Florida EMS-C Advisory Committee Meeting

Thursday, June 16, 2022, 1300 - 1500 EST

Seminole Hard Rock Hotel in Hollywood, FL

HRSA Maternal & Child Health

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

Welcome and Call to Order

Welcome new staff, committee members, liaisons, visitors and PECCs

- Kevin Meade, FL EMSC Coordinator (UF)
- Christina Parmer, FL EMS Administrative Services Manager & EMSC Project Director
- Jennifer McManus, Rural EMS Liaison / Region 6 CARES Coordinator

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

- For online participants, please mute your phones and do not put on hold; *6 to mute or unmute

FL EMSC and PEDReady Contact Information

Medical Director: Dr. Phyllis Hendry
Phyllis.hendry@jax.ufl.edu
904-625-2137 (mobile)
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

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

EMSC Advisory Committee and Liaisons

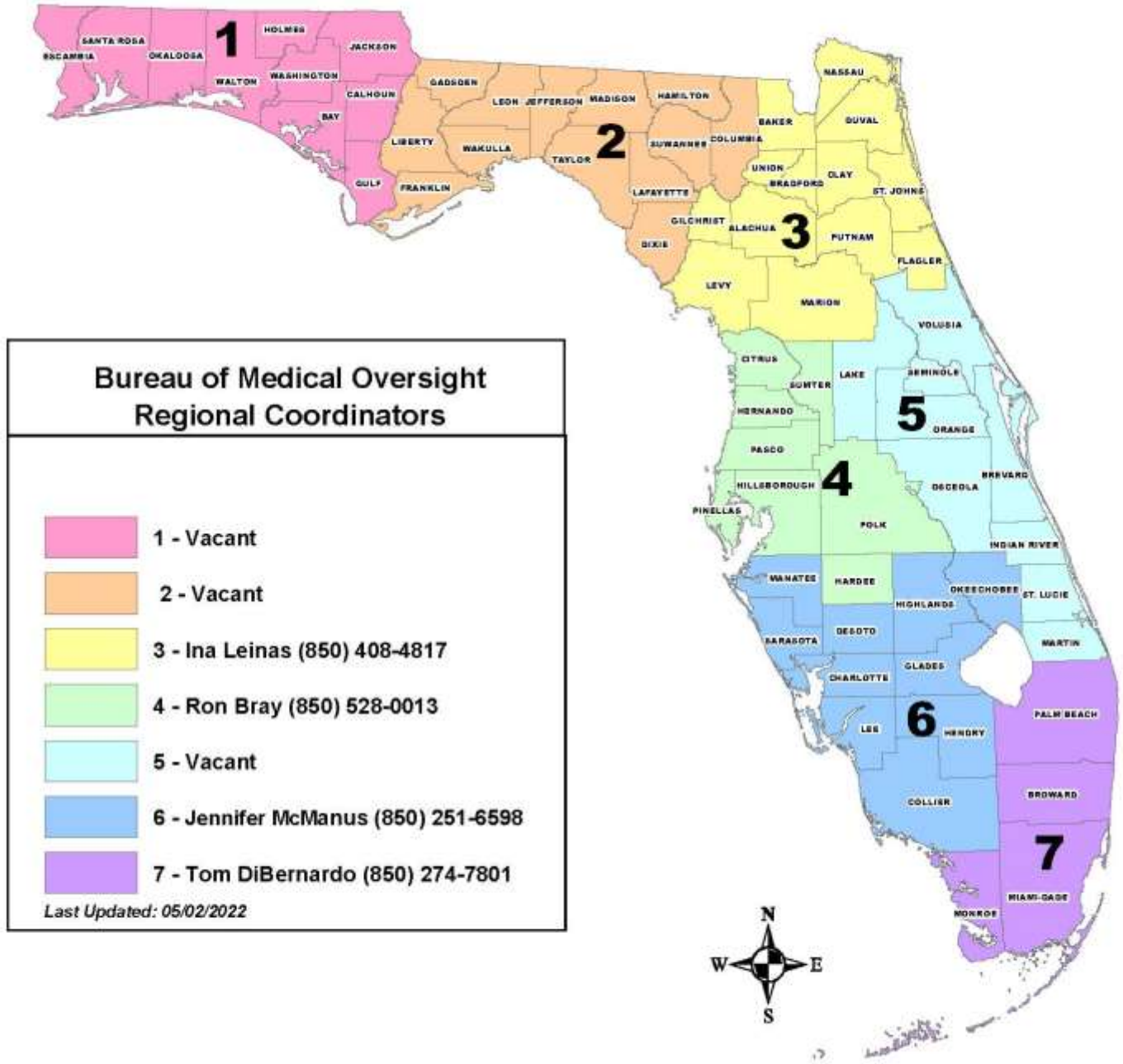
- New committee appointments and liaison update
  Applications due June 20, 2022
  https://apps.floridahealth.gov/bcquestionnaire/
- Addition of PICU/critical care liaison and others
- January meeting summary emailed, send corrections to
  pedready@jax.ufl.edu
- Travel expense forms (see Lori Jean-Jacques)

Opening Announcements and Key Updates

- Florida EMSC program updates
  -Last year of grant cycle, awaiting new RFA and performance measures

- Added section to agenda for liaison and constituency group reports and announcements

- Bureau update and regional coordinators



Bureau of Medical Oversight Regional Coordinators

- 1 - Vacant
- 2 - Vacant
- 3 - Ina Leinas (850) 408-4817
- 4 - Ron Bray (850) 528-0013
- 5 - Vacant
- 6 - Jennifer McManus (850) 251-6598
- 7 - Tom DiBernardo (850) 274-7801

Last Updated: 05/02/2022

Presentations and Special Topics

Ideas for next meeting: autism, new literature or guidelines, ???

- Pediatric Pain Management in EMS
- Pain Scales and Distraction
- Safe Transport Working Group Update
- Children with Special Health Care Needs

Pediatric Pain Management in EMS (Resources from NASEMSO, PAMI, and NAEMSP)

NASEMSO Prehospital Pain Management Evidence Based Guidelines (Includes Pediatrics!)

https://nasemso.org/projects/prehospital-pain-management-ebg/

- Sandy Nasca, Florida FAN representative on Technical Expert Panel!

- Two manuscripts-EBGs for Pain Management: Recommendations and EBGs for Pain Management: Literature and Methods
- Model EMS treatment protocol on pharmacologic management of pain incorporating the evidence-based guidelines, available at Model Protocol;
- Performance measures for evaluating adherence to the evidence-based guideline available at Pediatric IN Fentanyl Performance Measure;
- Educational materials for training EMS professionals on the pain management evidence-based guidelines, including a Slide Presentation-pptx, Pain Management Faculty Script, Slide Handout, Lesson Plan, and Drug Profiles.
- Webinar by the National Association of EMS Educators: https://www.youtube.com/watch?v=a4Af_5DI9io

PROJECTS

Prehospital Pain Management Evidence Based Guidelines

Overview

One of the most frequent conditions encountered by EMS professionals in the field is pain. While appropriate use of controlled substances is within the standard of care for treating pain in the prehospital setting, the opioid crisis currently facing the nation has fueled an urgent need to develop evidence-based recommendations on the prehospital use of analgesics.

Working collaboratively with the National Association of EMS Physicians (NAEMSP) and the American College of Emergency Physicians (ACEP), NASEMSO led a project to develop evidence-based guidelines (EBGs) for the pharmacologic management of acute pain in the prehospital setting.

The principal investigator was George Lindbeck, MD, from NASEMSO; co-investigators were Sabina Braithwaite, MD, representing ACEP, and Manish Shah, MD, of NAEMSP. Together they led a multi-disciplinary technical expert panel comprised of an EMS clinician and EMS educator, as well as others with expertise in emergency medicine, pediatrics, pain management, pharmacology, trauma care, guideline development methodology, patient advocacy, EMS data. This project produced the following deliverables:

1. Two Manuscripts published in a peer-reviewed scientific journal, describing the methodology used to develop evidence-based guidelines. The articles are available at EBGs for Pain Management: Recommendations and EBGs for Pain Management: Literature and Methods
2. Model EMS treatment protocol on the pharmacologic management of pain incorporating the evidence-based guidelines, available at Model Protocol;
3. Performance measures for evaluating adherence to the evidence-based guideline, available at Pediatric IN Fentanyl Performance Measure;
4. Educational materials for training EMS professionals on the pain management evidence-based guidelines, including a Slide Presentation-pptx, Pain Management Faculty Script, Slide Handout, Lesson Plan and Drug Profiles.

Upon conclusion of the project, several members of the Technical Expert Panel participated in a webinar entitled Evidence Based Guidelines for Prehospital Pain Management. The webinar, hosted by the National Association of EMS Educators, is available here: https://www.youtube.com/watch?v=a4Af_5DI9io

The project was funded through support from the National Highway Traffic Safety Administration (NHTSA), Office of EMS, and the Health Resources and Services Administration (HRSA), Maternal and Child Health Bureau's EMS for Children Program, as well as in-kind support from NASEMSO, NAEMSP and ACEP.

TECHNICAL EXPERT PANEL +

DOCUMENTS & RESOURCES +

Title	Date	Types	Categories
EDUC-RESOURCE-Pain-Management-Slides-NASEMSO-PDF	02/15/22	Documents	Project: Prehospital Pain Management EBG
Published Literature & Methods – EBGs for Prehospital Pain Management 1.25.22	01/25/22	Documents, Resource	Project: Prehospital Pain Management EBG
Published Recommendations – EBGs for Prehospital Pain Management 1.25.22	01/25/22	Documents, Resource	Project: Prehospital Pain Management EBG
EDUC Resource – Pain Management Slides	11/08/21	Resolutions	Project: Prehospital Pain Management EBG
EDUC Resource – Lesson Plan	11/05/21	Resource	Project: Prehospital Pain Management EBG
EDUC Resource – Drug Profiles	11/05/21	Resource	Project: Prehospital Pain Management EBG
Performance Measure: Pediatric Intranasal Fentanyl for Prehospital Pain Management	09/10/21	Resource	Project: Prehospital Pain Management EBG
Model EMS Protocol for Prehospital Pain Management – May 2021	07/27/21	Documents, Resource	Project: Prehospital Pain Management EBG
Overview of GRADE Methodology for Developing Evidence-Based Guidelines	08/27/20	Presentations	Project: Prehospital Pain Management EBG
Comparative Effectiveness of Analgesics To Reduce Acute Pain in the Prehospital Setting	08/26/20	Presentations	Project: Prehospital Pain Management EBG

Taylor & Francis
Taylor & Francis Group

Prehospital Emergency Care

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/ipec20

Evidence-Based Guidelines for Prehospital Pain Management: Recommendations

George Lindbeck, Manish I. Shah, Sabina Braithwaite, Jonathan R. Powell, Ashish R. Panchal, Lorin R. Browne, Eddy S. Lang, Brooke Burton, Jeffrey Coughenour, Remle P. Crowe, Hannah Degn, Mary Hedges, James Gasper, Kyle Guild, Connie Mattera, Sandra Nasca, Peter Taillac & Mark Warth

To cite this article: George Lindbeck, Manish I. Shah, Sabina Braithwaite, Jonathan R. Powell, Ashish R. Panchal, Lorin R. Browne, Eddy S. Lang, Brooke Burton, Jeffrey Coughenour, Remle P. Crowe, Hannah Degn, Mary Hedges, James Gasper, Kyle Guild, Connie Mattera, Sandra Nasca, Peter Taillac & Mark Warth (2022): Evidence-Based Guidelines for Prehospital Pain Management: Recommendations, Prehospital Emergency Care, DOI: 10.1080/10903127.2021.2018073

To link to this article: https://doi.org/10.1080/10903127.2021.2018073

Published online: 25 Jan 2022.

PICO

A guide

PERSON/ POPULATION AND/OR PATIENT	P	What is the problem you are looking at? Is there a specific population you need to focus on?
INTERVENTION INDICATOR	I	What treatment/changes are you looking to explore?
COMPARISON CONTROL	C	Comparison if you are comparing multiple interventions. Control if you're comparing an intervention to do nothing.
OUTCOME	O	What result(s) will you consider to determine if/how well the intervention is working?

Table 2. PICO questions for the EBG for prehospital pain management

1. Should intranasal fentanyl vs. IV opioids be used for acute onset of moderate to severe pain in children in the prehospital setting?
2. Should IV acetaminophen (APAP) vs. IV opioids be used for treatment of moderate to severe pain in the prehospital setting?
3. Should IV non-steroidal anti-inflammatory drugs (NSAIDs) vs. IV opioids be used for treatment of moderate to severe pain in the prehospital setting?
4. Should IV APAP vs. IV NSAIDs be used for treatment of moderate to severe pain in the prehospital setting?
5. Should IV ketamine vs. IV NSAIDs be used for treatment of moderate to severe pain in the prehospital setting?
6. Should IV ketamine vs. IV opioids be used for treatment of moderate to severe pain in the prehospital setting?
7. Should IV morphine vs. IV fentanyl be used for treatment of moderate to severe pain in the prehospital setting?
8. Should a combination of weight based IV opioid plus IV ketamine vs. weight based IV opioid alone be used for treatment of moderate to severe pain in the
prehospital setting?
9. Should a combination of IV opioid plus IV ketamine vs. IV ketamine alone be used for treatment of moderate to severe pain in the prehospital setting?
10. Should nitrous oxide vs. IV opioids be used for treatment of moderate to severe pain in the prehospital setting?

Recommendation 1: We recommend in favor of intranasal (IN) fentanyl over intramuscular (IM) or intravenous (IV) opioids in the treatment of moderate to severe pain in **pediatric patients** prior to IV access or without (or without indication for) IV access (strong recommendation, low certainty of evidence). The panel makes a conditional recommendation for either IN fentanyl or IV opioids once IV access is established (conditional recommendation, low certainty of evidence).

Recommendation 2: We suggest in favor of IV acetaminophen (APAP) over IV opioids alone for the initial management of moderate to severe pain in the prehospital setting if IV APAP is available, affordable, and easy to administer. (conditional recommendation, low certainty of evidence)

Recommendation 3: We suggest either IV NSAIDS or IV opioids for the initial management of moderate to severe pain in the prehospital setting. (conditional recommendation, moderate certainty of evidence)

Recommendation 4 : We suggest in favor of IV NSAIDs over IV APAP for the initial management of moderate to severe pain in the prehospital setting. Additionally, we recommend in favor of either PO NSAIDs or PO APAP for the initial management of pain in the prehospital setting if an oral analgesic is considered. (conditional recommendation, low certainty of evidence)

Recommendation 5: We suggest either IV ketamine or IV NSAIDs for the initial management of moderate to severe pain in the prehospital setting (conditional recommendation, moderate certainty of evidence)

Recommendation 6: We suggest either IV ketamine or IV opioids for the initial management of moderate to severe pain in the prehospital setting (conditional recommendation, very low certainty of evidence)

Recommendation 7: If opioids are selected for pain management, we suggest either IV morphine or IV fentanyl for the treatment of moderate to severe pain in the prehospital setting (conditional recommendation, low certainty of evidence)

Recommendation 8: We suggest against the combination of weight-based IV opioid plus weight-based IV ketamine versus weight-based IV opioid alone for the initial management of moderate to severe pain in the prehospital setting. (conditional recommendation, very low certainty of evidence)

Recommendation 9: No recommendation was made at this time on the comparison between the combination of an IV opioid plus IV ketamine, versus IV ketamine alone for the initial management of moderate to severe pain in the prehospital setting due to significant uncertainty of the evidence and incomplete information concerning the comparison.

Recommendation 10: No recommendation was made regarding the comparison between nitrous oxide versus IV opioids for the initial management of moderate to severe pain in the prehospital setting.

Pediatric Pain Management in EMS (Resources from NASEMSO, PAMI, and NAEMSP)

EMSC Day Prehospital Emergency Care Podcast Ep. 113 (NAEMSP) "Ouch-less Pediatrics": https://podcasts.apple.com/us/podcast/prehospital-emergency-care-podcast-the-naemsp-podcast/id925204308?i=1000562317202. CAPCE credit available.

Discussion Points

- Analgesia administration in EMS vs. ED setting
- Pain scales or measurement
- IN medications in children
- Distraction and other nonpharmacologic pain management
- QI needed to implement change

Model EMS Protocol for Prehospital Pain Management

May 2021

Evidence-Based Guideline for Prehospital Pain Management (6933J92050003)

National Association of State EMS Officials
201 Park Washington Court • Falls Church, VA 22046-4527
www.nasemso.org • info@nasemso.org
phone 703-538-1799 • fax 703-241-8883

Submitted to NHTSA Office of EMS, May 13, 2021 in fulfillment of

Item 8. Condition 6. Submit Draft EMS Protocol

Cooperative Agreement No. 6933J92050003

Patient Presentation

Inclusion Criteria

Patients who are experiencing pain

Exclusion Criteria

1. Pregnancy with active labor
2. Patients with care-plans that prohibit use of parenteral analgesics by EMS

Patient Management

Assessment, Treatment, and Interventions

1. Determine patient's pain score assessment using standard pain scale.
   a. Less than 4 years old: Observational scale (e.g. Faces, Legs, Arms, Cry, Consolablity [FLACC] or Children's Hospital of Eastern Ontario Pain Scale (CHEOPS)
   b. 4-12 years old: Self-report scale (e.g. Wong Baker Faces, Faces Pain Scale [FPS], Faces Pain Scale Revised [FPS-R])
   c. Greater than 12 years old: Self-report scale (Numeric Rating Scale [NRS])
2. Consider initial use of non-pharmaceutical pain management techniques
   a. Placement of the patient in a position of comfort
   b. Application of ice packs and/or splints for pain secondary to trauma
   c. Verbal reassurance or distraction to minimize anxiety
   d. For children, caregiver presence to the degree allowed by required clinical care and caregiver comfort
3. If non-pharmaceutical techniques are not sufficient to relieve pain, then consider use of non-IV analgesics
   a. PO options (for milder pain with the understanding that onset of action will be slower than IN/IM/IV or if there is a desire to avoid parenteral medications and/or opioids)
      i. Acetaminophen 15 mg/kg PO (maximum dose 1 g)
      ii. Ibuprofen 10 mg/kg PO for patients greater than 6 months of age (maximum dose 800 mg)
   b. Intranasal (IN) options (preferred as initial dosing, particularly in children, to initiate pain relief prior to, or in the absence of, IV access. IN administration may obviate the need to obtain IV access for pain medication)
      i. Fentanyl 1 mcg/kg IN
      ii. Ketamine: 0.5 mg/kg IN (maximum initial dose 25 mg; maximum cumulative dose 100 mg)
   c. Intramuscular (IM) options
      i. Ketorolac (one-time dose only)
         - Adult (non-pregnant): 30 mg IM
         - Pediatric (2-16 years old): 1 mg/kg IM (maximum dose 30 mg)
      ii. Morphine sulfate: 0.1 mg/kg IM (maximum initial dose 15 mg)
      iii. Fentanyl 1 mcg/kg (maximum initial dose of 100 mcg)
   d. Inhaled: nitrous oxide
4. Establish IV access if there is ongoing pain warranting further treatment and administer one of the following:
   a. Acetaminophen:
      i. Adult: 1 g IV
      ii. Pediatric: 15 mg/kg IV (maximum dose 1 g)
   b. Ketorolac (one-time dose only):
      i. Adult: 15 mg IV in adults who are not pregnant
      ii. Pediatric (2-14 years old): 0.5mg/kg (maximum dose 15 mg) IV
   c. Fentanyl:
      i. Adult: 25-50 mcg IV
      ii. Pediatric: 1 mcg/kg IV (maximum initial dose 100 mcg)
   d. Morphine sulfate:
      i. Adult: 5 mg IV
      ii. Pediatric: 0.1 mg/kg IV (maximum initial dose 5 mg)
   e. Hydromorphone:
      i. Adult: 1-2 mg IV
      ii. Pediatric: 0.015 mg/kg IV (maximum initial dose 2 mg; maximum cumulative dose of 4 mg)
   f. Ketamine:
      i. Adult: 25 mg IV (slow IV push or infusion in 100 cc NS/LR)
      ii. Pediatric: 0.25 mg/kg IV (maximum initial dose 25 mg; maximum cumulative dose 100mg)
5. Consider administration of oral, sublingual, or IV anti-emetics to prevent nausea in high-risk patients [see Nausea/Vomiting guideline]

Our Mission

PAMI®
Pain Assessment and Management Initiative

Advancing innovation and safety in pain education, patient care and research

Overall goal is advancement of multimodal, safe pain management in healthcare systems to improve outcomes and reduce opioid risk

- Initial focus on EDs, Trauma and EMS; now multidisciplinary
- Stop progression of acute to chronic pain, prevent or decrease need for opioids and other high-risk medications or procedures

PAMI Disclaimer

Programs supported by the following grants and organizations: University of Florida College of Medicine — Jacksonville Department of Emergency Medicine, Florida Medical Malpractice Joint Underwriting Association, Florida Blue Foundation, SAMHSA Emergency Department Alternatives to Opioids Demonstration Program (grant # H79TI083101) and Overdose Data to Action (OD2A). OD2A is 100% funded by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services. The content of all PAMI materials, programs and presentations are those of the authors and investigators and do not necessarily represent the official views of, nor an endorsement, by FMMJUA, Florida Blue Foundation, CDC, HHS, or the U.S. Government.

PAMI Background

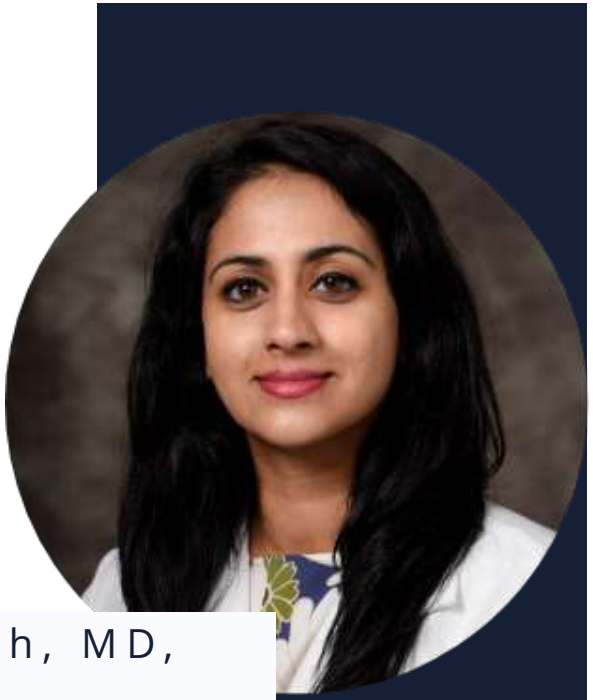
UF | Department of Emergency Medicine
College of Medicine – Jacksonville
UNIVERSITY of FLORIDA

Established in 2014 by Drs. Hendry and Sheikh

- Housed in Division of Emergency Medicine Research
- Includes a multidisciplinary team from EM, pharmacy, pain medicine, physical therapy, trauma, nursing, information technology, toxicology, and more!
- Includes 3 sub-programs and 6 research studies related to pain management, health disparities, education, older adults, and epigenetics.
- State and local collaborations

Phyllis Hendry, MD, FAAP, FACEP

Principal Investigator
Associate Chair of EM Research
Professor of Emergency Medicine & Pediatrics



Sophia Sheikh, MD, FACEP

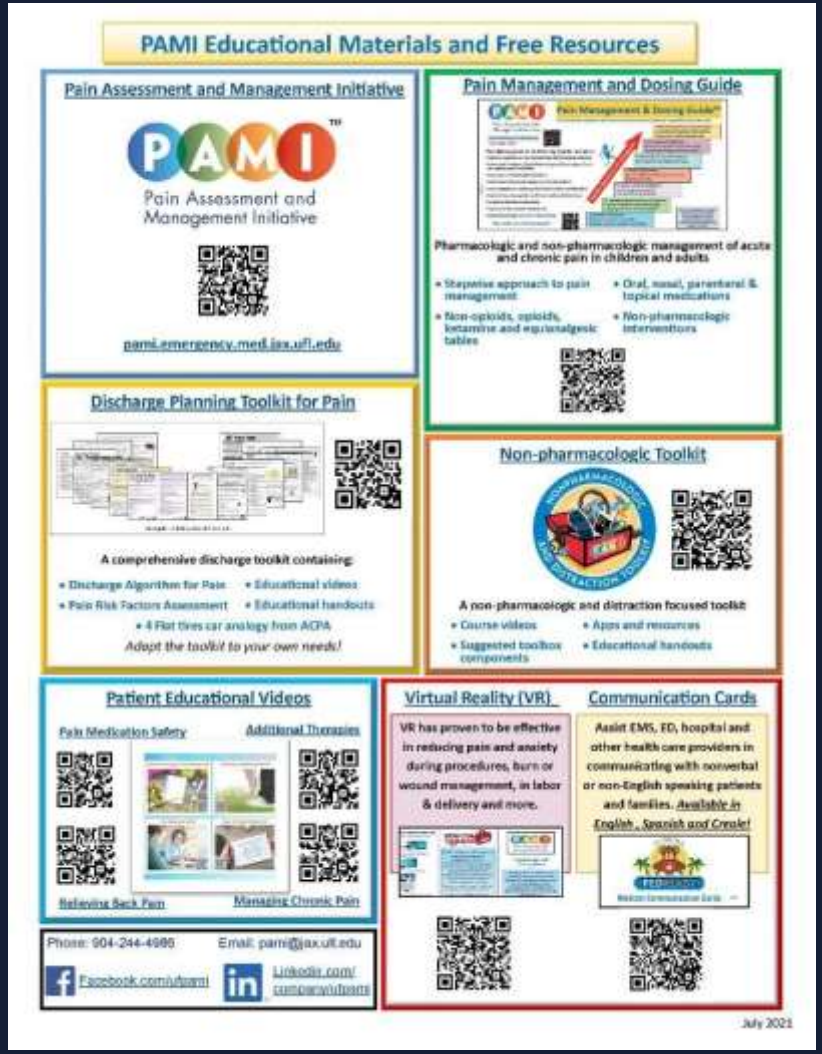
Principal Investigator
Medical Director, Florida/USVI Poison Information Center Jacksonville
Associate Professor of Emergency Medicine

PAMI Website
pami.emergency.med.jax.ufl.edu

- **Free access resources for patients and professionals**
- Discharge planning patient education
- Nonpharmacologic, integrative pain therapy resources

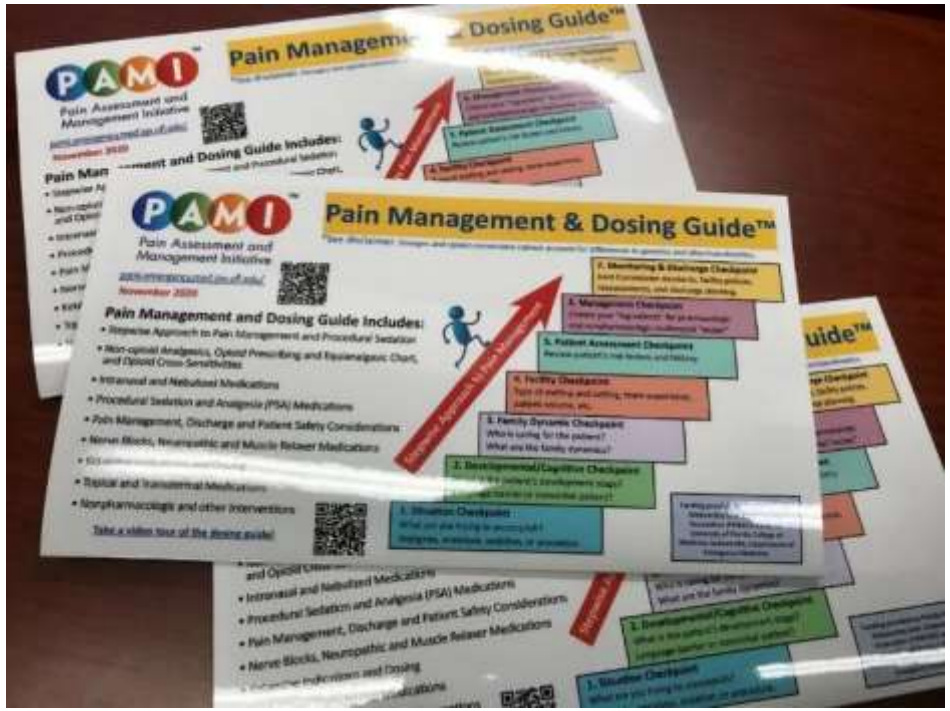
PAMI Resources Overview

- Pain Management and Dosing Guide
- Discharge Planning Toolkit for Pain
- Patient Educational Videos
- Nonpharmacologic & Distraction Toolkit/Toolbox
- Transitioning to “integrative toolkit”
- Pain scale cards



PAMI Pain Management and Dosing Guide

pami.emergency.med.jax.ufl.edu/resources/dosing-guide

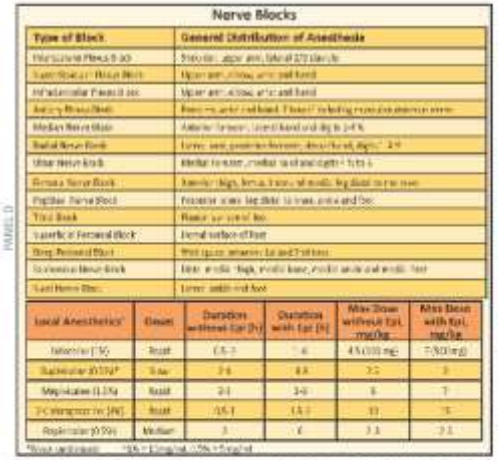


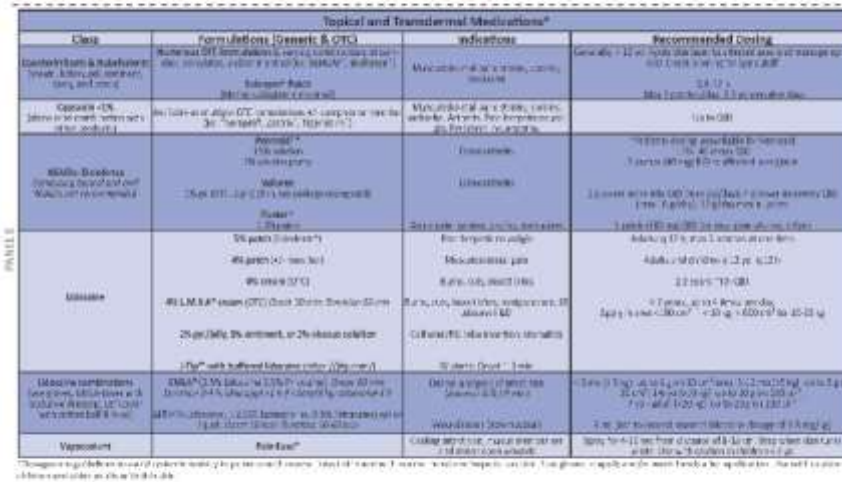
Updated q 1-2 years in collaboration with pharmacy, EM, trauma, palliative care and pain management SMEs, FSHP, etc.

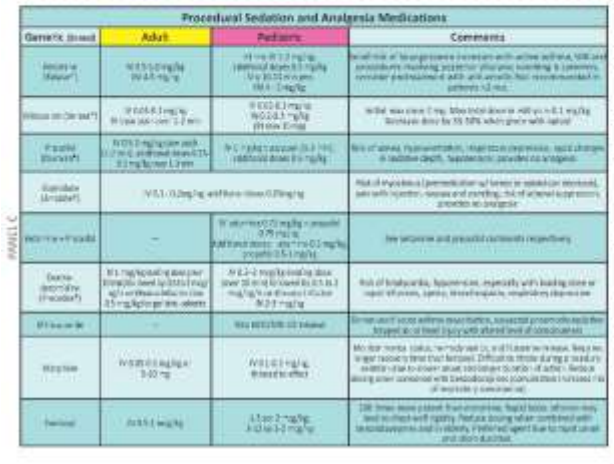
- Adult and pediatric dosing
- Various administration routes
- Topical & transdermal
- Nasal, nebulized, oral, IV, IM
- Non-pharmacologic interventions
- Regional/local nerve blocks and non-opioid analgesic options
- Procedural sedation
- Discharge planning tips
- QR codes and links to videos

Dosing Guide

- Nonopioid options in one source
- Free access but copyrighted by UF and PAMI
- Prints best on legal paper as a trifold
- Laminated tri-folds available upon request!







Pain Management and Dosing Guide

Non-Opioids, Opioids & Equianalgesic Chart

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 8-12 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

Pain Management and Dosing Guide

Nerve Blocks, Ketamine & More!

PANEL D

Nerve Blocks

Type of Block	General Distribution of Anesthesia
Interscalene Plexus Block	Shoulder, upper arm, lateral 2/3 clavicle
Supraclavicular Plexus Block	Upper arm, elbow, wrist and hand
Infraclavicular Plexus Block	Upper arm, elbow, wrist and hand
Axillary Plexus Block	Forearm, wrist and hand. Elbow if including musculocutaneous nerve
Median Nerve Block	Anterior forearm, lateral hand and digits 1-4 ½
Radial Nerve Block	Lateral arm, posterior forearm, dorsal hand, digits 1-4 ½
Ulnar Nerve Block	Medial Forearm, medial hand and digits 4 ½ to 5
Femoral Nerve Block	Anterior thigh, femur, knee and medial leg distal to the knee
Popliteal Nerve Block	Posterior lateral leg distal to knee, ankle and foot
Tibial Block	Plantar surface of foot
Superficial Peroneal Block	Dorsal surface of foot
Deep Peroneal Block	Web space between 1st and 2nd toes
Saphenous Nerve Block	Distal medial thigh, medial knee, medial ankle and medial foot
Sural Nerve Block	Lateral ankle and foot

Local Anesthetics†	Onset	Duration without Epi (h)	Duration with Epi (h)	Max Dose without Epi, mg/kg	Max Dose with Epi, mg/kg
Lidocaine (1%)	Rapid	0.5–2	1–6	4.5 (300 mg)	7 (500 mg)
Bupivicaine (0.5%)*	Slow	2-4	4-8	2.5	3
Mepivicaine (1.5%)	Rapid	2-3	2-6	5	7
2-Chloroprocaine (3%)	Rapid	0.5-1	1.5-2	10	15
Ropivicaine (0.5%)	Medium	3	6	2-3	2-3

*Most cardiotoxic †1% = 10mg/ml, 0.5% = 5mg/ml

Neuropathic Pain Medications

Generic (Brand)	Starting dose	Max dose
Gabapentin* (Neurontin®)	300 mg PO QHS to TID	3600 mg/day
Pregabalin* (Lyrica®) [CV]	50 mg PO TID	600 mg/day**
SNRIs: Duloxetine (Cymbalta®) Venlafaxine ER (Effexor XR®)	30 mg PO daily† 37.5 mg PO daily	60 mg/day** 225 mg/day
TCAS: Amitriptyline (Elavil®) Nortriptyline (Pamelor®)	25 mg PO QHS 25 mg PO QHS	150 mg/day 150 mg/day

See labeling reccomendations for dose titration. †30 mg daily for at least 7 days to decrease nausea
*Requires dose adjustment based on renal function **Varies depending on indication

Muscle Relaxer Pain Medications

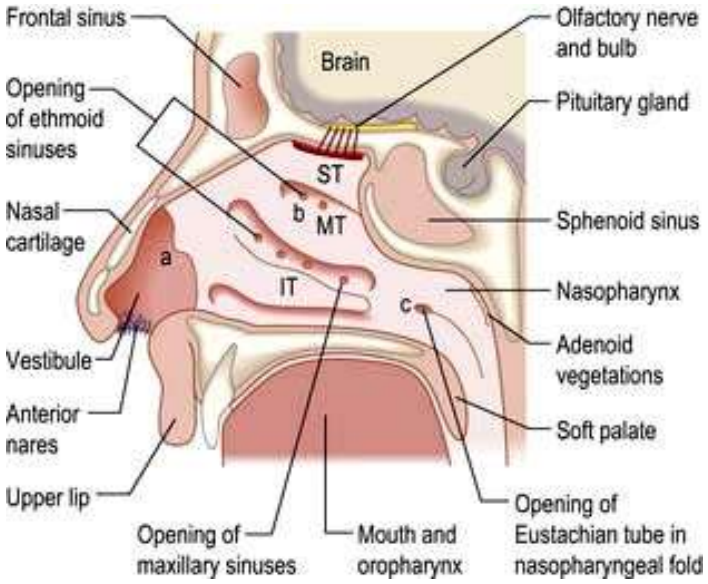
Generic (Brand)	Beginning dose	Max dose
Baclofen (Lioresal®)	5 mg PO TID	80 mg/day
Cyclobenzaprine (Flexeril®)	5 mg PO TID	30 mg/day
Tizanidine (Zanaflex®)	2 mg po q 6-8 h prn	36 mg/day
Methocarbamol (Robaxin®)	1-1.5 g PO TID to 4x/day x 48-72 h, then 500-750 mg PO TID; 1 g q 8 h IV	8 g/day (PO) 3 g/day IV
Diazepam (Valium®) [CIV]	Adult: 2-10 mg PO q 6-8 h; 5-10 mg IV/IM Ped: (>6 mos) 1 mg to 2.5 mg PO q 8 h prn; 0.04-0.2 mg/kg IV/IM q 2-4 h	Peds: 0.6 mg/kg/8h IV/IM to adult max

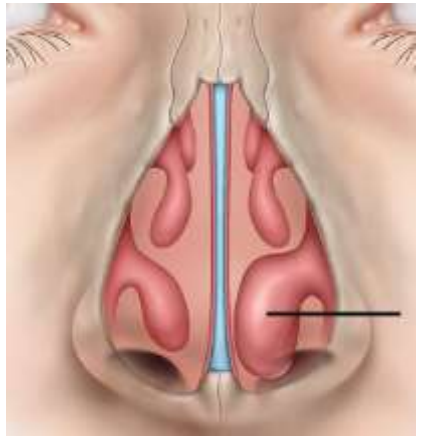
Ketamine (Ketalar®) Indications and Dosing

Indications	Starting Dose
Procedural Sedation	**IV:** Adult 0.5-1.0 mg/kg; Ped 1-2mg/kg; **IM:** 4-5 mg/kg
Sub-dissociative Analgesia^	**IV:** 0.1 to 0.3 mg/kg, Max initial bolus 45 mg **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

^Consider in opioid tolerant patients or those with contraindications to opioids. Administer IV over 10-15 minutes to minimize side effects. SQ dose same as IV. For IV-can dilute dose in 10 ml NS and administer as IV slow push over 5-10 min. Can also be given as a continuous infusion.

Intranasal Medications





- Use concentrated solution
  - Ketamine 50 mg/ml*
  - **Fentanyl 50 mcg/ml***
  - Midazolam 5mg/ml

- Use an atomizer
  - If > 1ml divide between nares
  - Aim spray toward turbinates/pinna

  “Up and out towards top of ear”

*Rapid CSF levels

Elements of Pain Assessment

- Assess physiologic parameters
- Perform behavioral observation
- Question the patient +/- family
- Use standardized assessment tool

Pain Assessment Scales

- There are different validated pain scales available for a variety of patient populations

- Pain scales fall into 2 general categories:
  - Observational-behavioral scales require provider to assess patient on multiple behaviors and rank them.
  - Self-report scales include selection of a face or color or number to represent pain.

Examples of Pain Scales

Pain Scales*	Verbal, Alert and Oriented	Non-verbal, GCS <15 or Cognitive Impairment
Adult	1. Verbal Numeric Scale (VNS)/ Numeric Rating Scale (NRS) 2. Visual Analogue Scale (VAS) 3. Defense and Veterans Pain Rating Scale (DVPRS)	1. Adult Non-Verbal Pain Scale (NVPS) 2. Assessment of Discomfort in Dementia (ADD) 3. Behavioral Pain Scale (BPS) 4. Critical-Care Observation Tool (CPOT)
Pediatric	**3 yo and older** 1. Wong Baker Faces 2. Oucher (3-12yrs) 3. Numerical Rating Scale (NRS) (7-11yrs) **8 yo and older** 1. Visual Analogue Scale (VAS) 2. Verbal Numeric Scale (VNS)/ Numeric Rating Scale (NRS)	**Birth – 6 mos** 1. Neonatal Infant Pain Scale (NIPS) 2. Neonatal Pain Assessment and Sedation Scale (N-PASS) 3. Neonatal Facial Coding System (NFCS) 4. CRIES **Infant and older** 1. Faces, Legs, Activity, Cry, and Consolability (FLACC) or r-FLACC 2. Non Communicating Children's Pain Checklist (NCCPC-R) 3. Children's Hospital of Eastern Ontario Pain Scale (CHEOPS) (ages 1-7)

*This is a short list of pain scales. Determine which pain assessment tools are used by your agency or facility.

Pain Assessment Using Pain Scales

- Once a pain scale is chosen, interpretation of the score is not so straightforward.
  - Because of the subjective nature of standardized pain scales, ***patient functionality*** may be the best indicator of pain intensity.
- Pain scales **DO NOT** take into account patient genetics, past experiences, comorbidities, or other pain influencing factors.
- In patients with preexisting pain, it is important to determine their baseline pain level.
- **What scales do you use?**

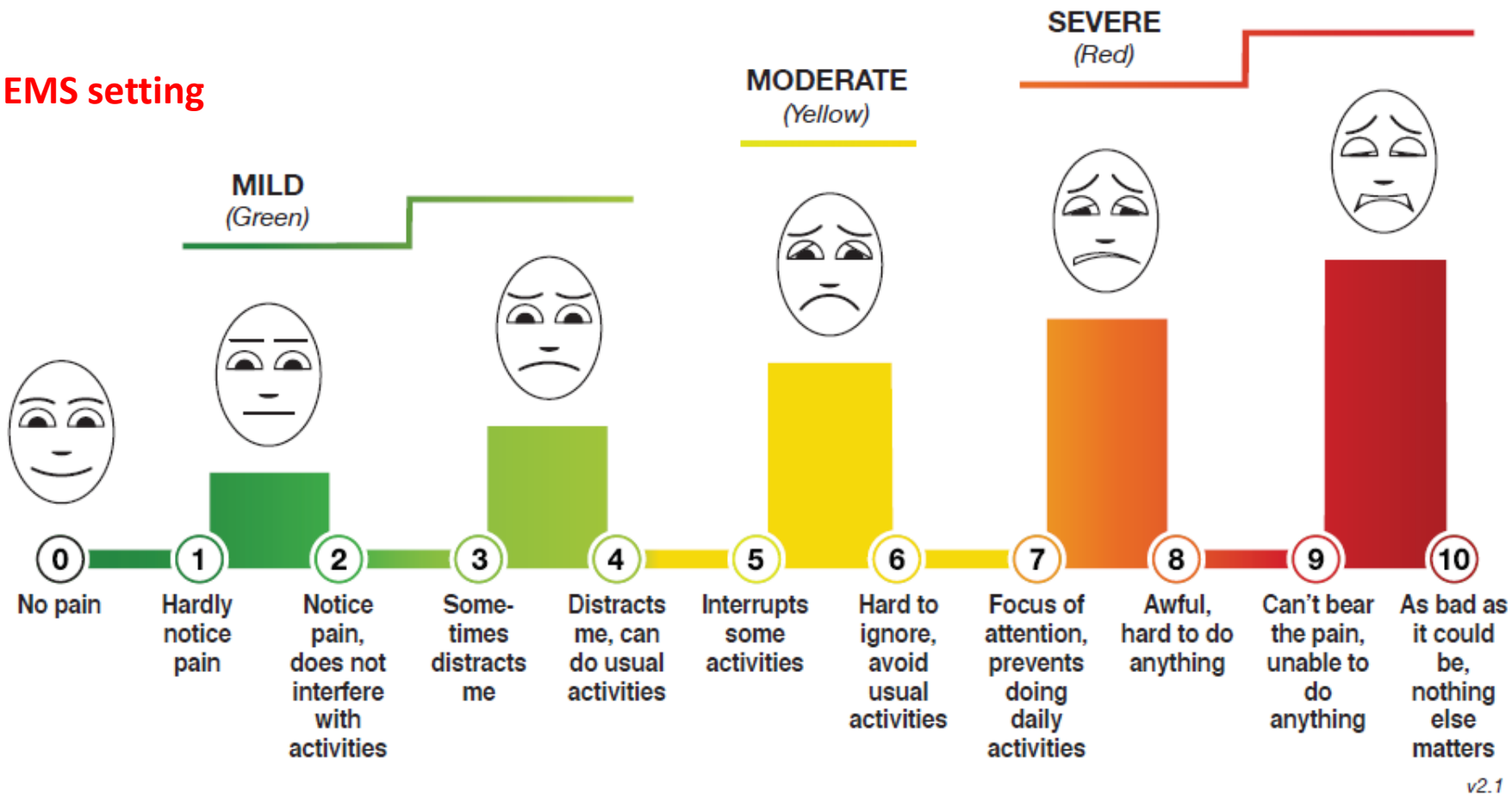
PAMI Pain Scale Cards

ADULT SELF-REPORTING

Look at the "**Defense and Veterans Pain Rating Scale**" and read the descriptions under each number.
Please rate the severity of your **CURRENT PAIN**.

Defense and Veterans Pain Rating Scale

Not validated in EMS setting



DVPRS Supplemental Questions

For clinicians to evaluate the biopsychosocial impact of pain

1. Circle the one number that describes how, during the past 24 hours, pain has interfered with your usual ACTIVITY:

0 — 1 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 9 — 10

Does not interfere *Completely interferes*

2. Circle the one number that describes how, during the past 24 hours, pain has interfered with your SLEEP:

0 — 1 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 9 — 10

Does not interfere *Completely interferes*

3. Circle the one number that describes how, during the past 24 hours, pain has affected your MOOD:

0 — 1 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 9 — 10

Does not affect *Completely affects*

4. Circle the one number that describes how, during the past 24 hours, pain has contributed to your STRESS:

0 — 1 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 9 — 10

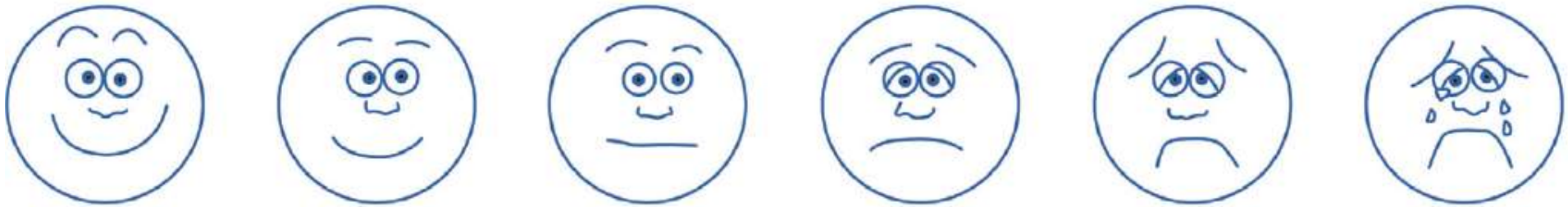
Does not contribute *Contributes a great deal*

Reference for pain interference: Cleeland CS, Ryan KM. Pain assessment: global use of the Brief Pain Inventory. Ann Acad Med Singapore 23(2): 129-138, 1994. *v2.1*

DVPRS Supplemental Questions, please rate **how pain has interfered** for the **past 24 hours**

PEDIATRIC SELF-REPORTING

Wong-Baker FACES® Pain Rating Scale



0	2	4	6	8	10
No Hurt	Hurts Little Bit	Hurts Little More	Hurts Even More	Hurts Whole Lot	Hurts Worst

Instructions for Usage

Explain to the person that each face represents a person who has no pain (hurt), or some, or a lot of pain.

Face 0 doesn't hurt at all. Face 2 hurts just a little bit. Face 4 hurts a little bit more. Face 6 hurts even more.
Face 8 hurts a whole lot. Face 10 hurts as much as you can imagine, although you don't have to be crying to have the worst pain.

Ask the person to choose the face that best depicts the pain they are experiencing.

Non-verbal, GCS <15 or Cognitive Impairment

FLACC Scale[2]	0	1	2
1 Face	No particular expression or smile.	Occasional grimace or frown, withdrawn, disinterested.	Frequent to constant frown, clenched jaw, quivering chin.
2 Legs	Normal position or relaxed.	Uneasy, restless, tense.	Kicking, or legs drawn up.
3 Activity	Lying quietly, normal position, moves easily.	Squirming, shifting back and forth, tense.	Arched, rigid or jerking.
4 Cry	No crying (awake or asleep).	Moans or whimpers; occasional complaint.	Crying steadily, screams or sobs, frequent complaints.
5 Consolability	Content, relaxed.	Reassured by occasional touching, hugging or being talked to, distractible.	Difficult to console or comfort.

PEDIATRIC AND ADULTS UNABLE TO SELF-REPORT

(REVISED) FLACC Scale SCORING

Categories	0	1	2
Face	No particular expression or smile.	Occasional grimace or frown, withdrawn, disinterested, **sad, appears worried.**	Frequent to constant quivering chin, clenched jaw, **distressed looking face, expression of fright/panic.**
Legs	Normal position or relaxed; **usual tone and motion to limbs.**	Uneasy, restless, tense, **occasional tremors.**	Kicking, or legs drawn up, **marked increase in spasticity, constant tremors, jerking.**
Activity	Lying quietly, normal position, moves easily, **regular, rhythmic respirations.**	Squirming, shifting back and forth, tense, **tense/guarded movements, mildly agitated, shallow/splinting respirations, intermittent sighs.**	Arched, rigid or jerking, **severe agitation, head banging, shivering, breath holding, gasping, severe splinting.**
Cry	No cry (awake or asleep).	Moans or whimpers: occasional complaint, **occasional verbal outbursts, constant grunting.**	Crying steadily, screams or sobs, frequent complaints, **repeated outbursts, constant grunting.**
Consolability	Content, relaxed.	Reassured by occasional touching, hugging, or being talked to: distractible.	Difficult to console or comfort, **pushing caregiver away, resisting care or comfort measures.**

Each of the five categories (**F**) Face; (**L**) Legs; (**A**) Activity; (**C**) Cry; (**C**) Consolability is scored from 0-2, which results in a total score between zero and ten.

PAMI 3 Hour Pilot Course (2017)
New Approaches to Pain Agenda

8:30-9:00: Registration

9:00-10:00: Basics of ED and EMS Pain Management

- Opening Pediatric and Adolescent Case Scenarios
- Background of Pain Management in ED and EMS
- PAMI Stepwise Approach to Pain Management
- Responses to Pain by Developmental Stage
- Overview of Pharmacologic Pain Management
- Question & Answer

10:00-11:00: Nonpharmacologic Pain Management

- Conversation and Therapeutic Language
- Coaching and Preparation
- Psychological and Cognitive Behavioral Interventions
- Physical/Sensory Interventions
- Distraction Toolbox Development

11:00-11:15: Break and Distribution of Distraction Toolboxes

11:15-12:15: Putting It All Together-Program Implementation, Resources and Evaluation

- Case Scenario Discussion
- Educational Resources, Supplies and Videos
- Implementation in your Community
  - EMS Week
- Community Resources and Networking Opportunities
- Feedback and Questions
- Name This Course

Distraction & Nonpharmacologic Toolkit

- Reduces anxiety & pain
- Avoids or decreases dosages of pharmacologic treatments such as opioids and benzodiazepines
- ED, EMS, Trauma Center, Radiology suites, PICU, others
- 3 hr pilot course, apps, and toolbox components available online
- Disseminated toolboxes across FL

Distraction Toolbox Components

LED keychains

Glitter iSpy wand

Rubik's cube

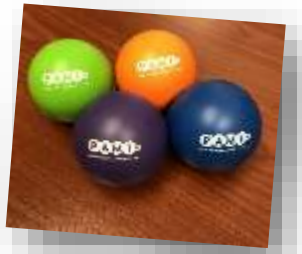
Pacifier & Sucrose Water

Hot/cold packs

DistrACTION Cards

Distraction Toolbox Components

Stress Balls



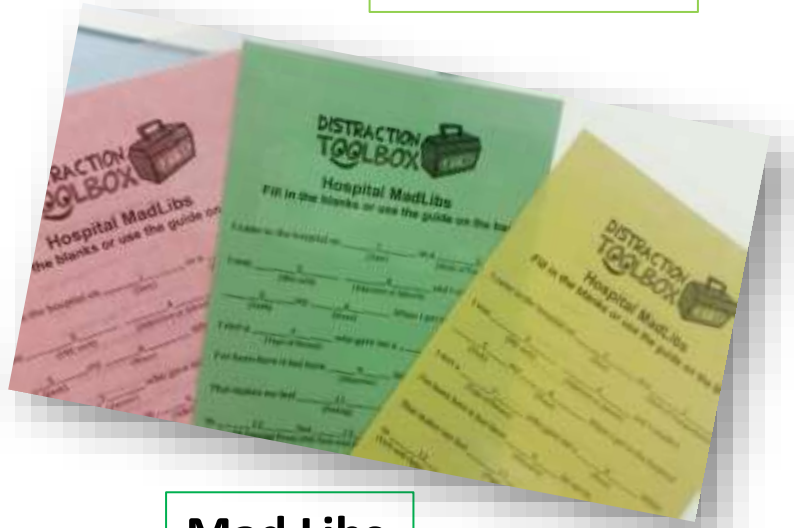
Lighted & motion toy

Wikki Stix

Stickers

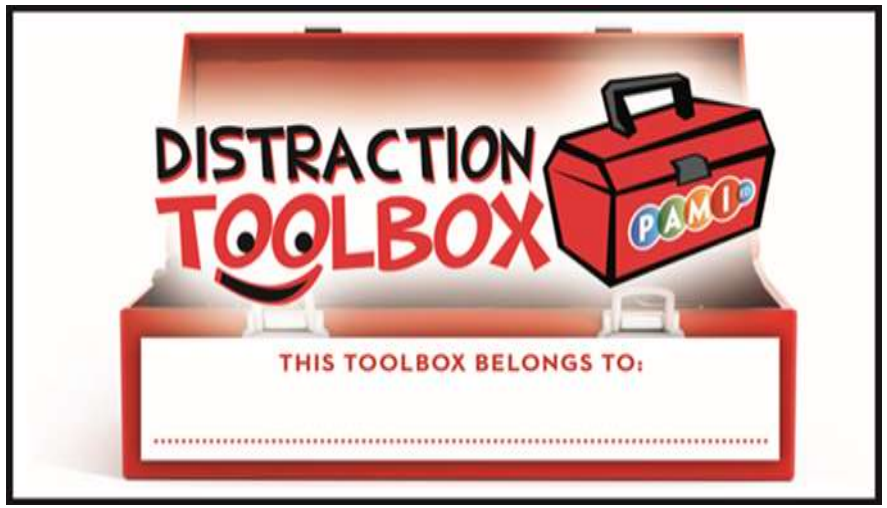
Liquid-in-motion

Buzzy – cold, numbing, vibrating



Mad Libs

Alachua County Fire Rescue distraction toolbox project (Sarah Weed)



Pain Assessment and Management Initiative

CONTACT US

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Website: pami.emergency.med.jax.ufl.edu

Search us using:

@ufpami

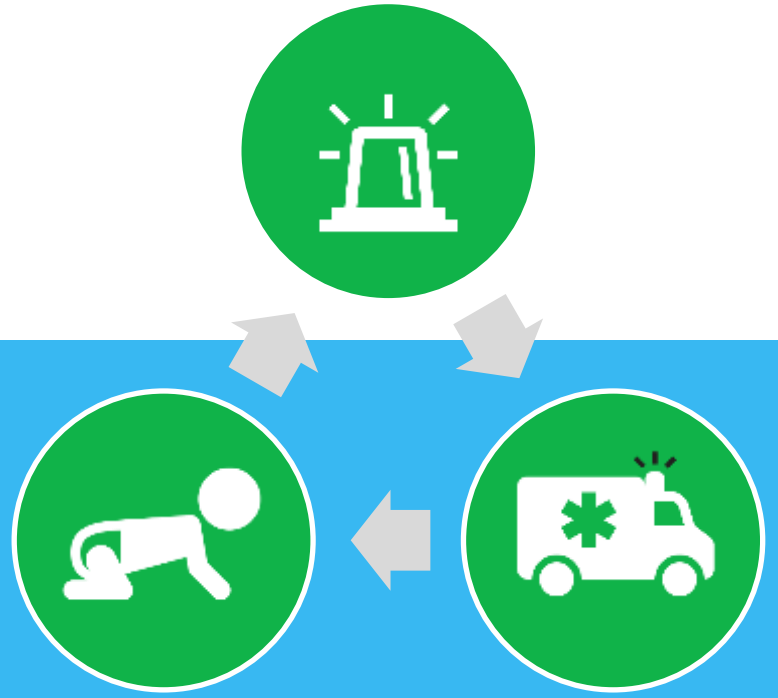
Florida EMSC Advisory Committee
Safe Pediatric Transport Working Group

Goals:

- Develop a position statement
- Develop a sample policy
- Develop an educational tool

Background

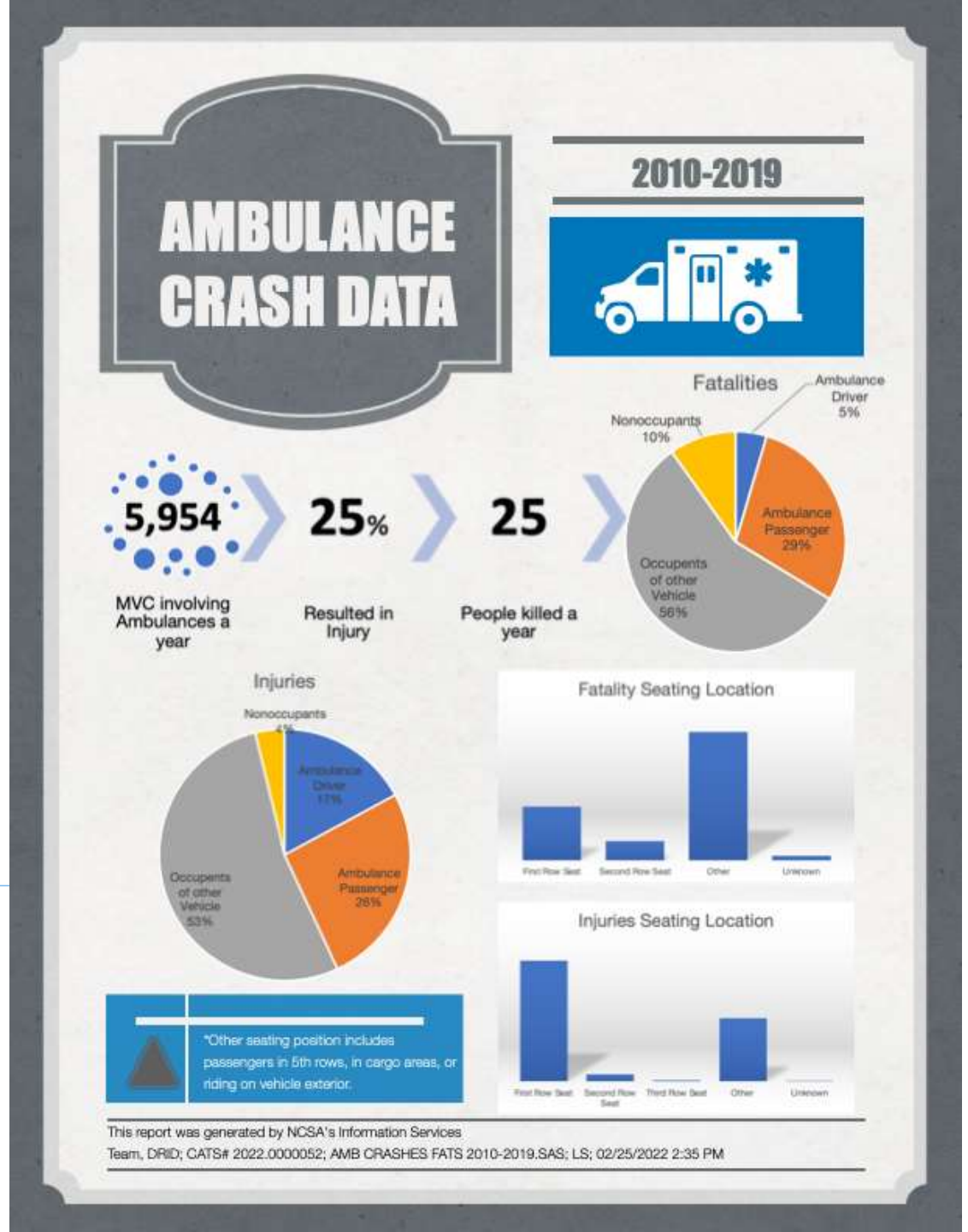
30 million Emergency calls a year



10% are pediatric transports

6.2 million Transports a year

Crash Data


AMBULANCE CRASH DATA
2010-2019
5,954
MVC involving Ambulances a year
25%
Resulted in Injury
25
People killed a year
Fatalities
Ambulance Driver 5%
Nonoccupants 10%
Ambulance Passenger 29%
Occupents of other Vehicle 56%
Injuries
Nonoccupants 4%
Ambulance Driver 11%
Ambulance Passenger 28%
Occupents of other Vehicle 53%
Fatality Seating Location
First Row Seat
Second Row Seat
Other
Unknown
Injuries Seating Location
First Row Seat
Second Row Seat
Third Row Seat
Other
Unknown
*Other seating position includes passengers in 5th rows, in cargo areas, or riding on vehicle exterior.
This report was generated by NCSA's Information Services Team, DRID; CATS# 2022.0000052; AMB CRASHES FATS 2010-2019.SAS; LS; 02/25/2022 2:35 PM

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

Endorsed by:

Florida EMSC Safe Transport Policy Template

Version 010422

Background
Estimates suggest that ground EMS responds to approximately 30 million emergency calls each year. Approximately 6.2 million patient transport ambulance trips occur annually, of which approximately 10 percent of those patients are children. Insurance companies report that approximately 10,000 ambulance crashes result in injury or death each year. Estimates suggest that up to 1,000 ambulance crashes involve pediatric patients each year.[1]

_____ is committed to the goal of establishing an evidence-based policy for safely transporting children by ambulance. Such a policy would ensure a safer environment for the patients who rely on _____ to act on their behalf. Safe ambulance transport should be considered as a standard of care by _____ and equivalent to maintaining an open airway, adequate ventilation and the maintenance of cardiovascular circulation.[2]

Purpose
To ensure safe transport of ill and injured neonatal/pediatric patients in the care of _____.

Policy
All neonatal/pediatric patients shall be transported using a pediatric restraint device approved by the Medical Director. These include the following:

- *Insert agency specific product*

It is never appropriate to transport a neonatal/pediatric patient in any of the following ways:

- Unrestrained
- On someone's lap (this includes babies born in the field);
- Only using horizontal stretcher straps if the patient does not fit in the shoulder straps;

1. *Working Group Best-Practice Recommendations for the Safe Transport of Children in Emergency Ground Ambulances (NHTSA, September 2012). nhtsa.gov/staticfiles/nti/pdf/811677.pdf*
2. *Safe Transport of Children by EMS: Interim Guidance (NAEMSO, March 2017). nasemso.org/wp-content/uploads/Safe-Transport-of-Children-by-EMS-InterimGuidance-03Mar2017.pdf*

Safe Transport

Keeping our pediatric patients safe

By: Florida EMS for Children Florida

Objectives

1. Identify risks involved with transporting pediatric patients
2. Identify resources available for restraint of the pediatric patient
3. Learn about National Highway and Transportation Safety Administration's (NHTSA) efforts to improve child safety and their specific guidelines for ambulances
4. Identify developmental age distractions for separation and securement of the pediatric patient.

Pediatric EMS literature

Please email Florida pediatric EMS and ED related publications to pedready@jax.ufl.edu

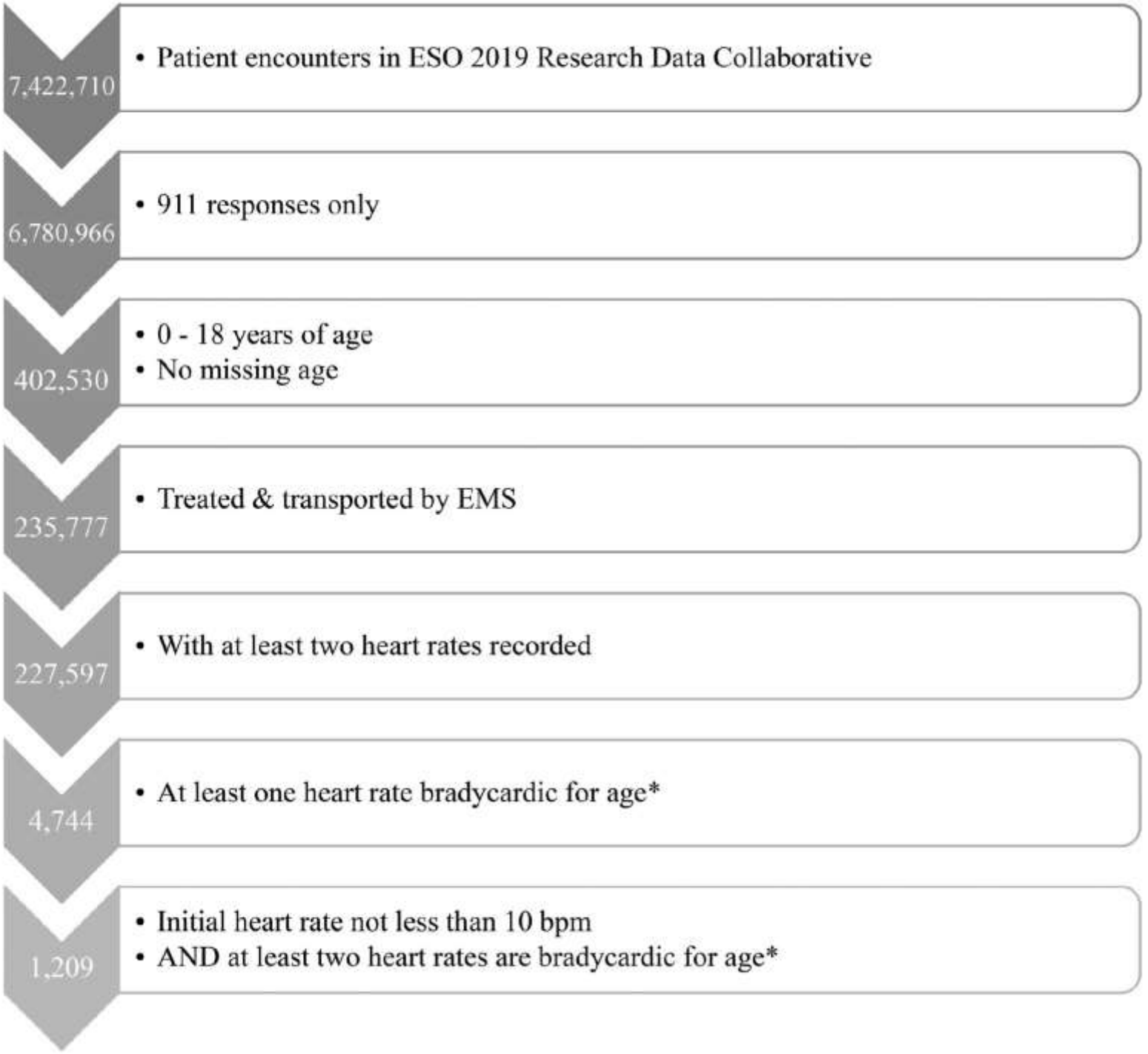
Pediatric Bradycardia is Undertreated in the Prehospital Setting: A Retrospective Multi-agency Analysis by *Andrew Hanna*, Remle P. Crowe, Jennifer N. Fishe
https://www.tandfonline.com/doi/full/10.1080/10903127.2021.2018075

Background: Bradycardia is the most common terminal cardiac electrical activity in children, and early recognition and treatment is necessary to avoid cardiac arrest. Interventions such as oxygen, chest compressions, epinephrine, and atropine recommended by American Heart Association (AHA) Pediatric Advanced Life support (PALS) guidelines have been shown to improve outcomes (including higher survival rates) for inpatient pediatric patients with bradycardia. However, little is known about the epidemiology of pediatric prehospital bradycardia. We sought to investigate the incidence and management of pediatric bradycardia in the prehospital setting by emergency medical services (EMS).

Methods: This was a retrospective study of 911 scene response prehospital encounters for patients ages 0–18 years in 2019 from the United States ESO Research Data Collaborative. We defined age-based bradycardia per the 2015 AHA PALS guidelines. We performed general descriptive statistics and a univariate analysis examining any PALS-recommended interventions in the presence of altered mental status, hypotension for age, and a first heart rate less than 60.

Results: Of 7,422,710 encounters in the 2019 ESO Data Collaborative, 1,209 patients met inclusion criteria. Most (58.5%) were male, and the median age was 2 years (interquartile range 0–13 years). One-quarter (24.7%) of patients received fluids, and bag-valve mask ventilation was the most common airway intervention (12.1% of patients). Receipt of any PALS-recommended interventions was associated with age-adjusted hypotension (odds ratio (OR) 4.0, 95% confidence interval (CI) 3.9–5.4) and altered mental status (OR 15.5, 95% CI 10.7–22.3), but not a first heart rate less than 60 bpm (OR 0.9, 95% CI 0.6–1.1).

Conclusions: To our knowledge, this study is the first to examine the incidence and management of prehospital pediatric bradycardia. Incidence was rare, but adherence to PALS guidelines was variable. Further research and education are needed to ensure proper prehospital treatment of pediatric bradycardia.


7,422,710
• Patient encounters in ESO 2019 Research Data Collaborative
6,780,966
• 911 responses only
402,530
• 0 - 18 years of age
• No missing age
235,777
• Treated & transported by EMS
227,597
• With at least two heart rates recorded
4,744
• At least one heart rate bradycardic for age*
1,209
• Initial heart rate not less than 10 bpm
• AND at least two heart rates are bradycardic for age*

RESULTS

Patient Characteristics	N (%)
Male Sex	708 (58.5%)
Race	
White	618 (51.1%)
Black	348 (28.8%)
Other	138 (11.4%)
Unknown	30 (2.5%)
Ethnicity	
Not Hispanic or Latino	855 (70.7%)
Hispanic or Latino	145 (12.0%)
Age (years)	
Median (Interquartile Range)	2 (0-13)
PALS Age Category (years)	
<1	326 (27.0%)
1-2	287 (23.7%)
3-5	116 (9.6%)
6-11	153 (12.6%)
12-18	327 (27.1%)

EMS Encounter Characteristics	N (%)
Unit Level of Care	
ALS	952 (78.7%)
BLS	65 (5.4%)
Scene Location	
Home/Residence	659 (54.5%)
Outpatient Medical Facility	150 (12.4%)
Street or Highway	131 (10.8%)
Other	211 (17.5%)
CMS Urbanicity Category	
Rural	197 (16.3%)
Urban / Suburban	1,010 (83.6%)
EMS Provider Primary Impression Category	
Trauma	210 (17.4%)
Neurologic/Seizure/AMS	197 (16.3%)
Respiratory	165 (13.6%)
Cardiac	142 (11.7%)
Abdominal Pain	66 (5.4%)
Syncope	63 (5.2%)
Other	360 (29.8%)
EMS Scene Time in minutes, Median (IQR)	12.5 (8-18.3)
EMS Transport Time in minutes, Median (IQR)	13.0 (8-20.3)

RESULTS

Select Medications & Procedures	N (%)
Medications Administered (Total Patients N=769)	
Epinephrine	423 (55%)
Bronchodilator	63 (8.2%)
Opioid	44 (5.7%)
Naloxone	41 (5.3%)
Sodium bicarbonate	27 (3.5%)
Atropine	15 (2.0%)
Patients with Fluids Administered	299 (24.7%)
Airway Procedures Performed	
Supraglottic Airway	31 (2.6%)
Endotracheal Tube	91 (7.5%)
Bag-valve mask ventilation	146 (12.1%)
Blow-by oxygenation	29 (2.4%)
Non-rebreather oxygenation	61 (5.0%)
Nasal cannula oxygenation	35 (2.9%)
Non-Airway Procedures Performed	
IV attempts / successful / unique patients	565 / 391 / 411 (34.0%)
IO attempts / successful / unique patients	178 / 143 / 146 (12.1%)
Blood Glucose Measurement	19 (1.6%)
Electrocardiogram	462 (38.2%)
Online Medical Direction	102 (8.4%)
Defibrillation	18 (1.5%)
Pacing	1 (<1%)
CPR	171 (14.1%)

Any PALS Intervention	Hypotension		
	No	Yes	
No	567	95	662
Yes	174	116	290
	741	211	952
Chi square p value < 0.0001			
OR 4.0, 95% CI 2.9-5.5			

Any PALS Intervention	AMS		
	No	Yes	
No	479	183	662
Yes	42	248	290
	521	431	952
Chi square p value < 0.0001			
OR 15.5, 95% CI 10.7-22.3			

Any PALS Intervention	Initial HR < 60		
	No	Yes	
No	372	290	662
Yes	174	116	290
	546	406	952
Chi square p value = 0.27			
OR 0.9, 95% CI 0.6-1.1			

AMS = altered mental status, defined as Glasgow Coma Score less than 15

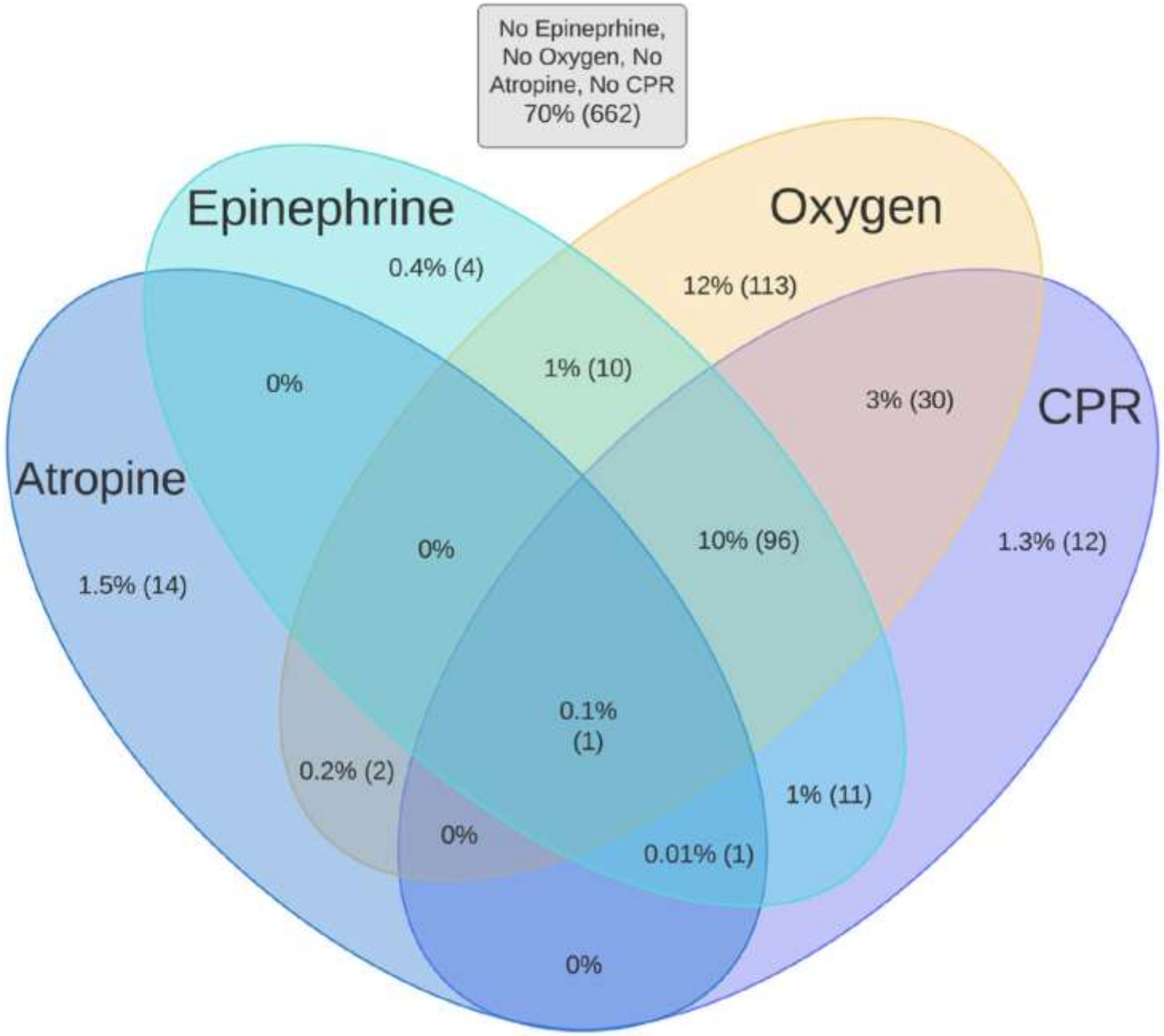
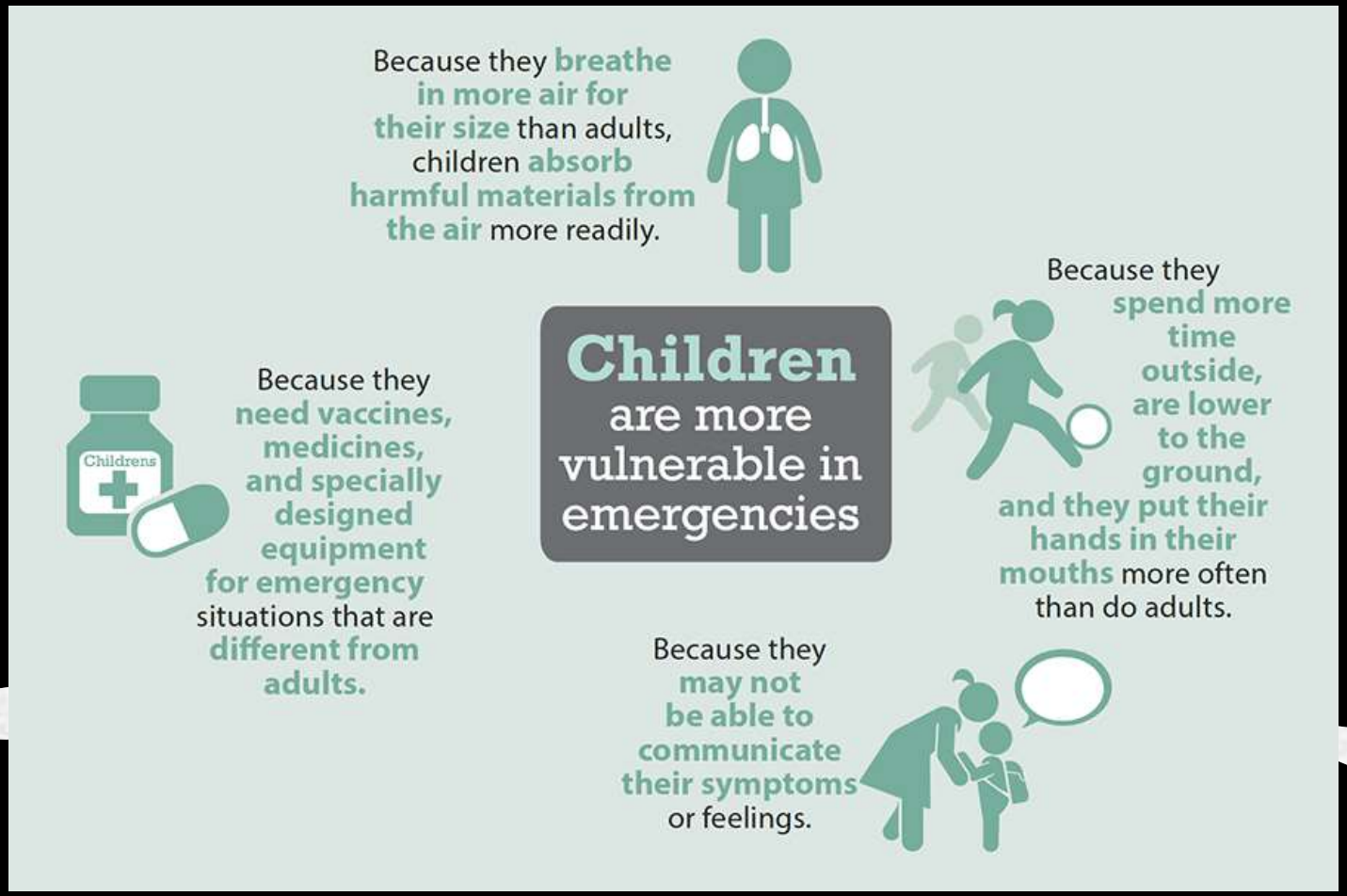


Figure 2. Venn diagram of EMS-administered treatments to prehospital pediatric patients with bradycardia (total N = 952). Note: Oxygen defined as any administration of supplemental oxygen via the following devices: endotracheal tube, supraglottic airway, bag-valve mask device, non-rebreather mask, nasal cannula, or blow-by.

Discussion

- YOUNG MEDIAN AGE
- MAJORITY CARED FOR BY ALS
- 54% WITH HYPOTENSION RECEIVED PALS INTERVENTIONS
- 57% WITH AMS RECEIVED PALS INTERVENTIONS
- ONLY 769 PATIENTS RECEIVED ANY MEDICATIONS
- AGE-ADJUSTED HYPOTENSION AND GCS < 15 SIGNIFICANTLY ASSOCIATED WITH ANY PALS INTERVENTION, BUT NOT INITIAL HEART RATE LESS THAN 60 BPM



Pediatric Disaster and Mental Health

Pediatric Disaster and Mental Health

June 6, 2022, Homeland Security for Children Act signed which requires Department of Homeland Security to ensure needs of children are considered in homeland security planning. The act directs FEMA to identify and integrate the needs of children into all emergency preparation, protection, response and recovery activities dealing with natural and man-made disasters as well as terrorist actions.

Creates a new position of Children's Technical Expert within FEMA

Space Aliens – Emergency Management Roles & Responsibilities:
https://www.domesticpreparedness.com/preparedness/space-aliens-emergency-management-roles-responsibilities/

JumpSTART badge buddies
https://emlrc.org/wp-content/uploads/JumpSTART-badge-buddy-2021-v2.pdf

EIIC Pediatric Disaster Toolkit: Is your disaster plan pediatric ready?
(Nasca and Jean-Jacques working group members)
https://media.emscimprovement.center/documents/EIICDisasterChecklist_2022.04.11.pdf

Disaster communication cards for pediatric decontamination (R Ritola)

Disaster Committee report

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

Over 4000 distributed

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

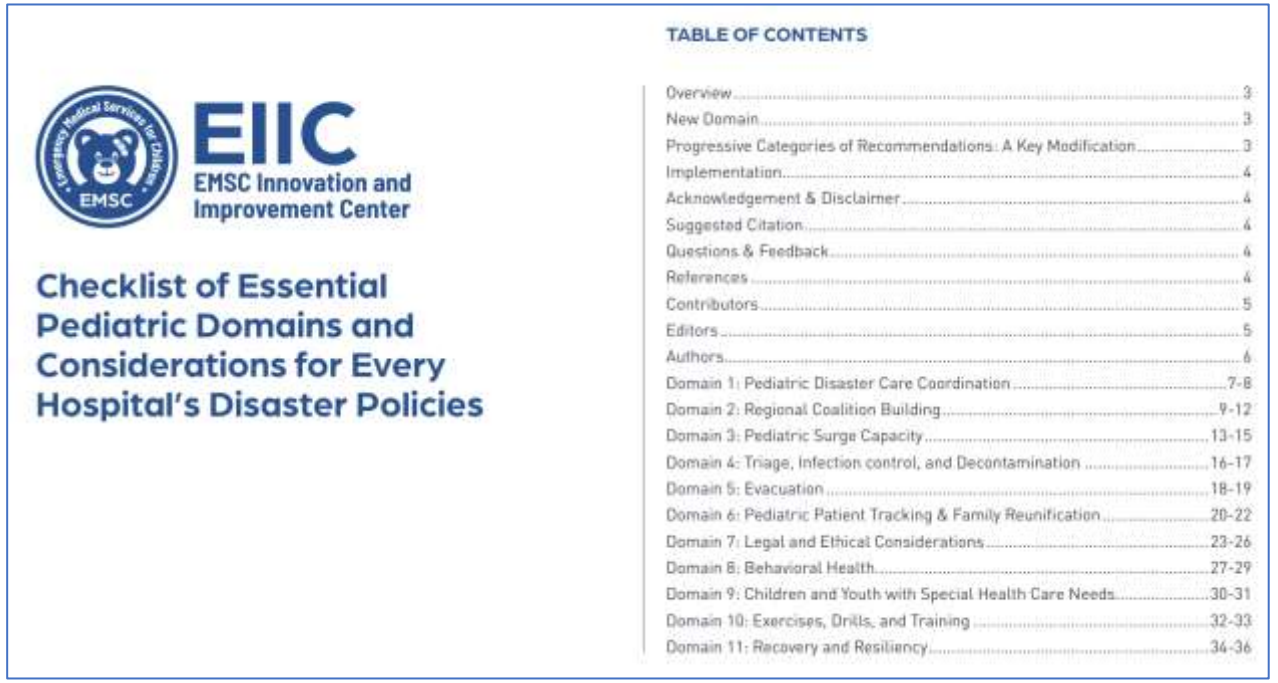
*Presence of 2° sex characteristics; **Consider developmental level

CONDUCT SECONDARY TRIAGE IN THE TREATMENT PHASE

EIIC Pediatric Disaster Toolkit: Is your disaster plan pediatric ready?

- Nasca and Jean-Jacques working group members, draft input by FL EMSCAC members

https://media.emscimprovement.center/documents/EIICDisasterChecklist_2022.04.11.pdf



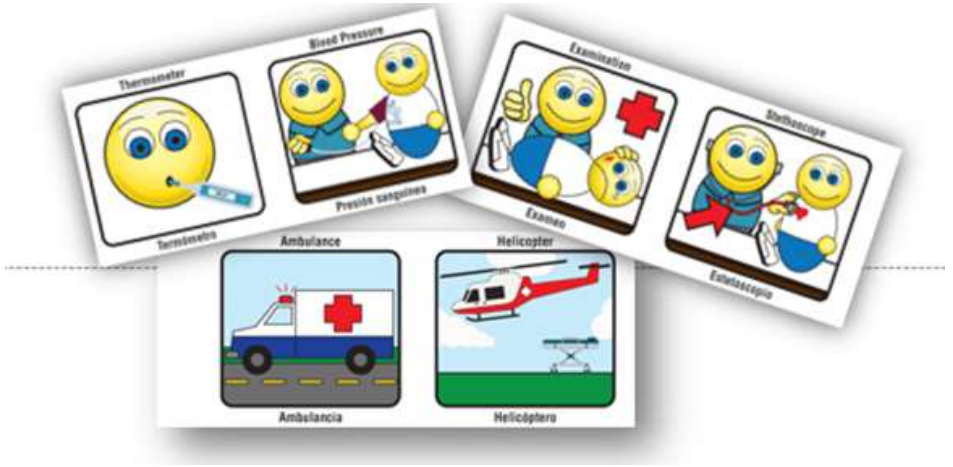
DOMAIN 4: TRIAGE, INFECTION CONTROL, AND DECONTAMINATION

Preparing for the initial stages of a disaster response including triaging and decontamination is essential in an effective disaster response and there are several necessary considerations unique to the pediatric population.

	FOUNDATION	INTERMEDIATE	ADVANCED
Pediatric infectious disease, chemical or biological exposure suspected	○ Identify a separate triage area and entrance away from other ED patients for both infectious and/or chemical exposure concerns. ○ Ensure adequate PPE (gown, gloves, mask (including N95 for airborne or PAPR)) is easily available to staff. ○ Establish a relationship with a regional pediatric center and/or pediatric infectious disease specialist for consultation as needed ahead of time.	○ Establish an isolation area for infectious disease exposures/concerns (ideally negative pressure areas for all airborne disease: measles, TB, SARS, MERS, COVID, Ebola) ○ Enforce a Limited Visitor Policy, allowing for one parent/guardian with a child. ○ If a negative pressure room is not available, identify a space with doors that will remain closed. ○ Secure pediatric PPE including disposable pediatric-sized face masks.	○ Set up appropriate PPE donning/doffing stations outside of all rooms ○ Establish washing/shower areas in or next to isolation rooms
Decontamination	○ Establish a basic contamination process if no decontamination area is available: • Disrobe patient • Wipe down skin • Irrigate eyes • Provide clean patient gowns/blankets ○ Keep families together when possible and allow parents to wash children. ○ Be mindful that children are at risk of hypothermia and have towels/dry clothes ready for children.	○ Establish a dedicated decontamination area with specific pediatric considerations. ○ Ensure staff is available to direct patients to the decontamination area. ○ Develop a plan to move small/immobile children through showers as they are a fall risk. Do not hold child. Consider using a laundry basket/bassinet/other safe way of moving a child through the shower. ○ Aim for a 3–6 minute shower with a water temperature of between 98-110oF (to avoid hypothermia) and max water pressure of 60 psi (to avoid damage to skin).	○ Protect modesty when possible, including separating sexes other than family members with curtains. ○ Provide same-sex staff member to help when family not available ○ Provide modesty covers to patients immediately after showering
Process for disinfection of communally available toys in the facility	○ Wipe down all toys and shared objects with bleach wipes or disinfectant wipes after every use regardless of patient chief complaint		

Pediatric Disaster

- Communication cards for disaster communication during a pediatric decontamination (R Ritola)
- Disaster Committee updates

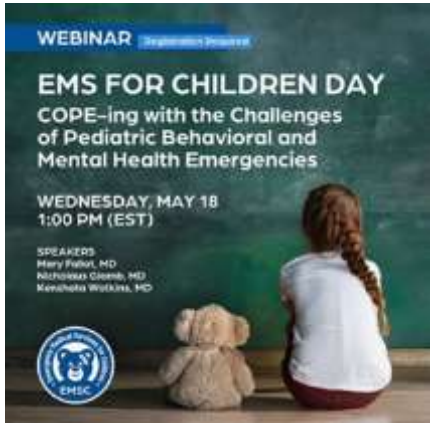


Pediatric Disaster and Mental Health: EIIC National Resources

Pediatric suicide screening tools and mental health care resources for prehospital professionals, ED, patients, and families: PEAK: Suicide and the New England Regional Behavioral Health Toolkit.

EMSC Day webinar, "*COPE-ing with the Challenges of Pediatric Behavioral and Mental Health Emergencies.*" Led by Drs. Nicolaus Glomb, Kenshata Watkins, and Mary Fallat explored prehospital behavioral health emergency management and the Compassionate Options for Pediatric EMS or "COPE" program that provides debriefing tools for EMS after challenging pediatric calls.
https://emscimprovement.center/domains/prehospital-care/ems-week/webinars/

EMSC_Day_2022_Webinar_Slides_Reduced_File_Size.pdf (emscimprovement.center)



Children with Special Health Care Needs

- Children with Special Healthcare Needs (CSHCN or CYSHN) and autism-related projects
https://emscimprovement.center/domains/preparedness/asprcoe/eglpcdr/cyshcn/

- CSHCN STAR questions (previously presented by Advent Health – Robin Ritola / Chantelle Bennet Child Life Specialist)
STAR = Sensory, Tactile, Auditory, Rockstar.
How to adapt for EMS and share with other EDs and EMS

- STARS: Special Needs Tracking & Awareness Response System (N Shimko) https://www.ssmhealth.com/cardinal-glennon/resources/health-professionals/stars-for-special-needs-kids

Children with Special Healthcare Needs: STAR questions **S**ensory, **T**actile, **A**uditory, **R**ockstar (Advent Health)

In 2021, CDC reported 1 in 44 children in the U.S. is diagnosed with an autism spectrum disorder (ASD), according to 2018 data

Are there any safety concerns/behaviors to be aware of?

☐ Hurts/harms self (comment) ☐ Hurts/harms other (comment) ☐ Throws objects ☐ Biting
☐ Grabbing ☐ Head butting ☐ Kicking ☐ Pinching ☐ Pulling hair ☐ Swatting ☐ Scratching
☐ Elopement

How does the patient communicate best?

Verbal

☐ Making sounds ☐ Single word utterance ☐ Short phrases ☐ Echolalia (repeats others)
☐ Conversational ☐ Other (comment)

Non-Verbal

☐ American Sign Language (ASL) ☐ Tablet/Assistive communication device
☐ Typed/Written words ☐ Pictures/Symbols ☐ Facial Expressions
☐ Physical Motion (rocking, flapping, squeezing hands, etc.) ☐ Pointing/Gesturing
☐ Guiding/Leading by the hand

Unknown (free text comment)

Children with Special Healthcare Needs: STAR questions **S**ensory, **T**actile, **A**uditory, **R**ockstar (Advent Health)

What experiences may be upsetting to the patient?

☐ N/A
☐ Loud or unexpected noises ☐ Bright lights ☐ Touch to a specific part of body (free text) ☐ Specific words or phrases (free text) ☐ Unfamiliar people ☐ Waiting areas/waiting
☐ Family/Caregiver Departure ☐ Crowded or full rooms/ too many people in personal space ☐ Smells
☐ Food aversions ☐ Sound of crying babies ☐ Pain ☐ Textures/Fabrics ☐ Denying patient's requests
☐ Changes in routine ☐ Transitions ☐ NPO status ☐ Movement restriction ☐ Boredom ☐ Lack of attention ☐ Other (comment)

Children with Special Healthcare Needs: STAR questions **S**ensory, **T**actile, **A**uditory, **R**ockstar (Advent Health)

What procedures or healthcare experiences may be upsetting to the patient?

☐ Prolonged, lengthy visits ☐ Anesthesia or oxygen mask ☐ Stethoscope ☐ Blood Pressure Cuff
☐ Venipunctures/Needles ☐ Tourniquet ☐ Tape/Adhesive ☐ Exams to specific body parts (free text)
☐ Lying down ☐ Other (comment)

Best ways to calm the patient?

☐ Walking or exploring environment ☐ Decrease stimulation/number of people in the room
☐ Teether/Chewable item ☐ Low lighting/sunglasses ☐ Light up toys ☐ Headphones to decrease noise
☐ Soothing music ☐ Heavy mat/blanket ☐ Videos/movie ☐ Vibration toys ☐ Aromatherapy scents
☐ Comfort item (free text) ☐ Counting ☐ Talking ☐ Limited talking ☐ Showers ☐ Deep breathing
☐ Pressure ☐ Preferred caregiver ☐ Food ☐ Book/tablet ☐ Other (comment)

Special needs Tracking and Awareness Response System

LEE HEALTH

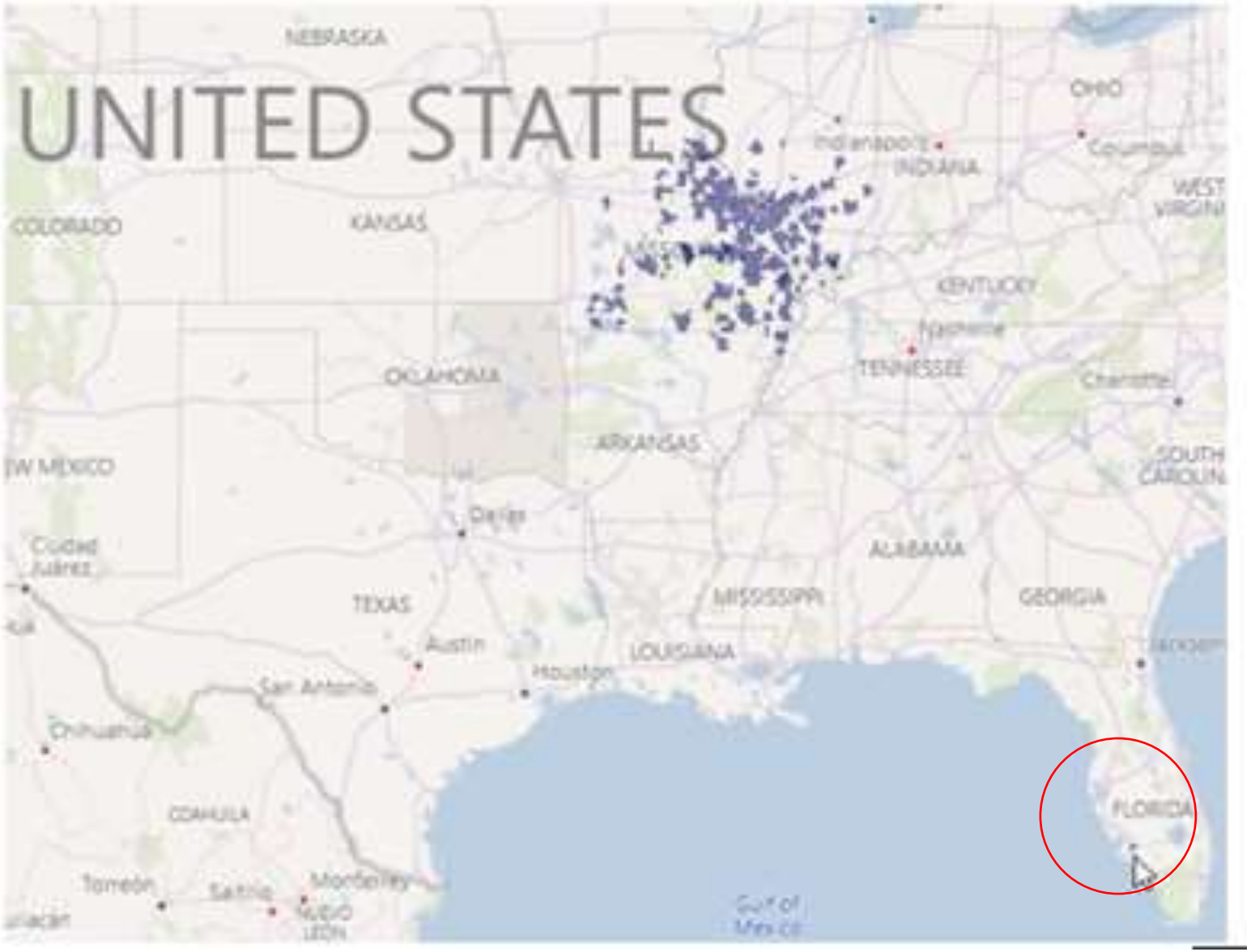
SSMHealth
CardinalGlennon
Children's Hospital

Golisano
Children's Hospital
of Southwest Florida
LEE HEALTH

LEE COUNTY
PUBLIC SAFETY
EM
911

LEHIGH
FIRE
RESCUE
ACRES

FORT MYERS BEACH
FIRE-RESCUE-EMS


UNITED STATES
NEBRASKA
COLORADO
KANSAS
OKLAHOMA
TEXAS
ARKANSAS
LOUISIANA
MISSISSIPPI
ALABAMA
GEORGIA
FLORIDA
TENNESSEE
KENTUCKY
INDIANA
OHIO
Austin
Houston
San Antonio
Dallas
Chihuahua
COAHUILA
Torreón
Saltillo
Monterrey
NUEVO LEON
Gulf of Mexico

What *is* STARS?

A comprehensive, hospital based system that was created to improve emergency care for medically complex children.

Strong focus on providing education to EMS and community hospitals *prior* to an emergency occurring.

Emergency plans are housed electronically and created with the capabilities and limitations of EMS & community hospitals in mind.

Plans include:

- Baseline VS
- Baseline neuro status
- Diagnosis and past procedure list
- Medication and allergy lists
- Medical equipment list with settings and sizes.
- Anticipated Emergencies and known treatment suggestions
- Caution notes
- Attachments: Specialty clinic care notes for ongoing care, current photos, equipment instructions, Advance directives, custodial documents and more.

The STARS Database

- Centralized, web-based system that houses living emergency information plans for medically complex pediatric patients.

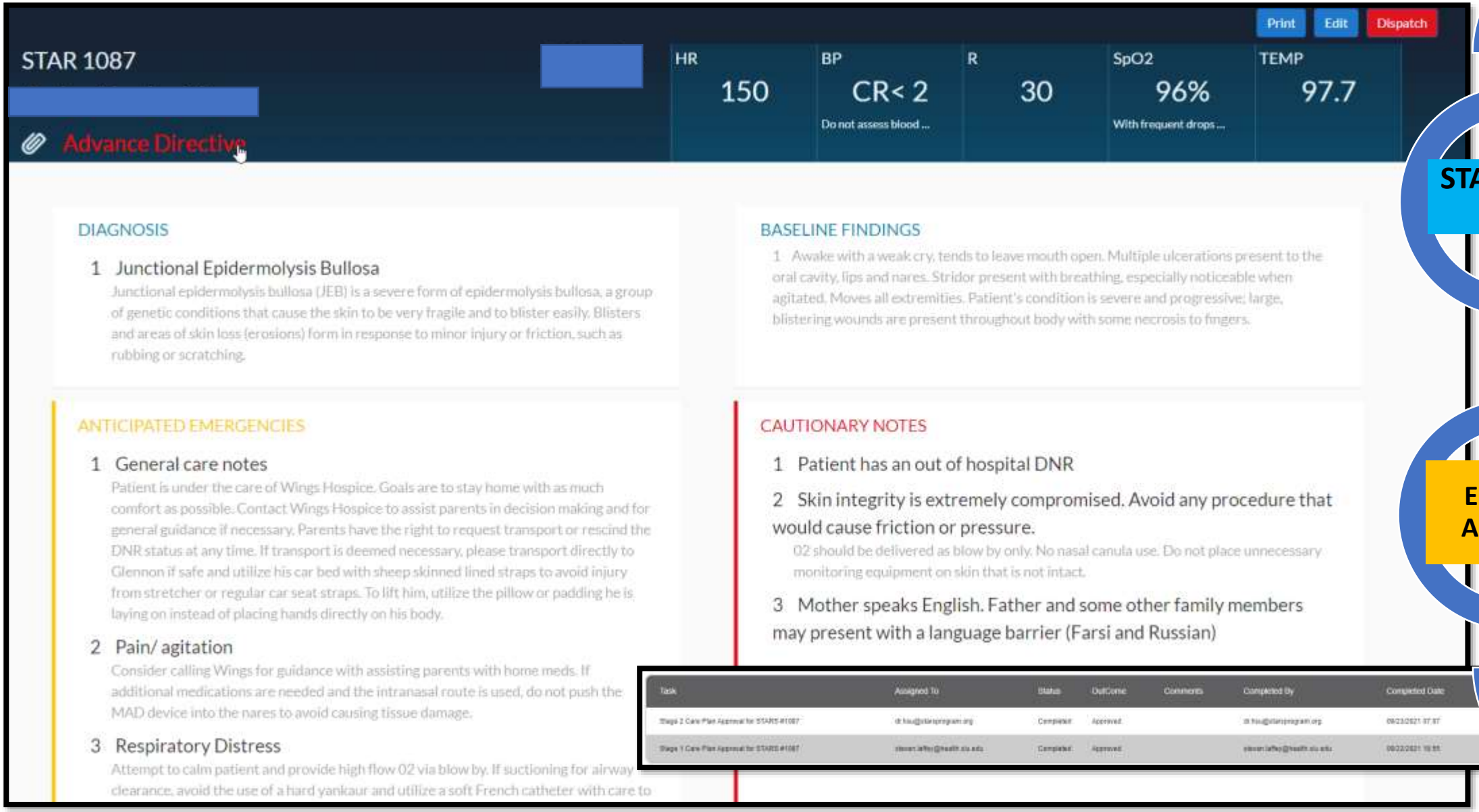
- Plans are written and maintained by pediatric hospitals. EMS MDs serve as gate keepers to approve the plans before they are “live” in the system. This allows EMS MDs to review, approve or defer back any special treatment orders that may be included in the plan.

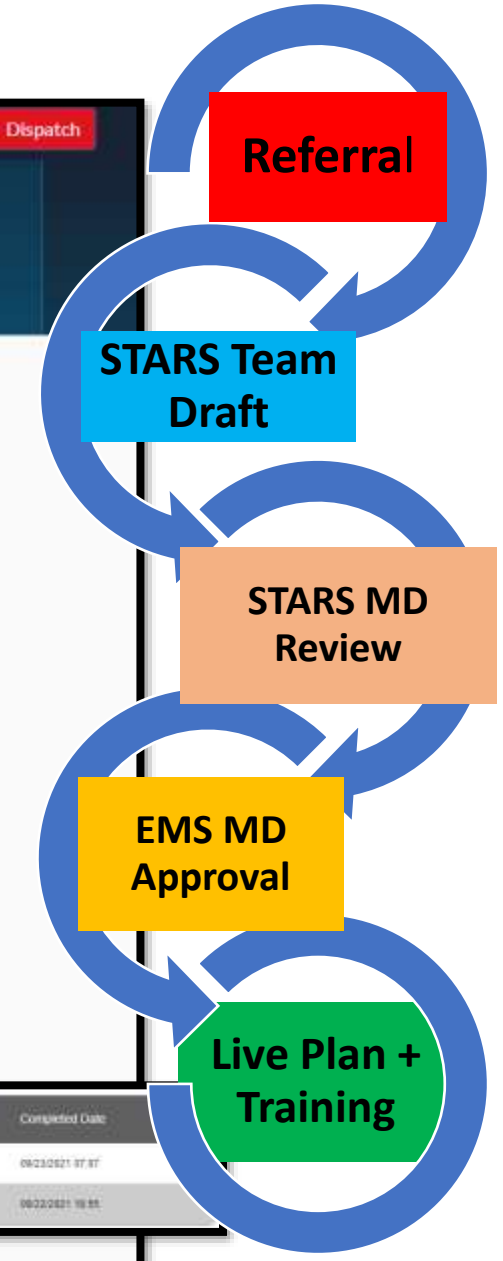
- When 911 is activated, children are identified as a “STARS Patient”

- Each child is identified by a STARS number. 911 dispatch centers access the system and can send the emergency plans to responding ambulances via a secure text link.

- Upon discharge or soon after, the patient/family will have a paper copy

STARS Plan Creation





Why?

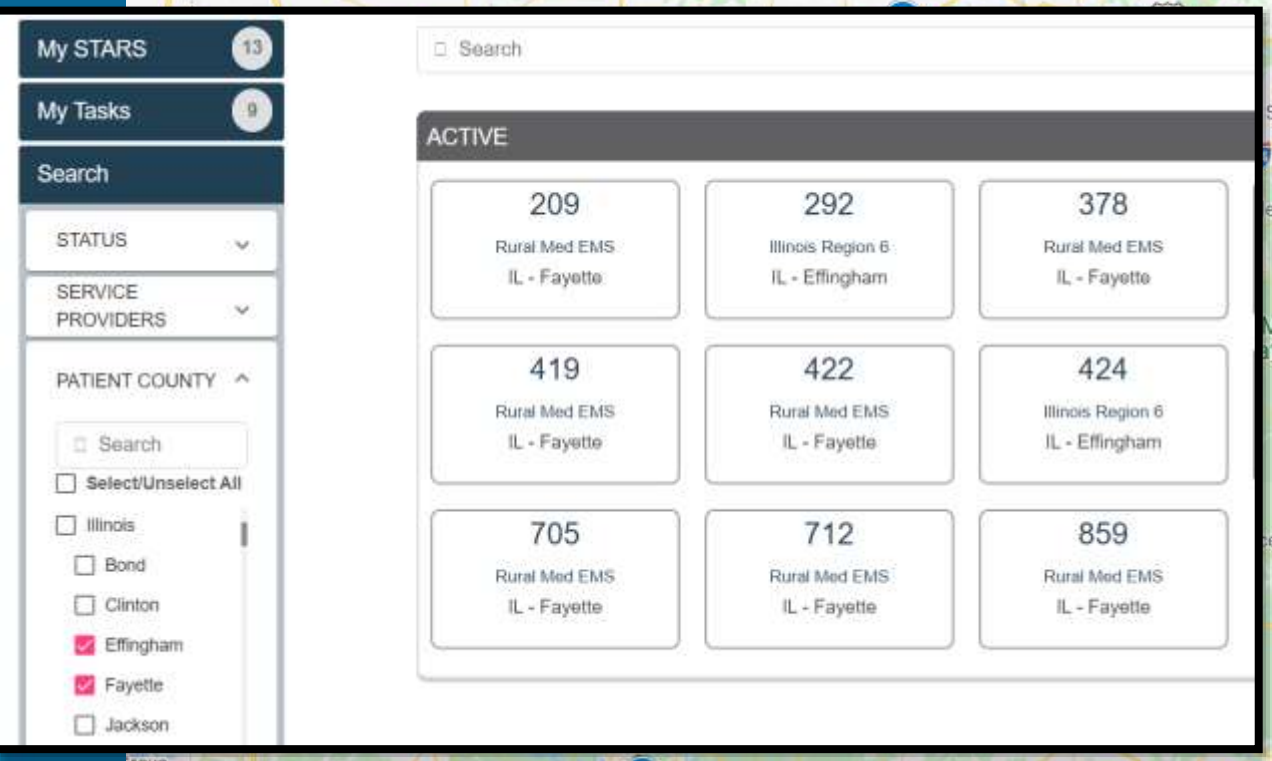
- The AAP, ACEP, ATS, and EMSC all state that emergency forms should be created for children with special health care needs and that EMS should be familiar with the equipment and special needs of the children within their areas.
- Simply alerting EMS to a high risk child in the area or providing an emergency information form does not work.
- Poor outcomes, including death and neurological devastation have occurred due to inefficient emergency pre-planning.
- As pediatric champions, we need to stop accepting such an extreme decrease in safety measures when our fragile children leave our hospitals.
- They matter.

LEE HEALTH

More than just emergency plans.

- Education + Call Reviews
- In-house and System Provider Meetings
- Ongoing QA & QI
- Disaster Planning
- Advocacy
- Tracking and data collection for population health

Disaster Planning



STARS: Phased Projects

Phase 1

Golisano and Lee County EMS – enroll patients and start the program

Start with Lee County (including Ft. Myers Beach and Lehigh Fire and Rescue)

Bring together EMS and Fire – identify Lee County Fire for access

Phase 2

Hands-on patient Education

Phase 3

Bring on Desoto and Hendry County

Phase 4

Bring on Collier and Charlotte County

One Kid Counts

Exceptional Lee

LEE HEALTH

Autism
(focus for future webinar or next meeting)

- 5/31 Florida EMS Webinar series: Autism Interaction for First Responders, Lt. Ryan Woodard, NRP, Oklahoma City Fire Dept. and Autism Foundation of Oklahoma (recording link)
- Florida CARD centers (Center for Autism and Related Disorders): http://florida-card.org/map.htm
  -Temple Terrace FD example (Dr. B Shepard)
- ? Adapt distraction toolkits
- Autism CHOP PEM Podcast: Eron Friedlaender, MD shares her expertise as a physician and parent in caring for the child with autism in the ED https://podcasts.apple.com/us/podcast/chop-pem-podcast/id1543470608?i=1000555457178
- PBCFR creating kits for pediatric EMS patients and pediatric EMS scene bystanders regarding patients on the autism spectrum

HRSA-EMSC Programs

Emergency Medical Services for Children

EMSC Innovation and Improvement Center (EIIC)

EIIC

Emergency Medical Services for Children Innovation and Improvement Center

National EMSC Data Analysis Resource Center (NEDARC)

NEDARC

National PRP Pediatric Readiness Project Ensuring Emergency Care for All Children

State Partnership Programs

EMSC MINNESOTA

HAWAII EMSC

CALIFORNIA EMSC Emergency Medical Services for Children

EMSC

Pediatric Emergency Care Applied Research Network (PECARN)

PECARN

PEDC Workforce PWDC Development Collaborative

National EMSC Related Updates

EIIC Prehospital Pediatric Readiness Toolkit and Checklist: https://media.emscimprovement.center/documents/Prehospital_Pediatric_Readiness_Checklist_Final.pdf

EIIC Pediatric Readiness for EDs- checklists **updated 2021**

- https://media.emscimprovement.center/documents/NPRP_Modified_Interactive_Checklist_Final.pdf

- https://media.emscimprovement.center/documents/NPRP_Checklist_Final_Apr2021.pdf

Pediatric Readiness in the Emergency Department

This checklist is based on the American Academy of Pediatrics (AAP), American College of Emergency Physicians (ACEP), and Emergency Nurses Association (ENA) 2018 joint policy statement "Pediatric Readiness in the Emergency Department," which can be found online at: https://pediatrics.aappublications.org/content/pediatrics/142/5/e20182459.full.pdf. Use this tool to check if your hospital emergency department (ED) has the most critical components listed in this joint policy statement.

Administration and Coordination of the ED for the Care of Children

- ☐ Physician Coordinator for Pediatric Emergency Care (PECC)*
  - Board certified/eligible in EM or PEM (preferred but not required for resource limited hospitals)
  - The Physician PECC is not board certified in EM or PEM but meets the qualifications for credentialing by the hospital as an emergency clinician specialist with special training and experience in the evaluation and management of the critically ill child.
- ☐ Nurse Coordinator for Pediatric Emergency Care (PECC)*
  - CPEN/CEN (*preferred*)
  - Other credentials (e.g. CPN, CCRN)

**An Advanced Practice Provider may serve in either of these roles. Please see the guidelines/ toolkit for further definition of the role(s).*

Physicians, Advanced Practice Providers (APPs), Nurses, and Other ED Healthcare Providers

- ☐ Healthcare providers who staff the ED have periodic pediatric-specific competency evaluations for children of all ages. Areas of pediatric competencies include any/all of the following:
  - Assessment and treatment (e.g. triage)
  - Medication administration
  - Device/equipment safety
  - Critical procedures
  - Resuscitation
  - Trauma resuscitation and stabilization
  - Disaster drills that include children
  - Patient and family-centered care
  - Team training and effective communication

Guidelines for QI/PI in the ED

- ☐ The QI/PI plan includes pediatric-specific indicators
  - Data are collected and analyzed
  - System changes are implemented based on performance

ED Policies, Procedures, and Protocols

Policies, procedures, and protocols for the emergency care of children. *(These policies may be integrated into overall ED policies as long as pediatric-specific issues are addressed)*

- ☐ Illness and injury triage
- ☐ Pediatric patient assessment and reassessment
- ☐ Identification and notification of the responsible provider of abnormal pediatric vital signs
- ☐ Immunization assessment and management of the under-immunized patient
- ☐ Sedation and analgesia, for procedures including medical imaging
- ☐ Consent, including when parent or legal guardian is not immediately available
- ☐ Social and behavioral health issues
- ☐ Physical or chemical restraint of patients
- ☐ Child maltreatment reporting and assessment
- ☐ Death of the child in the ED
- ☐ Do not resuscitate (DNR) orders
- ☐ Children with special health care needs
- ☐ Family and guardian presence during all aspects of emergency care, including resuscitation
- ☐ Patient, family, guardian, and caregiver education
- ☐ Discharge planning and instruction
- ☐ Bereavement counseling
- ☐ Communication with the patient's medical home or primary care provider as needed.
- ☐ Telehealth and telecommunications

All-Hazard Disaster Preparedness

The written all-hazard disaster-preparedness plan addresses pediatric-specific needs within the core domains including:

- ☐ Medications, vaccines, equipment, supplies and trained providers for children in disasters
- ☐ Pediatric surge capacity for injured and non-injured children
- ☐ Decontamination, isolation, and quarantine of families and children of all ages
- ☐ Minimization of parent-child separation
- ☐ Tracking and reunification for children and families

- ☐ Evidence-based clinical pathways, order sets or decision support available to providers in real time

Inter-facility Transfers

- ☐ Written pediatric inter-facility transfer agreements
- ☐ Written pediatric inter-facility transfer guidelines. These may include:
  - Criteria for transfers (e.g. specialty services)
  - Criteria for selection of appropriate transport service
  - Process for initiation of transfer
  - Plan for transfer of patient information
  - Integration of family-centered care
  - Integration of telehealth/telecommunications

Guidelines for Improving Pediatric Patient Safety

Pediatric patient and medication safety needs are addressed in the following ways:

- ☐ Children are weighed in kilograms only
- ☐ Weights are recorded in kilograms only
- ☐ For children who require emergency stabilization, a standard method for estimating weight in kilograms is used (e.g., a length-based system)
- ☐ Infants and children have a full set of vital signs recorded
  - A full set of vital signs includes temperature, heart rate, respiratory rate, pulse oximetry, blood pressure, pain, and mental status when indicated in the medical record.
- ☐ CO2 monitoring for children of all ages
- ☐ Process for safe medication delivery that includes:
  - Prescribing
  - Administration
  - Disposal
- ☐ Pre-calculated drug dosing and formulation guides
- ☐ 24/7 access to interpreter services in the ED
- ☐ Timely tracking and reporting of patient safety events

Guidelines for ED Support Services

- ☐ Medical imaging capabilities and protocols address age- or weight-appropriate dose reductions for children.
- ☐ All efforts made to transfer completed images when a patient is transferred from one facility to another.
- ☐ Collaboration with radiology, laboratory and other ED support services to ensure the needs of children in the

Pediatric equipment, supplies, and medications are appropriate for children of all ages and sizes (see list below), and are easily accessible, clearly labeled, and logically organized.

- ☐ ED staff is educated on the location of all items.
- ☐ Daily method in place to verify the proper location and function of pediatric equipment and supplies
- ☐ Medication chart, length-based tape, medical software, or other systems is readily available to ensure proper sizing of resuscitation equipment and proper dosing of medications.
- ☐ Standardized chart or tool used to estimate weight in kilograms if resuscitation precludes the use of a weight scale (eg, length-based tape)

Medications

- ☐ Analgesics (oral, intranasal, and parenteral)
- ☐ Anesthetics (eutectic mixture of local anesthetics; lidocaine 2.5% and prilocaine 2.5%; lidocaine, epinephrine, and tetracaine; and LMX 4 [4% lidocaine])
- ☐ Anticonvulsants (benzodiazepines, levetiracetam, valproate, carbamazepine, fosphenytoin, and phenobarbital)
- ☐ Antidotes (common antidotes should be accessible to the ED e.g. naloxone)
- ☐ Antipyretics (acetaminophen and ibuprofen)
- ☐ Antiemetics (ondansetron and prochlorperazine)
- ☐ Antihypertensives (labetalol, nicardipine, and sodium nitroprusside)
- ☐ Antimicrobials (parenteral and oral)
- ☐ Antipsychotics (olanzapine and haloperidol)
- ☐ Benzodiazepines (midazolam and lorazepam)
- ☐ Bronchodilators
- ☐ Calcium chloride and/or calcium gluconate
- ☐ Corticosteroids (dexamethasone, methylprednisolone, and hydrocortisone)
- ☐ Cardiac medications (adenosine, amiodarone, atropine, procainamide, and lidocaine)
- ☐ Hypoglycemic interventions (dextrose, oral glucose)
- ☐ Diphenhydramine
- ☐ Epinephrine (1mg/mL [1Ml] and 0.1 mg/mL [IV] solutions)
- ☐ Furosemide
- ☐ Glucagon
- ☐ Insulin
- ☐ Magnesium sulfate
- ☐ Intracranial hypertension medications (mannitol, 3% hypertonic saline)
- ☐ Neuromuscular blockers (rocuronium and succinylcholine)
- ☐ Sucrose solutions for pain control in infants
- ☐ Sedation medications (midazolam, etomidate and ketamine)
- ☐ Sodium bicarbonate (4.2%)
- ☐ Vasopressor agents (dopamine, epinephrine and

National PRP Prehospital Pediatric Readiness EMS AGENCY CHECKLIST

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@emsimprovement.center

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

National EMSC Related Updates

NEDARC EMSC 2022 EMS Agency Survey closed March 31, 2022,
FL rate 81% !

- Focus on Performance Measures 2 and 3 (PECC and pediatric equipment): **Results pending**
- First year survey was *not* part of the FL annual EMS survey
- Feedback to NEDARC and HRSA

https://www.emscsurveys.org/docs/EMS%20for%20Children%20Assessment.pdf

https://nedarc.org/performanceMeasures/documents/2021NationalReportforEMSAgencies-final.pdf

NEDARC

National Emergency Medical Services for Children Data Analysis Resource Center

To better understand the EMS system's ability 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.

2021 National *EMS for Children Survey* Results

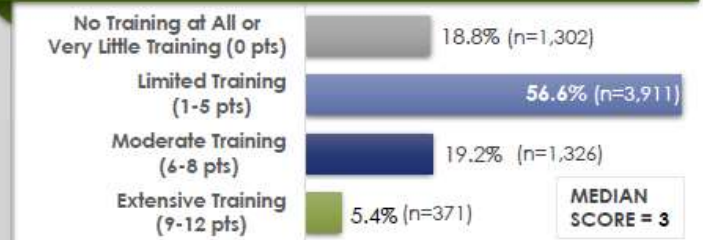
15,768 EMS agencies were sent survey

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

- Demonstration Skill
- Simulation Observation
- Field Observation

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.

Resources

- Pediatric Readiness in EMS Systems *(joint policy statement)*
- Prehospital Pediatric Readiness Toolkit
- Simulation-based assessment of paramedic pediatric resuscitation skills *(abstract)*
- Use of Pediatric-Specific Equipment *(video)*
- State EMS for Children Program Manager List *(online database)*

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.

Prepared by the National EMS for Children Data Analysis Resource Center (NEDARC), located at the University of Utah School of Medicine. July 2021 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 $3,000,000 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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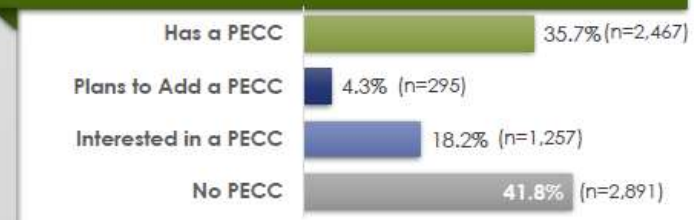
2021 National *EMS for Children Survey* Results

15,768 EMS agencies were sent survey

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.

PECC at Agencies



Agencies who Have a PECC – Top 5 Reported PECC Duties

Promote pediatric continuing education opportunities	97.1%
Ensure that fellow providers follow pediatric clinical practice guidelines and/or protocols	95.6%
Ensure the availability of pediatric medications, equipment, and supplies	92.2%
Oversee pediatric process improvement initiatives	87.9%
Ensure the pediatric perspective is included in the development of EMS protocols	83.2%

Resources

- Pediatric Readiness in EMS Systems *(joint policy statement)*
- Pediatric Emergency Care Coordinator Learning Collaborative *(webpage)*
- Pediatric Emergency Care Coordinator *(video)*
- Prehospital Pediatric Readiness Toolkit
- State EMS for Children Program Manager List *(online database)*

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, H. A., Ely, M., Richards, R., Shah, M. I., Busch, S., Pilkey, D., Dixon Hert, K., & Olson, L. M. (2018). Ready for Children: Assessing Pediatric Care Coordination and Psychomotor Skills Evaluation in the Prehospital Setting. *Prehospital Emergency Care*, DOI: p10.1080/10903127.2018.1542472.

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State/Territory: Florida

Survey Year: 2022

Florida EMS for Children Program

2022 EMS Agency Survey Results

Florida Data Collection Numbers:

Number of Respondents: 142
Number Surveyed: 176
Response Rate: 81%

Number of Records in Dataset (after data cleaning)*: 142
*Data cleaning includes removing agencies that do not respond to 911, duplicates, etc.

Performance Measures EMSC 02 and EMSC 03:

Number of Records Used in Performance Measure Calculation (see below): 141

Performance Measure Exclusions*:
Indian Health Services or Tribal Agencies Participating: 0, Military Facilities Participating: 1, Air-Only Agencies: 0, or Water-Only Agencies: 0.

* The agencies listed above are excluded from any final calculations related to the Performance Measures (see below). However, all states and/or territories were given the opportunity to survey these agencies for additional reporting based on state interest and need. Therefore, information from these agencies is included in all other data points.

Pediatric Emergency Care Coordinator (EMSC 02):

44.7%
(63/141)
(Exclusions See Above)

A respondent needed to answer YES to "Having a designated individual who coordinates pediatric emergency care" in the survey to meet this measure.

Use of Pediatric-Specific Equipment (EMSC 03):

32.6%
(46/141)
(Exclusions See Above)

See pg. 35 in the "EMSC for Children Performance Measures, Implementation Manual for State Partnership Grantees, Effective March 1st, 2017" for an explanation of the scoring.

Florida EMSC 02 - Pediatric Emergency Care Coordinator (PECC) Performance Measure Tren..

Trending Over Time:

There are many ways to measure improvement over time. On this page, you can see how your state performed for EMSC 02:

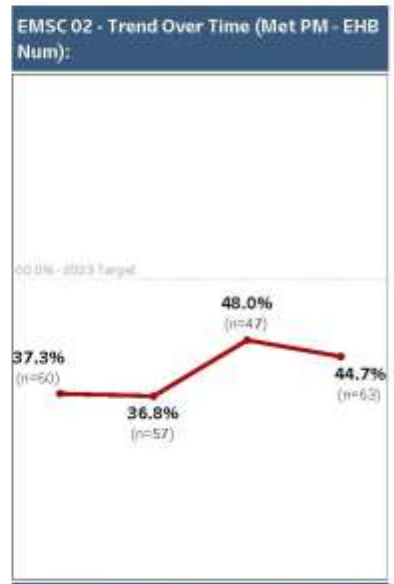
1) Trend Over Time - This looks at all respondents from all four survey years to see how your state's performance measure numbers are changing. The number of respondents may not be the same because response rates often change and the same agencies do not always participate.

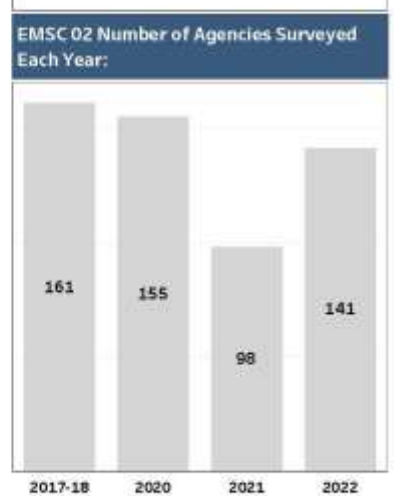
2) Trend Over Time (One to One Analysis) - This looks at only those agencies who participated in all four years of the survey. This type of analysis illustrates collective upward or downward movement with EMSC 02 over time for those agencies who completed the survey in all three years.

NOTE: EHB = Electronic Handbook. These are the official numbers that are reported to the EMSC Program.

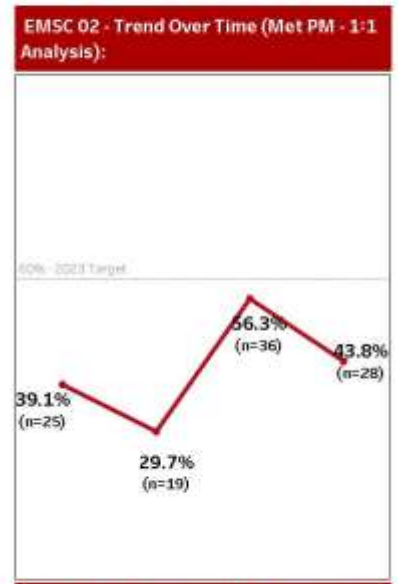
The horizontal dashed gray line in the graphs indicates the EMSC National Target for 2023 which is 60%.

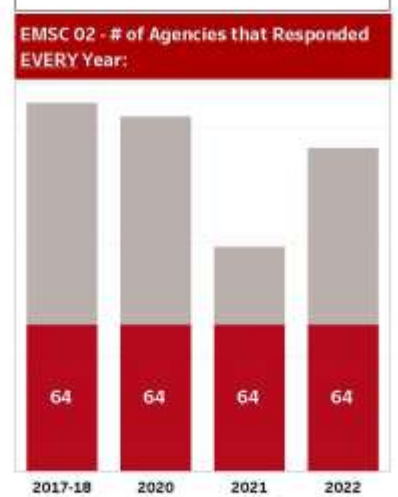
BELOW: Percent and Number of Florida Agencies that Reported Meeting EMSC 02 by Survey Year.





BELOW: Percentage and Number of Florida Agencies Participating in ALL FOUR Survey Years that Reported Meeting EMSC 02.





2022 preliminary data

Florida EMSC 03 - Use of Pediatric-Specific Equipment Performance Measure Trending:

Trending Over Time:

There are many ways to measure improvement over time. On this page, you can see how your state performed for EMSC 03:

1) Trend Over Time - This looks at all respondents from all four survey years to see how your state's performance measure numbers are changing. The number of respondents may not be the same because response rates often change and the same agencies do not always participate.

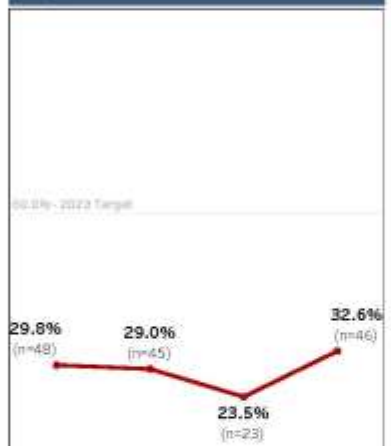
2) Trend Over Time (One to One Analysis) - This looks at only those agencies who participated in all four years of the survey. This type of analysis illustrates collective upward or downward movement with EMSC 03 over time for those agencies who completed the survey in all three years.

NOTE: EHB = Electronic Handbook. These are the official numbers that are reported to the EMSC Program.

The horizontal dashed gray line in the graphs indicates the EMSC National Target for 2023 which is 60%.

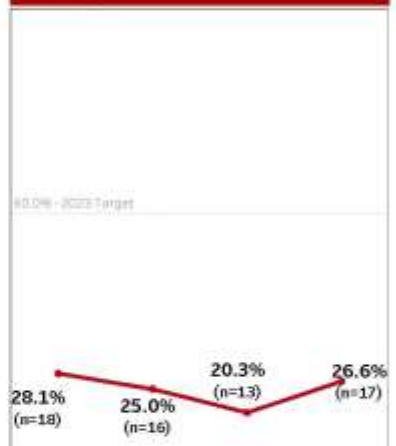
BELOW: Percent and Number of Florida Agencies that Reported Meeting EMSC 03 by Survey Year.

EMSC 03 - Trend Over Time (Met PM - EHB Num):

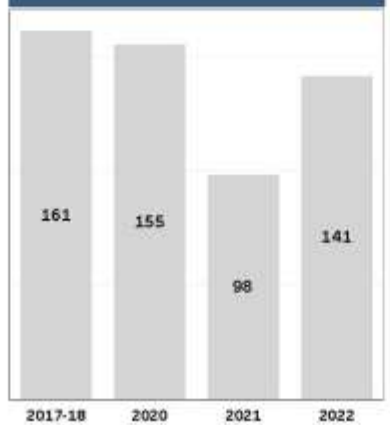


BELOW: Percent and Number of Florida Agencies Participating in ALL FOUR Survey Years that Reported Meeting EMSC 03.

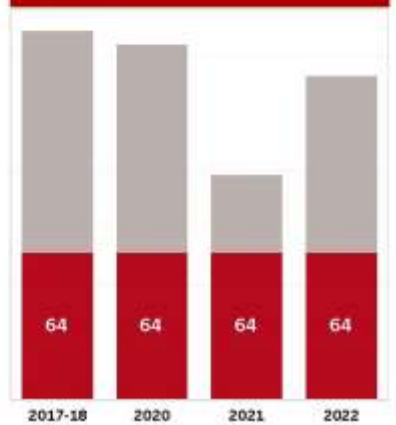
EMSC 03 - Trend Over Time (Met PM - 1:1 Analysis):



EMSC 02 Number of Agencies Surveyed Each Year:

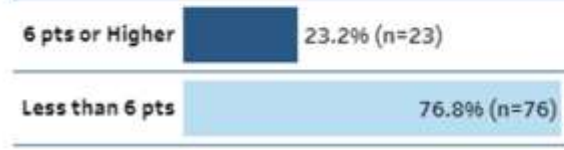


EMSC 02 - # of Agencies that Responded EVERY Year:



Florida Use of Pediatric-Specific Equipment Overview for 2021

Use of Pediatric-Specific Equipment:

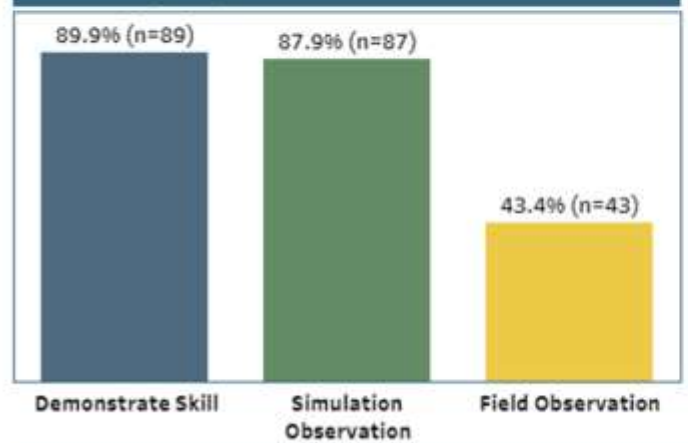


Survey Year: 2021 | Pediatric Volume: (All) | Urbanicity: (All)

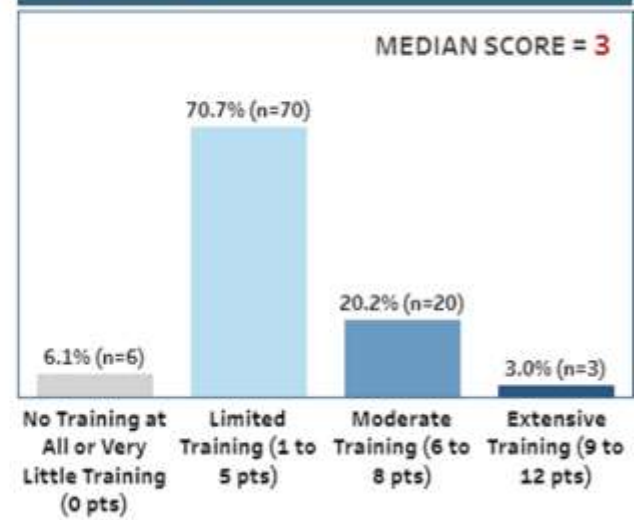
County: (All) | Agency Type*: (All)

*All = All Agencies You Surveyed, Drop Down the Menu to See Sub-Group Detail

Percent and Type/Method of Skill Checking Reported:



Breaking Down the Score = Frequency of Training:



National EMSC Related Updates

Frequency Report from the 2021 National Pediatric Readiness Assessment:
Data Collected May 1 – August 31, 2021

	Overall Numbers > Numbers by Pediatric Volume in the Last Year				
	Overall (N =170)	Low (N = 63)	Medium (N = 56)	Medium High (N = 28)	High (N = 23)
Weighted Pediatric Readiness Score					
Mean	74.8	70.1	72.8	77.6	88.9
Median	75.5	67.5	76.4	78.5	90.5

2021 NPRP Assessment (ED pediatric readiness)

- FL 58% response rate
- https://pedsready.org/
- Overall mean 74.8, median 75.5/100, higher for high volume EDs
- Pending national score for comparison due to publication
- 2013 FL scores, 78 and 82 but not a direct comparison
- National 2013 median 69.
- COVID, response rate

Florida 2021 National Pediatric Readiness State Summary

2021 Pediatric Readiness Response Rate

Numerator: **170**
Denominator: **295**
Response Rate: **58%**

2013-14 Pediatric Readiness Response Rate

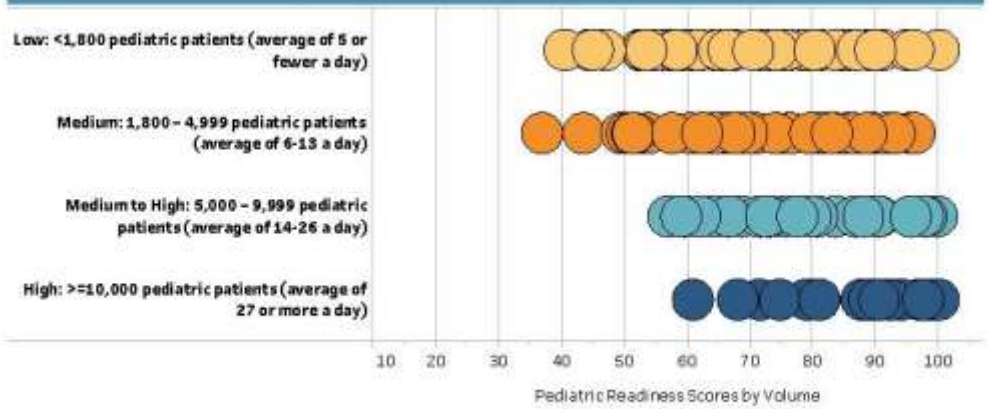
Numerator: **127**
Denominator: **209**
Response Rate: **61%**

2021 Average State Score	2021 Median State Score
75	76
State AVERAGE Hospital Score out of 100 (n=170)	State MEDIAN Hospital Score out of 100 (n=170)

The overall 2021 National Pediatric Readiness scores (based on the 2018 Joint Policy Guidelines) are not directly comparable with the 2013-14 state scores (based on the 2009 Joint Policy Guidelines). These were two unique assessments based on two different published sets of guidelines. Questions were added/removed and point values changed based on the new guidelines. Although the overall scores are not comparable, several individual questions remained the same and these components can be compared over time.

Filter chart below by urbanicity:
All

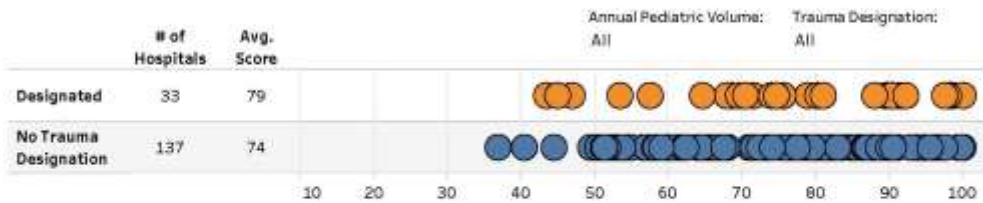
2021 Distribution of Scores by Volume



Breakdown of Scores by Volume Type:

Annual Pediatric Volume	# of Hospitals	Avg. Score	Median Score	Min. Score	Max. Score
Low: <1,800 pediatric patients (average of 5 or fewer a day)	63	70	68	40	100
Medium: 1,800 – 4,999 pediatric patients (average of 6-13 a day)	56	73	76	37	96
Medium to High: 5,000 – 9,999 pediatric patients (average of 14-26 a day)	28	78	79	57	100
High: >=10,000 pediatric patients (average of 27 or more a day)	23	89	91	61	100
Grand Total	**170**	**75**	**76**	**37**	**100**

Breakdown of Scores by Trauma Designation



Average Scores By Section

Section	Missing Records	Avg Section Score	Possible Score
Guidelines for Administration and Coordination of the ED for the Care of Children (19 pts)	0	7.8	19
Physicians, Nurses, and Other Health Care Providers Who Staff the ED (10 pts)	0	6.2	10
Guidelines QI/PI in the ED (7 pts)	0	3.0	7
Guidelines for Improving Pediatric Patient Safety in the ED (14 pts)	0	13.5	14
Guidelines for Policies, Procedures, and Protocols for the ED (17 pts)	0	12.1	17
Guidelines for Equipment, Supplies, and Medications for the Care of Pediatric Patients in the ED (33 pts)	0	32.3	33

NOTE: If there are missing values from any of the assessments (specifically from PDF assessments), they are shown in the "Missing Records" column. This indicates records that were missing scored questions and could not be included in the calculation of the average section score.

Analysis of Scored Questions in the Assessment by Section

The following analysis is grouped by the **six** main sections of the assessment. Each section has an average score shown on page 2. Under the section headings are the lists for each of the scored questions in that section along with a comparison between the previous 2013-14 assessment (if applicable) and the most recent national assessment.

If a question has been added since the original 2013-14 national assessment **you will see a blank in the "2013-14 Percent that Had Item,"** indicating that question was not available during the previous assessment.

The KPI (Key Performance Indicator) is shown in the legend on your right in colors and shapes. These symbols are not punitive, rather an indicator of performance **to help you quickly identify areas for quality improvement** based on the 2021 results. Collaborate with stakeholders in your state/territory to identify areas to work on first.

The importance of having each of these items can be found in the "Importance Statements" document: https://www.pedsready.org/docs/NPRP%20Gap%20Report%20Importance%20Statements.pdf .

NOTE: Please note that the bigger the difference in response rates between the two assessment periods (see page 1), the more difficult it is to use this report for an accurate assessment of change over time.

KPI Legend:

- 100% of EDs Have Item
- 80 to 99.9% Have Item
- 60 to 79.9% Have Item
- 30 to 59.9% Have Item
- 29.9% or Less Have Item

Guidelines for Administration and Coordination of the ED for the Care of Children (19 points)

	KPI	2021 Number of EDs that Have Item	2021 Percent that Have Item	2013-14 Percent that Had Item	Difference Between Assessments
Physcian Coordinator	◆	73/170 (Missing = 0)	42.9%	58.7%	-15.8% ▼
Nurse Coordinator	◆	66/170 (Missing = 0)	38.8%	66.7%	-27.9% ▼

Physicians, Nurses, and Other Health Care Providers Who Staff the ED (10 points)

Physician Competency Evaluations	△	124/170 (Missing = 0)	72.9%	55.6%	17.3% ▲
Physician Maintenance of Board Certification	◆	100/170 (Missing = 0)	58.8%		
Nurse Competency Evaluations	●	151/170 (Missing = 0)	88.8%	78.6%	10.2% ▲
Nurse Maintenance of Specialty Certification	HELP	45/170 (Missing = 0)	26.5%		

Guidelines QI/PI in the ED (7 points)

	KPI	2021 Number of EDs that Have Item	2021 Percent that Have Item	2013-14 Percent that Had Item	Difference Between Assessments
Patient care-review process (chart review)	◆	83/170 (Missing = 0)	48.8%	57.9%	-9.1% ▼
Identification of quality indicators for children	◆	64/170 (Missing = 0)	37.6%	32.5%	5.1% ▲
Collection and analysis of pediatric emergency care data	◆	77/170 (Missing = 0)	45.3%	54.0%	-8.7% ▼
Development of a plan for improvement in pediatric emergency care	◆	72/170 (Missing = 0)	42.4%	52.4%	-10.0% ▼
Re-evaluation of performance using outcomes-based measures	◆	64/170 (Missing = 0)	37.6%	51.6%	-14.0% ▼

Guidelines for Improving Pediatric Patient Safety in the ED (14 points)

Children seen in the ED weighed in kilograms (without conversion from pounds)	●	169/170 (Missing = 0)	99.4%	83.3%	16.1% ▲
Children's weights recorded in the ED medical record in kilograms only	●	165/170 (Missing = 0)	97.1%		
Temperature, heart rate, and respiratory rate recorded	✓	170/170 (Missing = 0)	100.0%	99.2%	0.8% ▲
Blood pressure monitoring available based on severity of illness	●	169/170 (Missing = 0)	99.4%	99.2%	0.2% ▲
Pulse oximetry monitoring available based on severity of illness	✓	170/170 (Missing = 0)	100.0%	100.0%	0.0%
End tidal CO2 monitoring available based on severity of illness	●	165/170 (Missing = 0)	97.1%		
Process in place for notification (manual or automated) of physicians when abnormal vital signs are found	●	167/170 (Missing = 0)	98.2%	83.3%	14.9% ▲

Guidelines for Improving Pediatric Patient Safety in the ED (14 points)

	KPI	2021 Number of EDs that Have Item	2021 Percent that Have Item	2013-14 Percent that Had Item	Difference Between Assessments
Process in place for the use of pre-calculated drug dosing in all children	●	**151/170** (Missing = 0)	**88.8%**	92.9%	-4.1% ▼
Process in place that allows for 24/7 access to interpreter services in the ED	✓	**170/170** (Missing = 0)	**100.0%**	98.4%	1.6% ▲
Level of consciousness (e.g. AVPU or GCS) assessed in all children	●	**158/170** (Missing = 0)	**92.9%**		
Level of pain assessed in all children	●	**169/170** (Missing = 0)	**99.4%**		

Guidelines for Policies, Procedures, and Protocols for the ED (17 points)

	KPI	2021 Number of EDs that Have Item	2021 Percent that Have Item	2013-14 Percent that Had Item	Difference Between Assessments
Triage policy that specifically addresses ill and injured children	▲	**125/170** (Missing = 0)	**73.5%**	72.2%	1.3% ▲
Policy for pediatric patient assessment and reassessment	●	**139/170** (Missing = 0)	**81.8%**	85.7%	-3.9% ▼
Policy for immunization assessment and management of the under-immunized child	◆	**85/170** (Missing = 0)	**50.0%**	65.1%	-15.1% ▼
Policy for child maltreatment	●	**151/170** (Missing = 0)	**88.8%**	88.9%	-0.1% ▼
Policy for death of the child in the ED	▲	**120/170** (Missing = 0)	**70.6%**	66.7%	3.9% ▲
Policy for reduced-dose radiation for CT and x-ray imaging based on pediatric age or weight	●	**141/170** (Missing = 0)	**82.9%**	62.7%	20.2% ▲
Policy for behavioral health issues for children of all ages	▲	**134/170** (Missing = 0)	**78.8%**		
Involving families and caregivers in patient care decision-making	▲	**127/170** (Missing = 0)	**74.7%**		

Guidelines for Policies, Procedures, and Protocols for the ED (17 points)

	KPI	2021 Number of EDs that Have Item	2021 Percent that Have Item	2013-14 Percent that Had Item	Difference Between Assessments
Involving families and caregivers in medication safety processes	▲	**118/170** (Missing = 0)	**69.4%**		
Family and guardian presence during all aspects of emergency care, including resuscitation	▲	**123/170** (Missing = 0)	**72.4%**		
Education of the patient, family, and caregivers on treatment plan and disposition	▲	**124/170** (Missing = 0)	**72.9%**		
Bereavement counseling	◆	**98/170** (Missing = 0)	**57.6%**		
Disaster plan includes availability of medications, vaccines, equipment, supplies, and appropriately trained providers	◆	**73/170** (Missing = 0)	**42.9%**		
Disaster plan includes decontamination, isolation, and quarantine of families and children	◆	**75/170** (Missing = 0)	**44.1%**		
Disaster plan includes minimization of parent-child separation and methods for reuniting separated children with their families	◆	**75/170** (Missing = 0)	**44.1%**		
All disaster drills include pediatric patients	◆	**70/170** (Missing = 0)	**41.2%**		
Disaster plan includes pediatric surge capacity for both injured and non-injured children	◆	**70/170** (Missing = 0)	**41.2%**		
Disaster plan includes access to behavioral health resources for children	◆	**65/170** (Missing = 0)	**38.2%**		
Disaster plan includes care of children with special health care needs	◆	**69/170** (Missing = 0)	**40.6%**		
Written inter-facility transfer guidelines	●	**136/170** (Missing = 0)	**80.0%**	86.5%	-6.5% ▼

Guidelines for Equipment, Supplies, and Medications for the Care of Pediatric Patients in the ED (33 points)

	KPI	2021 Number of EDs that Have Item	2021 Percent that Have Item	2013-14 Percent that Had Item	Difference Between Assessments
All staff trained on the location of all pediatric equipment and medications	●	**169/170** (Missing = 0)	**99.4%**	100.0%	-0.6% ▼
Daily method used to verify the proper location and function of pediatric equipment and supplies	●	**159/170** (Missing = 0)	**93.5%**	94.4%	-0.9% ▼
Standardized chart or tool to estimate weight if resuscitation precludes the use of a weight scale (e.g., length-based tape)	✓	**170/170** (Missing = 0)	**100.0%**	100.0%	0.0%
Neonatal blood pressure cuff	●	**160/170** (Missing = 0)	**94.1%**	93.7%	0.4% ▲
Infant blood pressure cuff	●	**169/170** (Missing = 0)	**99.4%**	99.2%	0.2% ▲
Child blood pressure cuff	✓	**170/170** (Missing = 0)	**100.0%**	100.0%	0.0%
Defibrillator with pediatric and adult capabilities including pads and or paddles	✓	**170/170** (Missing = 0)	**100.0%**	100.0%	0.0%
Pulse oximeter with pediatric and adult probes	✓	**170/170** (Missing = 0)	**100.0%**	100.0%	0.0%
Continuous end-tidal CO2 monitoring device	●	**166/170** (Missing = 0)	**97.6%**	82.5%	15.1% ▲
22 gauge catheter-over-the-needle	✓	**170/170** (Missing = 0)	**100.0%**	100.0%	0.0%
24 gauge catheter-over-the-needle	✓	**170/170** (Missing = 0)	**100.0%**	100.0%	0.0%
Pediatric intra-osseus needles	●	**169/170** (Missing = 0)	**99.4%**	97.6%	1.8% ▲
IV administration sets with calibrated chambers or an infusion pump	●	**165/170** (Missing = 0)	**97.1%**	95.2%	1.9% ▲

Guidelines for Equipment, Supplies, and Medications for the Care of Pediatric Patients in the ED (33 points)

	KPI	2021 Number of EDs that Have Item	2021 Percent that Have Item	2013-14 Percent that Had Item	Difference Between Assessments
Endotracheal tubes: cuffed or uncuffed 2.5 mm	●	**162/170** (Missing = 0)	**95.3%**	96.0%	-0.7% ▼
Endotracheal tubes: cuffed or uncuffed 3.0 mm	●	**166/170** (Missing = 0)	**97.6%**	96.8%	0.8% ▲
Endotracheal tubes: cuffed or uncuffed 3.5 mm	✓	**170/170** (Missing = 0)	**100.0%**	97.6%	2.4% ▲
Endotracheal tubes: cuffed or uncuffed 4.0 mm	✓	**170/170** (Missing = 0)	**100.0%**	100.0%	0.0%
Endotracheal tubes: cuffed or uncuffed 4.5 mm	✓	**170/170** (Missing = 0)	**100.0%**	99.2%	0.8% ▲
Endotracheal tubes: cuffed or uncuffed 5.0 mm	✓	**170/170** (Missing = 0)	**100.0%**	98.4%	1.6% ▲
Endotracheal tubes: cuffed or uncuffed 5.5 mm	●	**169/170** (Missing = 0)	**99.4%**	99.2%	0.2% ▲
Endotracheal tubes: cuffed 6.0 mm	✓	**170/170** (Missing = 0)	**100.0%**	99.2%	0.8% ▲
Laryngoscope blades: straight, size 0	●	**160/170** (Missing = 0)	**94.1%**	97.6%	-3.5% ▼
Laryngoscope blades: straight, size 1	●	**168/170** (Missing = 0)	**98.8%**	99.2%	-0.4% ▼
Laryngoscope blades: straight, size 2	●	**166/170** (Missing = 0)	**97.6%**	100.0%	-2.4% ▼
Laryngoscope blades: curved, size 2	●	**165/170** (Missing = 0)	**97.1%**	100.0%	-2.9% ▼
Pediatric-sized Magill forcep	●	**156/170** (Missing = 0)	**91.8%**	90.5%	1.3% ▲
Nasopharyngeal airways: infant-sized	●	**161/170** (Missing = 0)	**94.7%**	89.7%	5.0% ▲
Nasopharyngeal airways: child-sized	●	**162/170** (Missing = 0)	**95.3%**	92.9%	2.4% ▲

National EMSC Related Updates

Pediatric Resuscitation Resources:
-Observation checklist & free modules on family-centered and trauma-informed care to improve pediatric resuscitations: https://www.healthcaretoolbox.org/observation-checklist-pediatric-resuscitation

https://savepeds.org/
-ED focused free access courses on Pediatric Resuscitation and the National Pediatric Readiness Guidelines and FACETS of Pediatric Resuscitation: *Family-centered and Trauma-informed Support.*

National EMSC Related Updates

2021 National Guidelines for the Field Triage of Injured Patients: ACS, EMSC, NHTSA, etc. https://www.facs.org/media/2zdltley/field-triage-handout-vfinal-revise.pdf

Florida has not changed field triage

facs.org/fieldtriageguidelines

National Trauma Field Triage Guidelines

National Guideline for the Field Triage of Injured Patients 2021

ACS AMERICAN COLLEGE OF SURGEONS

National Guideline for the Field Triage of Injured Patients

RED CRITERIA

High Risk for Serious Injury

Injury Patterns	Mental Status & Vital Signs
• Penetrating injuries to head, neck, torso, and proximal extremities • Skull deformity, suspected skull fracture • Suspected spinal injury with new motor or sensory loss • Chest wall instability, deformity, or suspected flail chest • Suspected pelvic fracture • Suspected fracture of two or more proximal long bones • Crushed, degloved, mangled, or pulseless extremity • Amputation proximal to wrist or ankle • Active bleeding requiring a tourniquet or wound packing with continuous pressure	**All Patients** • Unable to follow commands (motor GCS < 6) • RR < 10 or > 29 breaths/min • Respiratory distress or need for respiratory support • Room-air pulse oximetry < 90% **Age 0–9 years** • SBP < 70mm Hg + (2 x age years) **Age 10–64 years** • SBP < 90 mmHg or • HR > SBP **Age ≥ 65 years** • SBP < 110 mmHg or • HR > SBP

Patients meeting any one of the above RED criteria should be transported to the highest-level trauma center available within the geographic constraints of the regional trauma system

YELLOW CRITERIA

Moderate Risk for Serious Injury

Mechanism of Injury	EMS Judgment
• High-Risk Auto Crash – Partial or complete ejection – Significant intrusion (including roof) • >12 inches occupant site OR • >18 inches any site OR • Need for extrication for entrapped patient – Death in passenger compartment – Child (Age 0–9) unrestrained or in unsecured child safety seat – Vehicle telemetry data consistent with severe injury • Rider separated from transport vehicle with significant impact (eg, motorcycle, ATV, horse, etc.) • Pedestrian/bicycle rider thrown, run over, or with significant impact • Fall from height > 10 feet (all ages)	**Consider risk factors, including:** • Low-level falls in young children (age ≤ 5 years) or older adults (age ≥ 65 years) with significant head impact • Anticoagulant use • Suspicion of child abuse • Special, high-resource healthcare needs • Pregnancy > 20 weeks • Burns in conjunction with trauma • Children should be triaged preferentially to pediatric capable centers **If concerned, take to a trauma center**

Patients meeting any one of the YELLOW CRITERIA WHO DO NOT MEET RED CRITERIA should be preferentially transported to a trauma center, as available within the geographic constraints of the regional trauma system (need not be the highest-level trauma center)

Florida EMSC/PEDReady Updates

PEDReady website: https://emlrc.org/flpedready/

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

Pediatric education summary:

-Provided three days hands-on pediatric resuscitation training for Bradford and Clay counties in honor of Dr. Pete Gianas (March 2022)

-ABCs of Pediatric EMS held May 3rd in Orlando (EMLRC and Nemours), provided free scholarships for rural EMS participants

- FL Resuscitation Academy with pediatric components, held June 13th at First There First Care conference

ABC's of Pediatric EMS

May 3, 2022 at Nemours Children's Hospital

7:30 - 8:00 AM: Registration & Welcome Breakfast by Dr. Shiva Kalidindi
Pediatric Emergency Physician, Nemours Children's Hospital; ABC's of Pediatric EMS Planning Committee Chair

8:00 - 8:30 AM: Pediatric Resuscitation Update by Tony Renta, BBA
Paramedic, Owner/Instructor On-Call Training Solutions

8:30 - 9:00 AM: Effective Communication and Teamwork by Dr. Shiva Kalidindi

9:00 - 9:30 AM: Pediatric Airway Emergencies by Dr. Nicolas Erbrich
Pediatric Emergency Physician, Nemours Children's Hospital

9:30 - 10:00 AM: Caring & Comforting a Pediatric Patient: Tips & Tricks by Laurel Johnson, CCLS
Child Life Specialist, Nemours Children's Hospital

10:00 - 10:30 AM: Break with Q&A

10:30 - 12:00 PM: Simulation: Team Response & Skill Stations
Attendees will visit each station »

» **Neonatal Resuscitation – Team Response** by Drs. Tricia Swan & Maritza Plaza-Verduin
Pediatric Emergency Physicians, UF Gainesville, FL

» **Pediatric Trauma – Team Response** by Dr. Yiraima Medina-Blasini
Pediatric Emergency Physician, HCA Florida Kendall Hospital, Miami, FL

» **Drowning Resuscitation – Team Response** by Dr. Ariel Vera
Pediatric Emergency Physician, Osceola Regional Medical Center

» **Pediatric Intubation – Skill Practice** by Dr. Robert Smith
Pediatric Intensivist, Nemours Children's Hospital

» **Pediatric Airway Adjuncts – Skill Practice** by David Conomon, RRT-NPS
Respiratory Therapy Educator, Nemours Children's Hospital

» **Special Needs Children – Skill Practice** by Dr. Sarah Romero
Pediatric Emergency Physician, Nemours Children's Hospital

» **IV and IO's Tips and Tricks – Skill Practice** by Kathryn Cyphers, BSN, RNC-NIC, CHSE and Gisell Parra, EMT-P
Nemours Children's Hospital, FL

» **Tour: Pediatric Ready Rig** by Nemours Children's Hospital Transport Team

12:00 - 1:00 PM: Lunch (provided)

1:00 - 3:00 PM: Finish Skill Stations

3:00 PM: Adjourn

This program is sponsored by the Florida EMS for Children State Partnership grant and the Florida PEDReady program.

Registration

Registration fee: $60 *(includes breakfast & lunch)*

Scholarships are available for providers within rural EMS agencies and fire departments. Email rdepass@emlrc.org to see if you qualify.

Event limited to 35 EMS providers. Cancellation policy strictly enforced.

Learn more at emlrc.org/abcofpeds

Accreditation

This continuing education activity is approved by the Commission on Accreditation for Pre-Hospital Continuing Education (CAPCE) for 6.0 pediatric CEH.

CAPCE

Liaison and constituency group reports

a. Rural update (Vause and McManus)
b. Florida FAN Report (Nasca)
c. Trauma: Program managers (Nichols), FTSAC, FCOT
d. Data Committee, Biospatial EMSC dashboard
e. FL ENA (Rushing)
f. EMS Educators
g. PECCs (Rabish, Weed, Weishaupt)
h. Pediatric and neonatal transport: transport delays, list of options, handoffs, transport by private car, high flow nasal cannula transports
i. Injury prevention (Summers)

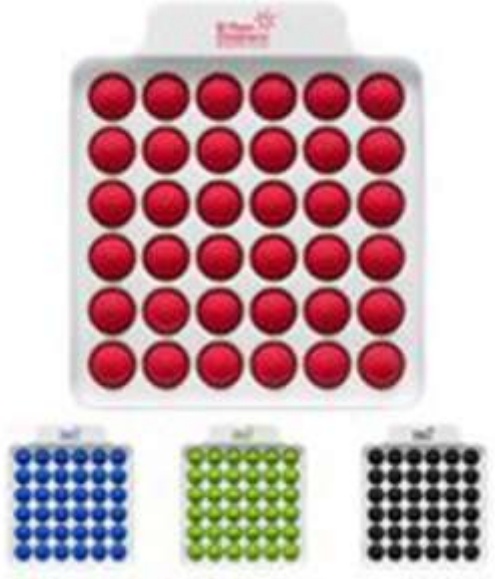
Additional Updates

General Pediatric Updates and Trends: Influenza, RSV, hepatitis, etc.

FL PEDReady Facebook page or Instagram coming soon

EMSC Day summary and planning for 2023

Future of distraction toolbox and educational items



Thank You PEDReady Champions!

- New Business
- Questions, Comments and Announcements
- Send your photos, resources, stories!
- Next meeting ? week of September 2022