52–57	57–61	61–67	67–75	75–85	85–97	97–109	109–121	121–133	133–146
Weight (kg)	3	4	5	6–7	8–9	10–11	12–14	15–18	19–23	24–29	30–36
PRETREATMENT											
Atropine	0.06 mg	0.08 mg	0.1 mg	0.13 mg	0.17 mg	0.2 mg	N/A	N/A	N/A	N/A	N/A
INDUCTION											
Etomidate	0.9 mg	1.2 mg	1.5 mg	2 mg	2.5 mg	3.2 mg	4 mg	5 mg	6.3 mg	8 mg	10 mg
Ketamine	6 mg	8 mg	10 mg	13 mg	17 mg	20 mg	26 mg	33 mg	42 mg	53 mg	66 mg
Propofol	9 mg	12 mg	15 mg	20 mg	25 mg	32 mg	40 mg	50 mg	63 mg	80 mg	100 mg
PARALYSIS											
Succinylcholine	6 mg	8 mg	10 mg	13 mg	17 mg	20 mg	26 mg	33 mg	40 mg	53 mg	66 mg
Rocuronium	3 mg	4 mg	5 mg	7 mg	9 mg	10 mg	13 mg	17 mg	21 mg	27 mg	33 mg
MAINTENANCE*											
Vecuronium	0.3 mg	0.4 mg	0.5 mg	0.7 mg	0.9 mg	1 mg	1.3 mg	1.7 mg	2.1 mg	2.7 mg	3.3 mg
Lorazepam	0.15 mg	0.2 mg	0.25 mg	0.3 mg	0.4 mg	0.5 mg	0.6 mg	0.8 mg	1 mg	1.3 mg	1.6 mg
EQUIPMENT											
ET Tube (mm)	3.5 unc/3.0 cuff	3.5 unc/3.0 cuff	3.5 unc/3.0 cuff	3.5 unc/3.0 cuff	3.5 unc/3.0 cuff	4.0 unc/3.5 cuff	4.5 unc/4.0 cuff	5.0 unc/4.5 cuff	5.5 unc/5.0 cuff	5.5 cuff	6.0 cuff
Lip-Tip (cm)	9–9.5	9.5–10	10–10.5	10–10.5	10.5–11	11–12	12.5–13.5	14–15	15.5–16.5	17–18	18.5–19.5
Suction	8 F	8 F	8 F	8 F	8 F	8–10 F	10 F	10 F	10 F	10 F	12 F
L-Scope blade	1 St.	1 St.	1 St.	1 St.	1 St.	1 St.	2 St./Cvd.	2 St./Cvd.	2 St./Cvd.	2–3 St./Cvd.	2–3 St./Cvd.
Stylet	6 F	6 F	6 F	6 F	6 F	6 F	10 F	10 F	10 F	14 F	14 F
Oral Airway	50 mm	50 mm	50 mm	50 mm	50 mm	60 mm	60 mm	60 mm	70 mm	80 mm	80 mm
NP Airway	14 F	14 F	14 F	14 F	14 F	18 F	20 F	22 F	24 F	26 F	26 F
$ETCO_2$ Detector	PED	PED	PED	PED	PED	PED	PED	ADULT	ADULT	ADULT	ADULT
BVM (min vol mLs)	450	450	450	450	450	450	450	450–750	750–1000	750–1000	1000
LMA	1	1	1	1.5	1.5	2	2	2	2-2.5	2.5	3
VENTILATION											
Tidal Volume mL	20–30	24–40	30–50	40–65	50–85	65–105	80–130	100–165	125–210	160–265	200–330
Frequency (BPM)	20–25	20–25	20–25	20–25	20–25	15–25	15–25	15–25	12–20	12–20	12–20
Insp. time (sec)	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8

* Continuous infusions can be used for maintenance of post-intubation sedation. Dosing is on the other side of the card.

START Modified ADULT

(size, + 2° sex characteristics)

Move the Walking Wounded	MINOR
No Respirations after Head Tilt	EXPECTANT

CONTROL BLEEDING

Respiratory Distress (> 30/min)	IMMEDIATE
Perfusion (No Radial Pulse)	IMMEDIATE
Mental Status (Unable to Follow Commands)	IMMEDIATE
Normal RPM, Follows Commands	DELAYED

CONDUCT SECONDARY TRIAGE IN THE TREATMENT PHASE

FL MCI LEVELS

MCI Level 1: 5-10 victims
MCI Level 2: 11-20 victims
MCI Level 3: 21-100 victims
MCI Level 4: 100 -1000 victims
MCI Level 5: Over 1000 victims

July 2021

On PEDReady website

IMMEDIATE	Red
DELAYED	Yellow
MINOR	Green
EXPECTANT	Black

JumpSTART Modified

(Newborn to Young Adult*)

Move the Walking Wounded	MINOR
No Respirations and No Peripheral Pulse	EXPECTANT
Respiratory Rate: > 45/min, < 15/min or ↑Work of Breathing, obvious distress	IMMEDIATE
No Respirations with Peripheral Pulse Give 5 Ventilations via Barrier Device Spontaneous Respirations Resume after 5 Ventilations	IMMEDIATE
No Spontaneous Respirations Resume after 5 Ventilations	EXPECTANT

CONTROL BLEEDING

Perfusion (No Palpable Pulse)	IMMEDIATE
Mental Status** Unresponsive or not localizing pain	IMMEDIATE
Alert, responds to voice, localizes pain	DELAYED

*Presence of 2° sex characteristics; **Consider developmental level

CONDUCT SECONDARY TRIAGE IN THE TREATMENT PHASE

Pediatric Pain and Fever Dosing Guide

Acetaminophen (Tylenol®) **Dosing Table** – every 4-6 hours as needed									
Child's Age	0-3 m	4-11 m	12-23 m	2-3 y	4-5 y	6-8 y	9-10 y	11-12 y	12+ y
Weight (pounds)	6-11 lbs	12-17 lbs	18-23 lbs	24-35 lbs	36-47 lbs	48-59 lbs	60-71 lbs	72-95 lbs	96+ lbs
Weight (kilograms)	3-5 kg	6-7 kg	8-10 kg	11-15 kg	16-21 kg	22-26 kg	27-32 kg	33-43 kg	44+ kg
Liquid 160mg/5mL (mL)	1.25 mL	2.5 mL	3.75 mL	5 mL	7.5 mL	10 mL	12.5 mL	15 mL	20 mL
Liquid 160mg/5mL (tsp)	--	½ tsp	¾ tsp	1 tsp	1 ½ tsp	2 tsp	2 ½ tsp	3 tsp	4 tsp

Ibuprofen (Advil®/Motrin®) **Dosing Table** – every 6-8 hours as needed									
Child's Age	0–6 m	6-11 m	12-23 m	2-3 y	4-5 y	6-8 y	9-10 y	11-12 y	12+ y
Weight (pounds)	0-11 lbs	12-17 lbs	18-23 lbs	24-35 lbs	36-47 lbs	48-59 lbs	60-71 lbs	72-95 lbs	96+ lbs
Weight (kilograms)	0-5 kg	6-7 kg	8-10 kg	11-15 kg	16-21 kg	22-26 kg	27-32 kg	33-43 kg	44+ kg
Drops 50mg/1.25mL (mL)	--	1.25 mL	1.875 mL	2.5 mL	3.75 mL	5 mL	--	--	--
Liquid 100mg/5mL (mL)	--	2.5 mL	4 mL	5 mL	7.5 mL	10 mL	12.5 mL	15 mL	20 mL
Liquid 100mg/5mL (tsp)	--	--	--	1 tsp	1 ½ tsp	2 tsp	2 ½ tsp	3 tsp	4 tsp

* Ideal dosing is based on **weight**, not age. Use a dosing syringe if possible. 1 teaspoon = 5 mL

UF Department of Emergency Medicine
College of Medicine – Jacksonville
UNIVERSITY of FLORIDA

PAMI
Pain Assessment and Management Initiative

National PRP Prehospital Pediatric Readiness EMS AGENCY CHECKLIST

Prehospital Pediatric Readiness Project
Ensuring Emergency Care for All Children

This checklist is based on the 2020 joint policy statement "Pediatric Readiness in Emergency Medical Services Systems", co-authored by the Academy of Pediatrics (AAP), American College of Emergency Physicians (ACEP), Emergency Nurses Association (ENA), National Association of EMS Physicians (NAEMSP), and National Association of EMTs (NAEMT). Additional details can be found in the AAP Technical Report "Pediatric Readiness in Emergency Medical Services Systems".

Use this tool to check if your EMS agency is ready to care for children as recommended in the Policy Statement. Consider using resources compiled by the Health Resources & Services Administration's Emergency Medical Services for Children (EMSC) Program when implementing the recommendations noted here, to include the Prehospital Pediatric Readiness Toolkit.

Education & Competencies for Providers

- [ ] Process(es) for ongoing pediatric specific education using one or more of the following modalities:
  - Classroom/in-person didactic sessions
  - Online/distributive education
  - Skills stations with practice using pediatric equipment, medication and protocols
  - Simulated events

Process for evaluating pediatric-specific competencies for the following types of skills:

- [ ] Psychomotor skills, such as, but not limited to:
  - Airway management
  - Fluid therapy
  - Medication administration
  - Vital signs assessment
  - Weight assessment for medication dosing and equipment sizing
  - Specialized medical equipment
- [ ] Cognitive skills, such as, but not limited to:
  - Patient growth and development
  - Scene assessment
  - Pediatric Assessment Triangle (PAT) to perform assessment
  - Recognition of physical findings in children associated with serious illness
- [ ] Behavioral skills, such as, but not limited to:
  - Communication with children of various ages and with special health care needs
  - Patient and family centered care
  - Cultural awareness
  - Health care disparities
  - Team communication

Equipment and Supplies

- [ ] Utilize national consensus recommendations to guide availability of equipment and supplies to treat all ages
- [ ] Process for determining competency on available equipment and supplies

Patient and Medication Safety

- [ ] Utilization of tools to reduce pediatric medication dosing and administration errors, such as, but not limited to:
  - Length based tape
  - Volumetric dosing guide
- [ ] Policy for the safe transport of children
- [ ] Equipment necessary for the safe transport of children

Patient- and Family-Centered Care in EMS

Partner with families to integrate elements of patient- and family-centered care in policies, protocols, and training, including:

- [ ] Using lay terms to communicate with patients and families
- [ ] Having methods for accessing language services to communicate with non–English speaking/non-verbal patients and family members
- [ ] Narrating actions, and alerting patients and caregivers before interventions are performed

Policies and procedures that facilitate:

- [ ] Family presence during resuscitation
- [ ] The practice of cultural or religious customs
- [ ] A family member or guardian to accompany a pediatric patient during transport

Policies, Procedures, and Protocols (to Include Medical Oversight)

- [ ] Prearrival instructions identified in EMS dispatch protocols include pediatric considerations, when relevant, such as, but not limited to:
  - Respiratory distress
  - Cardiac arrest
  - Choking
  - Seizure
  - Altered consciousness
- [ ] Policies, procedures, and protocols include pediatric considerations, such as, but not limited to:
  - Policy on pediatric refusals
  - Pediatric assessment
  - Consent and treatment of minors
  - Recognition and reporting of child maltreatment
  - Trauma triage
  - Children with special health care needs
- [ ] Direct medical oversight integrates pediatric-specific knowledge
- [ ] Protocols (indirect medical oversight) include pediatric evidence when available
- [ ] Destination policy that integrates pediatric-specific resources

Quality Improvement (QI)/ Performance Improvement (PI)

- [ ] PI process includes pediatric encounters
- [ ] Pediatric-specific measures are included in the PI process
- [ ] Submission of EMS agency data to the state's prehospital patient care database
- [ ] Submitted data is compliant with the current version of NEMSIS (version 3.x or higher)
- [ ] Process to track pediatric patient centered outcomes across the continuum of care, such as, but not limited to:
  - Transport destination
  - Secondary transport destination
  - ED and hospital disposition
  - ED and hospital diagnoses
  - Survival to hospital admission
  - Survival to hospital discharge

Interaction with Systems of Care

Policies, procedures, protocols, and performance improvement initiatives involve ongoing collaboration with:

- [ ] Pediatric emergency care
- [ ] Public health
- [ ] Family advocates

Plans and exercises for disasters or mass casualty incidents include:

- [ ] Care of pediatric patients, such as, but not limited to:
  - Pediatric mental health first aid
  - Pediatric disaster triage
  - Pediatric dosing of medications used as antidotes
  - Pediatric mass transport
- [ ] Tracking of unaccompanied children
- [ ] Family reunification
- [ ] Collaborate with external personnel or have internal staff focused on enhancing pediatric care, such as, but not limited to:
  - Pediatric emergency care coordinator (PECC)
  - Regional PECC
  - Pediatric advisory council(s)
  - Medical director with pediatric knowledge and experience
- [ ] Understand pediatric capabilities at local and/or regional emergency departments for children with the following types of conditions:
  - Medical emergency
  - Traumatic injury
  - Behavioral health emergency
- [ ] Policies and/or procedures for transfer of responsibility of patient care at destination

Revised May 20, 2021

To provide feedback on this checklist, please email pprp@emscimprovement.center

For additional information on the Prehospital Pediatric Readiness Project (PPRP), visit: https://emscimprovement.center/domains/prehospital-care/prehospital-pediatric-readiness

Communication Cards

for Children & Adults

Communication cards are used to assist EMS, emergency triage and healthcare providers in communicating with nonverbal and non-English speaking patients and their families.

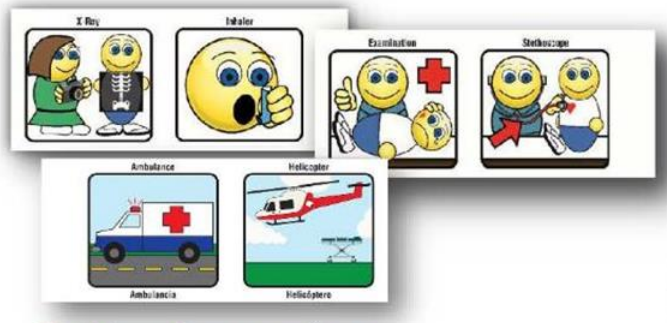
- History taking and assessment
- Pain, mechanism of injury
- Explanation of treatments
- Procedures and testing
- Discharge instructions

Available in multiple languages:
English/Spanish and English/Haitian Creole

FLORIDA PEDREADY Medical Communication Cards

Great for EMS, clinical settings and hospitals!

Cards are attached on a ring clip and made of durable material that can be cleaned and used with a dry erase marker.



The 18 cards use emojis to explain a particular topic or aspect of medical care.

Download your own copy by scanning below or call 904-244-4986 to request hard copies!

For more information visit:
pami.emergency.med.jax.ufl.edu
emlrc.org/flpedready

June 2020

Funding provided by Florida Medical Malpractice Joint Underwriting Association, University of Florida College of Medicine – Jacksonville Department of Emergency Medicine (PAMI, FBCSI), Children's Miracle Network and Florida EMS-C Program.

PAMI™
Pain Assessment and Management Initiative
pami.emergency.med.jax.ufl.edu/
November 2020

Pain Management & Dosing Guide™

*See disclaimer. Dosages and opioid conversions cannot account for differences in genetics and pharmacokinetics.

Pain Management and Dosing Guide Includes:

- Stepwise Approach to Pain Management and Procedural Sedation
- Non-opioid Analgesics, Opioid Prescribing and Equianalgesic Chart, and Opioid Cross-Sensitivities
- Intranasal and Nebulized Medications
- Procedural Sedation and Analgesia (PSA) Medications
- Pain Management, Discharge and Patient Safety Considerations
- Nerve Blocks, Neuropathic and Muscle Relaxer Medications
- Ketamine Indications and Dosing
- Topical and Transdermal Medications
- Nonpharmacologic and other Interventions

Take a video tour of the dosing guide!

Stepwise Approach to Pain Management

1. Situation Checkpoint
What are you trying to accomplish?
Analgesia, anxiolysis, sedation, or procedure.

2. Developmental/Cognitive Checkpoint
What is the patient's development stage?
Language barrier or nonverbal patient?

3. Family Dynamic Checkpoint
Who is caring for the patient?
What are the family dynamics?

4. Facility Checkpoint
Type of staffing and setting, team experience, patient volume, etc.

5. Patient Assessment Checkpoint
Review patient's risk factors and history.

6. Management Checkpoint
Choose your "ingredients" for pharmacologic and nonpharmacologic multimodal "recipe."

7. Monitoring & Discharge Checkpoint
Joint Commission standards, facility policies, reassessments, and discharge planning.

Funding provided by Florida Medical Malpractice Joint Underwriting Association (FMMJUA) and the University of Florida College of Medicine-Jacksonville, Department of Emergency Medicine.

PANEL A

PANEL B

Non-Opioid Analgesics*

Generic (Brand)	Adult	Pediatric (<12 yo)
Acetaminophen (Tylenol®)	325-650 mg PO q 4-6 h Max: 4 g/day	15 mg/kg PO q 4-6 h Max: 75 mg/kg/day
Acetaminophen IV (Ofirmev®) Use only if not tolerating PO	1 g IV q 6 h Max: 4 g/day or 650 mg q 4 h prn pain	<50 kg 15 mg/kg IV q 6 h or 12.5 mg/kg IV q 4 h prn pain Max: 75 mg/kg/day
Celecoxib (Celebrex®)	100-200 mg PO daily to q 12 h Max: 400 mg/day	≥ 2 yo to adult: 10-25 kg: 50 mg PO BID; > 25 kg: 100 mg BID
Ibuprofen (Motrin®)	400-800 mg PO q 6 to 8 h Max: 3200 mg/day	10 mg/kg PO q 6 to 8 h Max: 40 mg/kg/day or 2400 mg/day
Ketorolac (Toradol®)	15 mg IV or 30 mg IM q 6 h Max: 120 mg/d x 5 day	0.5 mg/kg IM/IV q 6 h up to 72 h Max: 30 mg/dose IM, 15 mg/dose IV
Naproxen (Naprosyn®)	250-500 mg PO q 12 h	≥ 2 yo 10 mg/kg/day PO div q 8-12 h
Meloxicam (Mobic®)	7.5-15 mg PO daily	≥ 2 yo 0.125 mg/kg/dose NTE adult dose

*Avoid NSAIDs in renal dysfunction, PUD, CHF, < 6 mo of age, >20 wks pregnant. Use with caution in elderly and those with cardiovascular risks. Give with food. For pediatrics, do not exceed adult dosage.

Opioid Prescribing and Equianalgesic Chart (*based upon 2019 ASHP recommendations)

Generic (Brand)	Onset (O) and Duration (D)		*Approximate Equianalgesic Dose		Recommended *STARTING* dose for ADULTS		Recommended *STARTING* dose for CHILDREN (> 6 mo)	
	Oral	IV	Oral	IV	Oral	IV	Oral	IV
Morphine (MSIR®) [CII]	O: 30-60 min D: 3-6 h	O: 5-10 min D: 3-6 h	25 mg	10 mg	5-10 mg q 4 h	2-4 mg q 2-4 h	0.3 mg/kg q 4 h	0.1 mg/kg q 2-4 h
Hydromorphone (Dilaudid®) [CII]	O: 30 min D: 4-6 h	O: 5 min D: 3-4 h	5 mg	2 mg	2-4 mg q 4 h	0.2-1 mg q 2-3 h	0.06 mg/kg q 4-6 h	0.015 mg/kg q 2-4 h
Hydrocodone/APAP 325 mg (5, 7.5, 10 mg) (CII) (7.5 mg/325 mg per 15 mL)	O: 30-60 min D: 4-6 h	–	25 mg	–	5-10 mg q 6 h	–	> 2 yo: 0.1-0.15 mg/kg q 4-6 h	–
Fentanyl (CII) (Sublimaze® Duragesic®) *Patch for opioid tolerant patients ONLY*	Transdermal O: 12-24 h D: 72 h per patch	O: <1 min D: 30-60 min	–	150 mcg (0.15 mg)	Do not use in opioid naive pt.	50 mcg q 1-2 h	Do not use in opioid naive pt.	1-2 mcg/kg q 1-2 h (max 50 mcg/dose)
Methadone (Dolophine®) [CII] *Opioid tolerant patients ONLY*	O: 30-60 min D: >8 h (chronic use)	–	Variable	Variable	2.5 mg q 6-12 h	–	0.7 mg/kg/day PO/SC/IM/IV ÷ q 4-6 h prn severe chronic pain	
Oxycodone 5, 15, 30 mg (Roxicodone®), Oxycodone 5, 7.5, 10 mg/ APAP 325 mg (Percocet®) [CII]	O: 10-15 min D: 3-6 h	–	20 mg	–	5-10 mg q 6 h	–	0.05-0.15 mg/kg q 4-6 h	–
Tramadol (Ultram®) [CIV] Not recommended in nursing mothers.	O: 1 h D: 3-6 h	–	120 mg	–	50-100 mg q 6 h Max: 400 mg/day	–	–	–
Tapentadol (Nucynta®) [CII]	O: 30 min D: 4-6 h	–	100 mg	–	50 mg q 4-6 h	–	–	–

Opioid Cross-Sensitivities

Phenanthrenes (related to morphine): morphine, codeine, oxycodone, hydrocodone, hydromorphone
Phenylpiperidines (related to meperidine): meperidine, fentanyl
Risk of cross-sensitivity in patients with allergies is greater when medications from the same opioid family are administered.

Intranasal* and Nebulized Medications

Generic	Dose	Max Dose	Comments
Fentanyl	IN: 1.5-2 mcg/kg q 1-2 h Neb: 1.5 4 mcg/kg	4 mcg/kg or 100 mcg	Divide dose equally between each nostril
Midazolam (5 mg/mL)	IN: 0.3 mg/kg	10 mg or 1 mL per nostril (total 2 mL)	Divide dose equally between each nostril
Lidocaine	Neb: 4% (40 mg/mL) 100-200 mg or 2.5-5 mL	4.5 mg/kg total or 300 mg	>5 mg/kg associated with serious toxicity

*Use MOST concentrated form available with atomizer. Limit 1 mL/nare. Ketamine in separate table.

Lidocaine for renal colic: 1.5 mg/kg IV (Max 200 mg) in 100 mL NS over 10-15 min. Cardiac monitoring preferred.
Contraindications: Pregnancy, cardiac arrhythmias, CAD, age >65 yo, hepatic/renal failure, epilepsy, Amide allergy

PANEL C

Procedural Sedation and Analgesia Medications

Generic (Brand)	Adult	Pediatric	Comments
Ketamine (Ketalar®)	IV 0.5-1.0 mg/kg IM 4-5 mg/kg	>3 mo: IV 1-2 mg/kg; additional doses 0.5 mg/kg IV q 10-15 min prn; IM 4 - 5 mg/kg	Small risk of laryngospasm increases with active asthma, URI and procedures involving posterior pharynx; vomiting is common, consider pretreatment with anti-emetic Not recommended in patients <3 mo.
Midazolam (Versed®)	IV 0.05-0.1 mg/kg IV slow push over 1-2 min	IV 0.05-0.1 mg/kg IN 0.2-0.3 mg/kg (IN max 10 mg)	Initial max dose 2 mg. Max total dose in >60 yo is 0.1 mg/kg Decrease dose by 33-50% when given with opioid
Propofol (Diprivan®)	IV 0.5-1 mg/kg slow push (1-2 min); additional doses 0.25-0.5 mg/kg over 1-3 min	IV 1 mg/kg slow push (1-2 min); additional doses 0.5 mg/kg	Risk of apnea, hypoventilation, respiratory depression, rapid changes in sedative depth, hypotension; provides no analgesia
Etomidate (Amidate®)	IV 0.1 - 0.2mg/kg; additional doses 0.05mg/kg		Risk of myoclonus (premedication w/ benzo or opioid can decrease), pain with injection, nausea and vomiting, risk of adrenal suppression, provides no analgesia
Ketamine + Propofol	–	IV ketamine 0.75 mg/kg + propofol 0.75 mg/kg Additional doses: ketamine 0.3 mg/kg, propofol 0.5-1 mg/kg	See ketamine and propofol comments respectively
Dexmedetomidine (Precedex®)	IV 1 mcg/kg loading dose (over 10 min) followed by 0.5 to 2 mcg/kg/h continuous infusion. Use 0.5 mcg/kg for geriatric patients	IV 0.5-2 mcg/kg loading dose (over 10 m) followed by 0.5 to 2 mcg/kg/h continuous infusion IN 2-3 mcg/kg	Risk of bradycardia, hypotension, especially with loading dose or rapid infusions, apnea, bronchospasm, respiratory depression
Nitrous oxide	–	50% N2O/50% O2 inhaled	Do not use if acute asthma exacerbation, suspected pneumothorax/other trapped air or head injury with altered level of consciousness
Morphine	IV 0.05-0.1 mg/kg or 5-10 mg	IV 0.1-0.2 mg/kg, titrated to effect	Monitor mental status, hemodynamics, and histamine release. Requires longer recovery time than fentanyl. Difficult to titrate during procedural sedation due to slower onset and longer duration of action. Reduce dosing when combined with benzodiazepines (combination increases risk of respiratory compromise)
Fentanyl	IV 0.5-1 mcg/kg	1-3 yo: 2 mcg/kg; 3-12 yo 1-2 mcg/kg	100 times more potent than morphine; Rapid bolus infusion may lead to chest wall rigidity. Reduce dosing when combined with benzodiazepines and in elderly. Preferred agent due to rapid onset and short duration.

Pain Management Considerations

- Type of pain: nociceptive, neuropathic, inflammatory
- Acute vs. chronic vs. acute-on-chronic pain exacerbation
- Pain medication history: OTC, Rx and PDMP
- Patient factors: genetics, culture, age, comorbidities, past pain experiences and mental health
- **For pediatrics, do not exceed adult dosage**
- Pharmacologic Interventions: systemic, topical, transdermal, nerve block
  - *Dose based on ideal body weight*
- Nonpharmacologic Interventions
- Refer to pain, palliative or other specialists for advanced treatment

Reassessment

- Reassess pain and monitor for medication efficacy and side effects
- Use scale that is age and cognitively appropriate
- If no improvement, adjust regimen

Discharge Planning & Patient Safety

- Assess and counsel regarding falls, driving, work safety, and medication interactions
- Bowel regimen for opioid induced constipation
- Vital signs and oral intake before discharge
- Document all pain medications administered and response at time of disposition
- Consider OTC and nonpharmacologic options
- Can patient implement pain management plan?
  - Insurance coverage, transportation, etc.

For more information on Discharge Planning, visit pami.emergency.med.jax.ufl.edu/resources/discharge-planning

Pediatric Emergency ABCs and More*

hemlrc.org/flpedready

Last updated 11/16/2020

AIRWAY

Airway Equipment

ZONE	3 kg	4 kg	5 kg	PIN	RED	PUR	YEL	WHI	BLU	ORG	GRN
Weight (kg)	3	4	5	6-7	8-9	10-11	12-14	15-18	19-23	24-29	30-36
ET Tube (mm)	3.5 unc/ 3.0 cuff	3.5 unc/ 3.0cuff	3.5 unc/ 3.0 cuff	3.5 unc/ 3.0 cuff	3.5 unc/ 3.0 cuff	4.0 unc/ 3.5 cuff	4.5 unc/ 4.0 cuff	5.0 unc/ 4.5 cuff	5.5 unc/ 5.0 cuff	5.5 cuff	6.0 cuff
Lip-Tip (cm)	9-9.5	9.5-10	10-10.5	10-10.5	10.5-11	11-12	12.5-13.5	14-15	15.5-16.5	17-18	18.5-19.5
Suction	8F	8F	8F	8F	8F	8-10F	10F	10F	10F	10F	12F
L-Scope blade	1 St.	1 St.	1 St.	1 St.	1 St.	1 St.	2 St./Cvd.	2 St./Cvd	2 St./Cvd	2-3 St./Cvd.	2-3 St./Cvd.
Stylet	6F	6F	6F	6F	6	6F	10F	10F	10F	14F	14F
Oral Airway	50mm	50mm	50mm	50mm	50mm	60mm	60mm	60mm	70mm	80mm	80mm
NP Airway	14F	14F	14F	14F	14F	18F	20F	22F	24F	26F	26F
BVM (min vol mLs)	450	450	450	450	450	450	450	450-750	750-100	750-1000	1000
LMA	1	1	1	1.5	1.5	2	2	2	2-2.5	2.5	3

Unc = uncuffed

AGE ESTIMATION CHART

COLOR	WEIGHT	AGE
GREY	3-5 kg	< 3 mo
PINK	6-7 kg	3-5 mo
RED	8-9 kg	6-11 mo
PURPLE	10-11 kg	12-24 mo
YELLOW	12-14 kg	2 yrs
WHITE	15-18 kg	3-4 yrs
BLUE	19-23 kg	5-6 yrs
ORANGE	24-29 kg	7-9 yrs
GREEN	30-36 kg	10-11 yrs

RSI MEDICATIONS

ZONE	3 kg	4 kg	5 kg	PINK	RED	PUR	YEL	WHI	BLU	ORG	GRN
Weight (kg)	3	4	5	6-7	8-9	10-11	12-14	15-18	19-23	24-29	30-36
PRE											
Atropine	0.06mg	0.08mg	0.1mg	0.13mg	0.17mg	0.2mg	N/A	N/A	N/A	N/A	N/A
INDUCTION											
Etomidate	0.9mg	1.2mg	1.5mg	2mg	2.5mg	3.2mg	4mg	5mg	6.3mg	8mg	10mg
Ketamine	6mg	8mg	10mg	13mg	17mg	20mg	26mg	33mg	42mg	53mg	66mg
Propofol	9mg	12mg	15mg	20mg	25mg	32mg	40mg	50mg	63mg	80mg	100mg
PARALYSIS											
Succinylcholine	6mg	8mg	10mg	13mg	17mg	20mg	26mg	33mg	40mg	53mg	66mg
Rocuronium	3mg	4mg	5mg	7mg	9mg	10mg	13mg	17mg	21mg	27mg	33mg
MAINTENANCE											
Vecuronium	0.3mg	0.4mg	0.5mg	0.7mg	0.9mg	1mg	1.3mg	1.7mg	2.1mg	2.7mg	3.3mg
Lorazepam	0.15mg	0.2mg	0.25mg	0.3mg	0.4mg	0.5mg	0.6mg	0.8mg	1mg	1.3mg	1.6mg

Airway Differences

	Infants	Adults
Head	Large prominent occiput—flexed neck	Flat occiput
Tongue	Relatively larger	Relatively smaller
Epiglottis	Omega sign or "U" shape	Flat, flexible
Vocal Cords	Short, concave	Perpendicular to trachea
Smallest Diameter	Cricoid ring, below cords	Vocal cords
Cartilage	Soft	Firm
Secretions	Increased	Normal
Main Breathing Orifice	Preferential nose breathers	Either, mainly mouth

BREATHING

Ventilator Settings

Zone	3 kg	4 kg	5 kg	PINK	RED	PUR	YEL	WHI	BLU	ORG	GRN
Tidal Vol. (mL)	20-30	24-40	30-50	40-65	50-85	65-105	80-130	100-165	125-210	160-265	200-330
Ventilator Rate (BPM)	20-25	20-25	20-25	20-25	20-25	15-25	15-25	15-25	12-20	12-20	12-20
Insp. Time (sec)	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8
PEEP	3-5 cm; Avoid peak pressures >40 or mean >30										
PIP	Start at 16, avg. 20-30 cm, increase by increments of 2 until appropriate minute ventilation										

Normal Pediatric Respiratory Rates

Age	Rate (breaths per minute)
Infant (birth–1yr)	30–60
Toddler (1–3yrs)	24–40
Preschooler (3–6yrs)	22–34
School-age (6–12yrs)	18–30
Adolescent (12–18yrs)	12–16

Mechanical Ventilation Considerations

Support Modes– *spontaneous breathing*

Pressure Support:
Fixed pressure; variable volume w/every sensed breath.

Volume Support:
Fixed TV; pressure variable w/every senses breath-based on proximity to goal vol.

CPAP: *(Continuous Positive Airway Pressure)*
The ventilator always maintains pressure in the circuit; patient takes breath —> ventilator increases flow.

NAVA: *(Neurally Adjusted Ventilatory Assist)*
Support varies depending on sensed diaphragmatic effort.

Non-invasive Ventilation: (Bipap™)
Can have different inspiratory & expiratory pressures, or straight CPAP.

Control Modes– *all breaths controlled*

PRVC: *(Pressure Regulated Volume Control)*:
Tidal volume set; delivered w/ a decelerating flow pattern to try to keep peak pressure under a set limit.

Pressure Control:
Set pressure over PEEP for each breath.

Volume Control:
Set TV delivered at constant flow rate—Seldom used.

SIMV: *(Synchronized Intermittent Mandatory ventilation)*:
A hybrid between Control and Support. A portion of the breaths (the SIMV breaths) are controlled, the remaining spontaneous breaths are supported. SIMV can be done w/ any type of breath (PRVC, PC or VC).

Chest Tube Sizes

Weight (kg)	Pneumothorax/Transudate	Exudate	Pigtail 5F-12F
<3	8-10	10-12	8.5
3-8	10-12	12-16	8.5
8-15	12-16	16-20	10-12
16-40	16-20	20-28	12-14
>40	20-24	28-36	12-14

Airway DOPE Mnemonic

Dislodged tube
Obstructed tube
Pneumothorax
Equipment failure

CIRCULATION

Initial Maintenance Fluid Rates

Bodyweight (kg)	Maintenance Rate
0-10	4 mL/kg/hr
11-20	40 mL/ + 2 mL/kg/hr for each kg over 10 kg
21-70	60 mL/ + 1 mL/kg/hr for each kg over 20 kg

Ex: Maintenance rate for a 15 kg child
40 + 10 (5 kg x 2) = 50 mL/hr
(or see weight/length-based dosing system)

Pediatric ECG Values

Age	Heart Rate (bpm)	QRS Axis (degrees)	PR interval (sec)	QRS Duration (sec)	R V1 mm	S V1 mm	R V6 mm	S V6 mm	SV1-RV6 mm
<1 day	94-155 (122)	58-168 (+135)	0.08-0.16 (0.11)	0.03-0.07 (0.05)	5-27 (14)	0.5-23 (9)	0-12 (5)	0.2-10 (4)	2-27 (13)
1-3 days	91-158 (124)	65-171 (+134)	0.08-0.14 (0.11)	0.03-0.07 (0.05)	5-27 (15)	0.5-21 (10)	0.1-12 (5)	0.2-10 (3)	2-28 (14)
3-7 days	90-166 (128)	76-168 (+133)	0.07-0.14 (0.10)	0.03-0.07 (0.05)	3-25 (13)	0.5-17 (7)	0.5-12 (5)	0.4-10 (4)	2-25 (12)
7-30 days	106-182 (148)	65-159 (+110)	0.07-0.14 (0.10)	0.03-0.08 (0.05)	3-22 (11)	0.5-14 (14)	3-17 (8)	0.2-10 (3)	3-22 (12)
1-3 mo	120-179 (149)	31-115 (+75)	0.07-0.13 (0.10)	0.03-0.08 (0.05)	3-19 (10)	0.5-13 (5)	5-22 (12)	0.3-7 (3)	6-29 (17)
3-6 mo	105-185 (142)	7-105 (+60)	0.07-0.15 (0.11)	0.03-0.08 (0.05)	3-20 (10)	0.5-17 (6)	6-23 (14)	0.2-10 (3)	7-35 (19)
6-12 mo	107-168 (132)	7-98 (+54)	0.07-0.15 (0.11)	0.03-0.08 (0.05)	2-20 (9)	0.5-18 (7)	6-23 (13)	0.2-8 (2)	7-33 (19)
1-3 yrs	90-151 (119)	8-100 (+55)	0.08-0.15 (0.11)	0.04-0.08 (0.06)	3-18 (9)	1-21 (9)	6-23 (14)	0.1-7 (2)	7-38 (22)
3-5 yrs	73-137 (108)	7-104 (+55)	0.09-0.16 (0.12)	0.04-0.08 (0.06)	2-18 (8)	2-22 (10)	9-25 (15)	0.1-6 (2)	13-42 (25)
5-8 yrs	65-133 (100)	10-140 (+66)	0.09-0.16 (0.12)	0.04-0.08 (0.06)	1-13 (7)	3-24 (12)	9-27 (17)	0.1-4 (1)	13-47 (28)
8-12 yrs	63-129 (92)	9-115 (+61)	0.09-0.16 (0.13)	0.04-0.09 (0.06)	0.5-10 (6)	3-26 (12)	10-26 (17)	0-4 (1)	15-45 (28)
12-16 yrs	66-120 (86)	11-133 (+58)	0.09-0.18 (0.14)	0.04-0.09 (0.07)	0.5-10 (5)	3-22 (11)	7-23 (15)	0-4 (1)	11-42 (25)

Cardiac Arrest Medications

Dopamine Drip	2-20 mcg/kg/minute
Epinephrine	0.01 **mg/kg** *OR* 0.1 **mL/kg** of 1:10,000 concentration q 3-5 min
Epinephrine Drip	0.1-2 mcg/kg/minute

Pediatric Blood Pressure

Hypotension = <70 + (age in years x 2)

Normal BP Ranges	Systolic (mm Hg)	Diastolic (mm Hg)	Mean Arterial (mm Hg)
Birth (12hr-<1000g)	39-59	16-36	28-42
Birth (12hr, 3kg)	60-76	31-45	48-57
Neonate (96hr)	67-84	35-53	45-60
Infant (1-12m)	72-104	37-56	50-62
Toddler (1-2yr)	86-106	42-63	49-62
Preschooler (3-5yr)	89-112	46-72	58-69
School-aged child (6-7yr)	97-115	57-76	66-72
Pre-adolescent (10-12yr)	102-120	61-80	71-79
Adolescent (13-15yr)	110-131	64-83	73-84

Pediatric Arrhythmia Management

Defibrillation	1st shock 2 J/kg, 2nd shock 4 J/kg, subsequent shocks >/=4 J/kg, max 10 J/kg or adult max dose
SVT	Start at 0.5-1 J/kg, if not effective, increase to 2 J/kg

QTc = QT (sec)/√RR(sec) = 0.xyz(sec) = xyz (milli sec)

Blood Transfusion Formula (1 unit pRBC's ≈ 250-300 ml's)

Vol to be transfused (mls) = Patient Weight (kg) x Aimed for increment of Hb (g/dl) x 5

Or 10-20 ml/kg for hemorrhagic shock

DISABILITY/ENVIRONMENT

AVPU

A	Awake
V	Responds to Verbal Stimulation
P	Responds to Painful stimulation
U	Unresponsive

PEDIATRIC GLASGOW COMA SCALE (PGCS)

	Infant <1yr	Child 1-4 yrs	4-Adult
	Eyes		
4	Open	Open	Open
3	To voice	To voice	To voice
2	To pain	To pain	To pain
1	No response	No response	No response
	Verbal		
5	Coos, babbles	Oriented, Speaks, interacts	Oriented and Alert
4	Irritable cry, consolable	Confused speech, disoriented, consolable	Disoriented
3	Cries persistently to pain	Inappropriate words, inconsolable	Nonsensical speech
2	Moans to pain	Incomprehensible, agitated	Moans, unintelligible
1	No response	No response	No response
	Motor		
6	Spontaneous movement	Spontaneous movement	Follows commands
5	Withdraws to touch	Localizes pain	Localizes pain
4	Withdrawals to pain	Withdrawals to pain	Withdrawals to pain
3	Decorticate flexion	Decorticate flexion	Decorticate flexion
2	Decerebrate extension	Decerebrate extension	Decerebrate extension
1	No response	No response	No response

Celsius to Fahrenheit Conversion Chart

CELSIUS (°C)	FAHRENHEIT (°F)	CELSIUS (°C)	FAHRENHEIT (°F)
26	78.8	35	95
27	80.6	36	96.8
28	82.4	37	98.6
29	84.2	38	100.4
30	86	39	102.2
31	87.8	40	104
32	89.6	41	105.8
33	91.4	42	107.6
34	93.2	43	109.4

Conversion Equation:
°C x 1.8 + 32 = °F OR °F – 32 /1.8 = °C

ABUSE: *TEN 4 FACES P*

Any bruising to the:

Torso, Ears, or Neck — 4 yrs or under

Frenulum, Angle of jaw, Cheek, Eyelid, Sclera

Pattern

Or **ANY** bruising ***4 months or under***

is a significant indicator of child abuse.

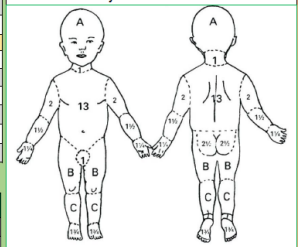
Burn Resuscitation Fluid Rates/Target Urine Output By Type & Age

Category of Burn	Age/weight	Adjusted Fluid Rates	Urine Output
Flame or Scald	Adults/Child (≥14yo)	2ml LR x kg x % TBSA	0.5ml/kg/hr 30-50ml/hr
	Child <14yo	3ml LR x kg x % TBSA	1ml/kg/hr
	Infants and young child (≤30kg)	2ml LR x kg x % TBSA + sugar containing solution at maintenance rate	1ml/kg/hr
Electrical	ALL AGES	4ml LR x kg x % TBSA until urine clears	1-1.5ml/kg/hr until urine clears

Lund and Browder Burn Chart

	Half of head (A)	Half of one thigh (B)	Half of one lower leg (C)
0 yr	9 1/2	2 3/4	2 1/2
1 yr	8 1/2	3 1/4	2 1/2
5 yr	6 1/2	4	2 3/4
10 yr	5 1/2	4 1/4	3
15 yr	4 1/2	4 1/4	3 1/4

Relative percentage of body surface area (%BSA) affected by growth
Do not include Superficial (first-degree) burns such as erythema or sunburns



Seizure & ICP Medications

3% Saline: 2-5 ml/kg IV over 20 min (max 250 ml)
Mannitol: 1 g/kg IV (infuse with filter)
Levetiracetam: 50-60 mg/kg IV (max 4500 mg)
Lorazepam: IV 0.1 mg/kg (max 4mg)
Fosphenytoin: 20 mg PE/kg IV (max 1500mg PE)

To learn more about this resource email pedready@jax.ufl.edu or visit www.emlrc.org/flpedready

Pediatric Emergency ABCs and More

www.emlrc.org/flpedready

Last updated 11/16/2020

PAIN MANAGEMENT & SEDATION

Do not exceed adult dosage

Access the complete PAMI Dosing Guide:

Acute Pain Medications

Generic (Brand)	Pediatric (<12 yo)
Acetaminophen (Tylenol®)	15 mg/kg PO q 4-6 h Max: 75 mg/kg/day
Acetaminophen IV (Ofirmev®) Use only if not tolerating PO	<50 kg 15 mg/kg IV q 6 h or 12.5 mg/kg IV q 4 h prn pain Max: 75mg/kg/day
Ibuprofen (Motrin®) (> 6 months)	10 mg/kg PO q 6 to 8 h Max: 40 mg/kg/day or 2400 mg/day
Ketorolac (Toradol®) (> 6 months)	0.5 mg/kg/ dose IM/IV q 6 h up to 72 h Max: 30 mg/dose IM, 15 mg/dose IV
Naproxen (Naprosyn®) (> 2 years)	10 mg/kg/ day PO div q 8-12 h
Morphine	IV 0.1 mg/kg q 2-4 h
Hydromorphone (Dilaudid®)	IV 0.015 mg/kg q 2-4 h
Fentanyl	IV 1-2 mcg/kg q 1-2 h (max 50 mcg/initial dose)
Hydrocodone/APAP 325 mg (5, 7.5, 10 mg) (7.5 mg/325 mg per 15 mL)	≥ 2 yo: 0.1-0.15 mg/kg q 4-6 h

Intranasal Medications

Generic	Dose	Max Dose	Comments
Fentanyl	**IN:** 1.5-2 mcg/kg q 1-2 h **Neb:** 1.5-4 mcg/kg	4 mcg/kg or 100 mcg	Use most concentrated form with an atomizer. 1 mL/nare max. Divide dose equally between each nare.
Midazolam (5 mg/mL)	**IN:** 0.3 mg/kg	10 mg or 1 mL per nostril (total 2 mL)	

Ketamine (Ketalar®)

Indications	Starting Dose
Procedural Sedation	**IV:** 1-2mg/kg;**IM:** 4-5 mg/kg
Sub-dissociative Analgesia	**IV:** 0.1 to 0.3 mg/kg; Max initial bolus 45mg **IM:** 0.5-1.0 mg/kg; **IN:** 0.5-1.0 mg/kg
Excited Delirium Syndrome	**IV:** 1 mg/kg; **IM:** 4-5 mg/kg

Nonpharmacologic Interventions*

Physical (Sensory) Interventions	Cognitive-Behavioral Interventions
Comfort positioning	Psychological preparation, education, or coaching
Cutaneous stimulation	Distraction tools: movies, games, videos, apps, toys with light/sound, bubbles, virtual reality
Nonnutritive sucking	Relaxation techniques (breathing, meditation, etc.)
Pacifier +/- sucrose solution	Music and singing
Pressure, massage	Aromatherapy
Hot or Cold treatments	Conversation and therapeutic language

***Used alone or in conjunction with pharmacologic interventions. Intervention based on age, developmental stage, setting and situation.**

For more information on nonpharmacologic options, visit: pami.emergency.med.jax.ufl.edu/resources/distraction-toolkit

PAMI Pain Assessment and Management Initiative

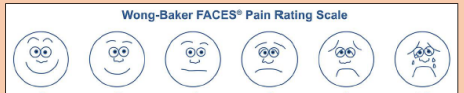
pami.emergency.med.jax.ufl.edu

Procedural Sedation and Analgesia

Generic (Brand)	Pediatric	Comments
Ketamine (Ketalar®)	>3 mo: IV 1-2 mg/kg; additional doses 0.5 mg/kg IV q 10-15 min prn; IM 4 - 5 mg/kg	Small risk of laryngospasm increases with active asthma, URI and procedures involving posterior pharynx; vomiting is common, consider pretreatment with anti-emetic..
Midazolam (Versed®)	IV 0.05-0.1 mg/kg IN 0.2-0.3 mg/kg (IN max 10 mg)	Initial max dose 2 mg. Max total dose in >60 yo is 0.1 mg/kg Decrease dose by 33-50% when given with opioid Initial max dose 2 mg.
Propofol (Diprivan®)	IV 1 mg/kg slow push (1-2 min); additional doses 0.5 mg/kg	Risk of apnea, hypoventilation, respiratory depression, rapid changes in sedative depth, hypotension; provides no analgesia
Etomidate (Amidate®)	IV 0.1 - 0.2mg/kg; additional doses 0.05mg/kg	Risk of myoclonus (premedication w/ benzo or opioid can decrease), pain with injection, nausea and vomiting, risk of adrenal suppression; provides no analgesia
Ketamine + Propofol	IV ketamine 0.75 mg/kg + propofol 0.75 mg/kg. Additional doses: ketamine 0.5 mg/kg, propofol 0.5-1 mg/kg	See ketamine and propofol comments respectively
Dexmedetomidine (Precedex®)	IV 0.5–2 mcg/kg loading dose (over 10 min) followed by 0.5 to 2 mcg/kg/h continuous infusion IN 2-3 mcg/kg	Risk of bradycardia, hypotension, especially with loading dose or rapid infusions, apnea, bronchospasm, respiratory depression
Nitrous oxide	50% N2O/50% O2 inhaled	Do not use if acute asthma exacerbation suspected pneumothorax/other trapped air or head injury with altered level of consciousness
Morphine	IV 0.1-0.2 mg/kg, titrated to effect	Monitor mental status, hemodynamics, and histamine release. Requires longer recovery time than fentanyl. Difficult to titrate during procedural sedation due to slower onset and longer duration of action. Reduce dosing when combined with benzodiazepines (combination increases risk of respiratory compromise)
Fentanyl	1-3 yo: 2 mcg/kg; 3-12 yo 1-2 mcg/kg	100 times more potent than morphine; Rapid bolus infusion may lead to chest wall rigidity. Reduce dosing when combined with benzodiazepines and in elderly. Preferred agent due to rapid onset and short duration.

COMMON PEDIATRIC PAIN SCALES

Wong-Baker FACES® Pain Rating Scale



FLACC SCALE

		0	1	2
1	FACE	No particular expression or smile	Occasional grimace or frown, withdrawn or disinterested	Frequent to constant frown, clenched jaw, quivering chin
2	LEGS	Normal position; relaxed	Uneasy, restless, tense	Kicking or legs drawn up
3	ACTIVITY	Lying quietly, normal position, easily moves	Squirming, shifting back and forth, tense	Arched, rigid or jerking
4	CRY	None (awake or asleep)	Moans or whimpers, occasional complaint	Crying steadily, scream or sobs, frequent complaints
5	CONSOLABILITY	Content, relaxed	Reassured by occasional touching, hugging or being spoken to, distractible	Difficult to console or comfort

MISCELLANEOUS INFORMATION

Weight (kg —> lbs)

(kg)	(lbs)	(kg)	(lbs)
0	0.0	37.5	82.7
2.5	5.5	40	88.2
5	11.0	42.5	93.7
7.5	16.5	45	99.2
10	22.0	47.5	104.7
12.5	27.6	50	110.2
15	33.1	52.5	115.7
17.5	38.6	55	121.3
20	44.1	57.5	126.8
22.5	49.6	60	132.3
25	55.1	62.5	137.8
27.5	60.6	70	154.3
30	66.1	72.5	159.8
32.5	71.7	75	165.3
35	77.2	77.5	170.9

1 kg = 2.20 lbs

Death Communication Tips: GRIEV_ING*

G- gather the family/community; insure that all members are present or identify representatives,
- Gather your inner strength (who if not you?) and Gather your team- 2 minimum, Doctor, if possible.

R- resources; call for support resources available to assist the family/community with their grief or the disaster at hand, i.e. community, hospital, chaplain services, ministers, family, and friends. Create list of resources.

I- identify yourself, identify the deceased or injured patient by name, identify the situation, and identify the state of knowledge of the family relative to the events of the day. Identify that you are bringing bad news.

E- educate; briefly educate the family as to the events that have occurred, educate them about the current state of their loved one(s), educate others about how they can help and not create more chaos.

V- verify that their family member has died or other events/bad news. Be clear! Use the words dead or died, missing, etc. No jargon. Be honest.

___ Space-give the family/community personal space and time for an emotional moment; allow the family time to absorb the information.
Stop talking. Family may scream, hit, etc. Protect yourself.

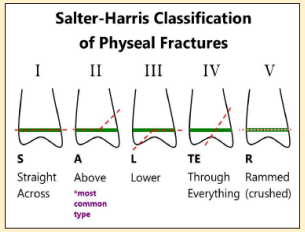
I- inquire; ask if there are any questions and answer them to the best of your ability. You don't have to be perfect. You may not have all the answers.

N- nuts and bolts; preparation; inquire about organ donation, funeral services, and personal belongings. Offer family opportunity to view the body/the site.

G- give them your card, hospital or community information. Offer to answer questions that may arise later. Return their call or establish a call center/resource.

*adapted from Hobgood, C. *The educational intervention "GRIEV_ING" improves the death notification skills of residents.* Acad Emerg Med. 2005 Apr;12(4):296-301.

Salter-Harris Classification of Physeal Fractures



Arterial Line Catheter Size by Age/Weight

Age	Weight (kg)	Gauge/French/Length
Infant	<10 kg	24 G or 2.5 F; 2.5 cm
Child	10 - 40 kg	22 G or 2.5 F; 2.5 cm
Adolescent	>40 kg	20 G

Central Venous Line Catheter Size by Age/Weight

Age (years)	Weight (kg)	Catheter Gauge	French Gauge	Length (cm)
< 1, newborn	4-8	24	3.0	5-12
<1	5-10	22	3.0-3.5	5-12
1-3	10-15	20	4.0	5-15
3-8	15-30	18-20	4.0-5.0	5-25
>8	30-70	16-20	5.0-8.0	5-30

Normal WBC Values

Age	White Blood Cells (x 10^3/µL)
Birth	9-30
1-3 days	9-38
4-7 days	5-21
7-14 days	5-20
15-60 days	5-20
2-5 months	5.5-18
6 months-1yr	6.0-17.5
1-3 years	6.0-17.0
3-5 years	5.5-15.5
6-10 years	4.5-14.5
10-15 years	4.5-13.5
15-20 years	4.5-12.5

Pediatric Trauma Score

Clinical Parameter	Parameter Category	Score	Clinical Parameter	Parameter Category	Score
Weight (kg)	≥ 20	2	CNS	Awake	2
	10-20	1		Obtunded/LOC	1
	<10	-1		Coma/decerebrate	-1
Airway	Normal	2	Open Wound	None	2
	Maintainable	1		Minor	1
	Unmaintable	-1		Major/penetrating	-1
SBP (mmHg)	≥90	2	Skeletal	None	2
	50-90	1		Closed fracture	1
	<50	-1		Open/multiple	-1

Hemoglobin/Hematocrit Normal Pediatric Values

Age	Hemoglobin (g/dL)	Hematocrit (%)
Term newborn	18.0-21.5	51-68
1-3 days	14.0-24.0	43-68
4-7 days	14.3-22.3	42-62
7-14 days	12.9-20.5	39-59
14-60 days	10.7-17.3	33-51
2-5 months	10.1-14.5	30-40
6 months-1yr	10.0-13.2	30-39
1-2 years	10.0-13.5	30-40
2-4 years	10.5-14.5	32-42
5-7 years	10.9-14.9	33-44
8-10 years	10.9-14.9	33-44
10-15 years	11.4-15.4	34-45

Key Pediatric Lab Values

Lab test	Age	Conventional Units	SI units
ALT	<12 mo	13–45 U/L	13–45 U/L
	1–3 yr	5–45 U/L	5–45 U/L
	4–6 yr	10–25 U/L	10–25 U/L
	7–11 yr	10–35 U/L	10–35 U/L
	12–13 yr	10–30 U/L (female) 10–55 U/L (male)	10–30 U/L 10–55 U/L
	>14 yr	5–30 U/L (female) 10–45 U/L (male)	5–30 U/L 10–45 U/L
ALKALINE PHOSPHATASE	Infant	150–420 U/L	150–420 U/L
	2–10 yr	100–320 U/L	100–320 U/L
	Adolescent	100–390 U/L	100–390 U/L
	Adult	30–120 U/L	30–120 U/L
AMMONIA	Newborn	90–150 mcg/dL	64–107 µmol/L
	0–2 wk	79–129 mcg/dL	56–92 µmol/L
	Infant/child	29–70 mcg/dL	21–50 µmol/L
	Adult	15–45 mcg/dL	11–32 µmol/L
AMYLASE	0–14 days	3–10 U/L	3–10 U/L
	15 days–13 wk	2–22 U/L	2–22 U/L
	13 wk–1 yr	3–50 U/L	3–50 U/L
	>1 yr	25–101 U/L	25–101 U/L
AST	0–10 days	47–150 U/L	47–150 U/L
	10 days–24 mo	9–80 U/L	9–80 U/L
	>24 mo	15–40 U/L	15–40 U/L
BICARBONATE	Newborn	17–24 mEq/L	17–24 mmol/L
	Infant	19–24 mEq/L	19–24 mmol/L
	2 mo–2 yr	18–24 mEq/L	16–24 mmol/L
	>2 yr	22–26 mEq/L	22–26 mmol/L
GLUCOSE	Preterm	20–60 mg/dL	1.1–3.3 mmol/L
	Newborn, <1 day	40–60 mg/dL	2.2–3.3 mmol/L
	Newborn, >1 day	50–90 mg/dL	2.8–5.0 mmol/L
	Child	60–100 mg/dL	3.3–5.5 mmol/L
	>16 yr	70–105 mg/dL	3.9–5.8 mmol/L
CSF	*Age*	*WBC Count/µL (median)*	*95th Percentile*
	0–28 days	0–12(3)	19
	29–56 days	0–6 (2)	9
	Child	0–7	

To learn more about this resource email pedready@jax.ufl.edu or visit www.emlrc.org/flpedready

Florida EMS for Children
Safe Transport Position Statement

The Florida EMS for Children Advisory Committee is comprised of state pediatric, emergency, trauma, and EMS professionals; in addition to family advocates with a mission to enhance pediatric readiness in EMS agencies, emergency departments, inter-facility transports, and prevention programs.

FL EMS-C and Florida PEDReady Goals for Pediatric Transportation

- All infant and pediatric patients should be transported using a commercially manufactured, appropriate sized, pediatric restraint device
- EMS and Fire personnel education regarding safe transport should be conducted through a variety of educational methods in order to understand restraint guidance and select devices
  - FL EMSC *Safe Transportation of Pediatric Patients* online training resource
  - Hands-on Training
  - Community Education
- Agencies are encouraged to implement a safe pediatric transport Standard Operating Procedure (SOP) or protocol

Florida EMSC/PEDReady Updates: Safe transport working group

Develop a position statement √
Develop a sample policy/SOP √
Develop an educational tool √ (Slide set, recording, resources)

Cost issue? Think of as a piece of equipment needed to manage a child

Florida EMS for Children
Safe Transport Project Update

Dissemination plan for FL EMSC slide set, recording and policy statement, sample SOP- Post on PEDReady website

NASEMSO Safe Transport of Pediatrics Committee discussed and recommended elimination of current and future updates to the Pediatric Transport Product for Ground Ambulances (v 2.2) document: https://nasemso.org/wp-content/uploads/Pediatric-Transport-Products-for-Ground-Ambulances_v2.2.pdf. After input from NASEMSO Pediatric Emergency Council and others the Board of Directors voted to table the decision, pending insight from states, districts, and territories.

Florida EMSC/PEDReady Updates: Neonatal and pediatric education

Pediatric and neonatal educational courses

a. OB service closures: AHCA

b. NRP vs PALS algorithms

c. Inventory list of available course

d. FNPTNA collaboration

Liaison and Constituency Group Reports

a. Rural update (Vause and McManus)
b. Florida FAN Report (Nasca)
c. Trauma: Program managers (Nichols), FTSAC, FCOT
d. Disaster (Downey, etc.)
e. Mental Health (Work)
f. Data Committee, Biospatial (EMSC dashboard)
g. Community Paramedicine/MIH/H.A.R.T. (Health-Access-Resiliency and Telehealth) Section (Bedford)
h. FL ENA (Rushing)
i. EMS Educators
j. ECCs (Rabish, Weed, Weishaupt, Walters)
k. Pediatric and neonatal transport (FNPTNA)
l. Injury prevention (Summers)
m. Children's Medical Services and Child Abuse
n. Other

New Business:
Upcoming courses, webinars, podcasts

Identifying Victims of Human Trafficking 5th Annual Symposium to Make a Difference, January 26th, Advent Health in cooperation with Florida Department of Children & Families and Howard Phillips Center for Children & Families, Children Advocacy Center

Bytes That You Can View (EMLRC/FAEMSMD), includes Baby 911 (1 CEU): https://emlrc.org/project/bytes/

Others?

Identifying Victims of Human Trafficking

5th Annual Symposium to Make a Difference

Did you know? Florida is ranked third in the nation for calls to the National Human Trafficking Hotline.

Health care providers, teachers, law enforcement and other members of our community can help combat human trafficking by learning the signs and ways to help potential victims.

Thursday, January 26, 2023

8 am to 4:30 pm

https://forms.office.com/r/4FxW5Gb7w8

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Presented in cooperation with:

Florida Department of Children & Families
The Howard Phillips Center for Children & Families | Children Advocacy Center

Nursing Continuing Education Credit Hours will be applied for through the Florida State Board of Nursing Provider Number NCE2012/CE, Broker Provider Number #50-724 and are pending approval.

New Business

EMSC Day (May 24, 2023) ideas

- Focus on neonatal education
- Handtevy webinar on the role of PECCs

TXA age limit recommendations and dosing for pediatric trauma

- Literature and sample protocols from FL EMS agencies and Trauma Centers

New Business: Next meeting

- Online meeting in Spring 2023

  Florida Biospatial EMSC dashboard

- 26th Anniversary of the First There First Care Conference & Gathering of Eagles June 12 -16, 2023; Seminole Hard Rock Hotel & Casino, Hollywood Florida
- National Association of State EMS Officials Annual Meeting June 11-15, 2023 | Reno, NV

Thank You PEDReady Champions!

- Questions, Comments and Announcements
- Send your photos, resources, stories!

pedready@jax.ufl.edu
904-244-4986
https://emlrc.org/flpedready/