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Little Disasters in a Disaster

Pediatric Considerations in Disaster Response

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Presenters

Ashley Ave, MA
Emergency Management Coordinator
Valley Children's Healthcare
Ashley Ave began her career at Valley Children's Healthcare in 2000 focusing on Clinical and Patient/Family Education. In 2014, she transitioned into the role of Emergency Management Coordinator where she provides oversight, coordination, and continuous evaluation of Emergency Management Program activities for the health care network. She is dedicated to equipping leaders and their teams to participate in all phases of the emergency management process. Mrs. Ave is an active member of the Central California Healthcare Coalition and the Madera County Emergency Preparedness Subcommittee.

AnnJeanette England, RN, BSN
Emergency Management Coordinator
Valley Children's Hospital
AnnJeanette England, BSN, RN, is an Emergency Management Coordinator at Valley Children's Hospital in California's Central Valley. With nearly two decades of health care leadership experience, she brings a strong background in emergency nursing, trauma services, case management, nursing leadership, quality improvement, and emergency preparedness. Her career has included a range of clinical and leadership roles, including Interim Director of Nursing, Trauma Performance Improvement Coordinator, Emergency Department Educator, and School Nurse. In her current role, she has led initiatives to improve situational awareness, communication, and coordination through a digital hospital command structure, while also fostering community partnerships.

Disclosure

The speakers for this session report no relevant financial relationships or relationships they have with ineligible companies of any amount during the past 24 months.

Learning Objectives

By the end of this session, participants will be able to:

- Describe pediatric functional and access needs in disaster planning
- Identify strategies to safely incorporate children into drills and exercises
- Explain how SIM labs support pediatric disaster readiness
- Apply pediatric-focused strategies to emergency management programs

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Let's see those hands...

If you would rather use a beehive for a pillow than manage a disaster with pediatric patients.

If you would rather a group of old people than one pediatric patient…

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Pediatric Inpatient Services

Beds 358

- Main Campus Regional Level IV NICU: 88
- Other NICUs: 28
- PICU: 42
- Oncology: 36
- Rehabilitation: 20

Discharges 10,131

- NICU cases
- PICU cases
- Acute Care cases

Transport 1,358

- Ground & Air

Pediatric Visits

Specialty Care & Complex Pediatric Visits 243,294

(including)

- Cancer and Blood Disorders
- Cardiology
- Endocrinology
- Gastroenterology
- Genetics
- Infectious Disease
- Maternal Fetal Center
- Nephrology
- Neurosciences Center
- Orthopaedics
- Physiatry
- Pulmonology
- Rheumatology
- Surgery
- Urology

Emergency Department 91,967

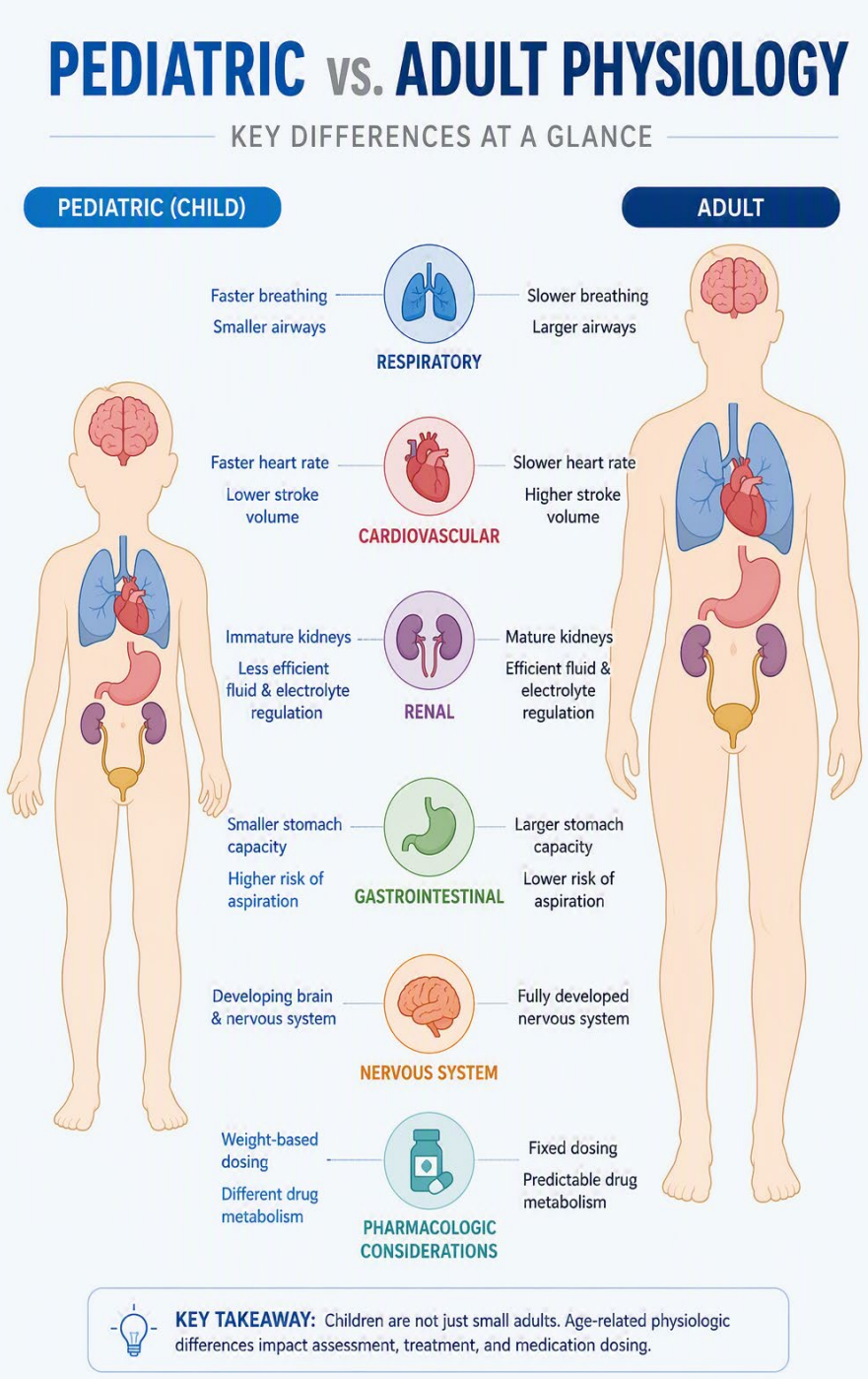
- Visits & Admissions

Total Patient Encounters 637,087

IMAGINE THIS:

- A “normal” Monday
- During a Regional disaster
- Two school buses collide
- Multiple children have arrived at your facility with varying levels of injury
- Your facility must support: Clinical care, identification, reunification, behavioral challenges, and MCI response

Is your organization ready?



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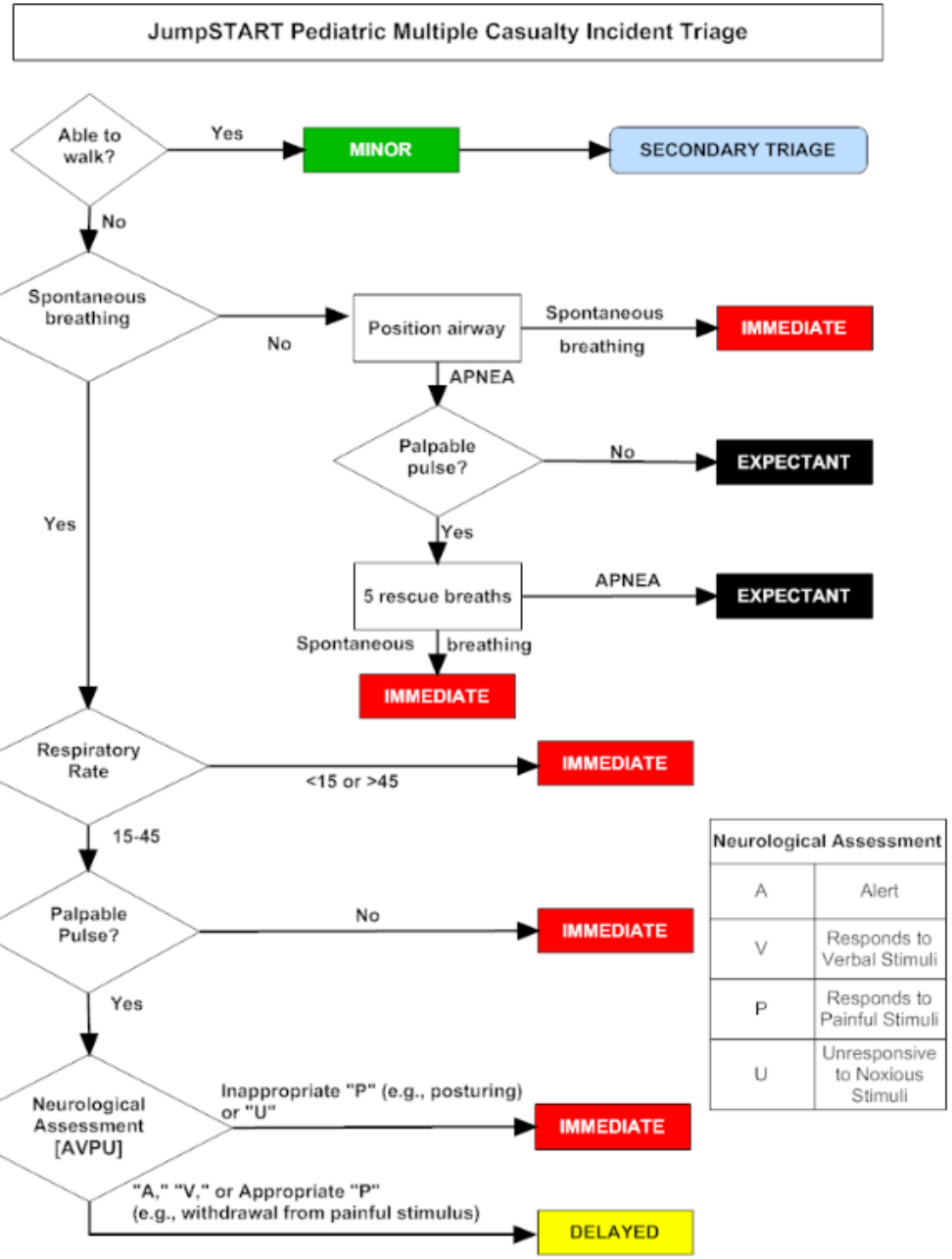
Why Pediatric Disaster Planning Must Be Different

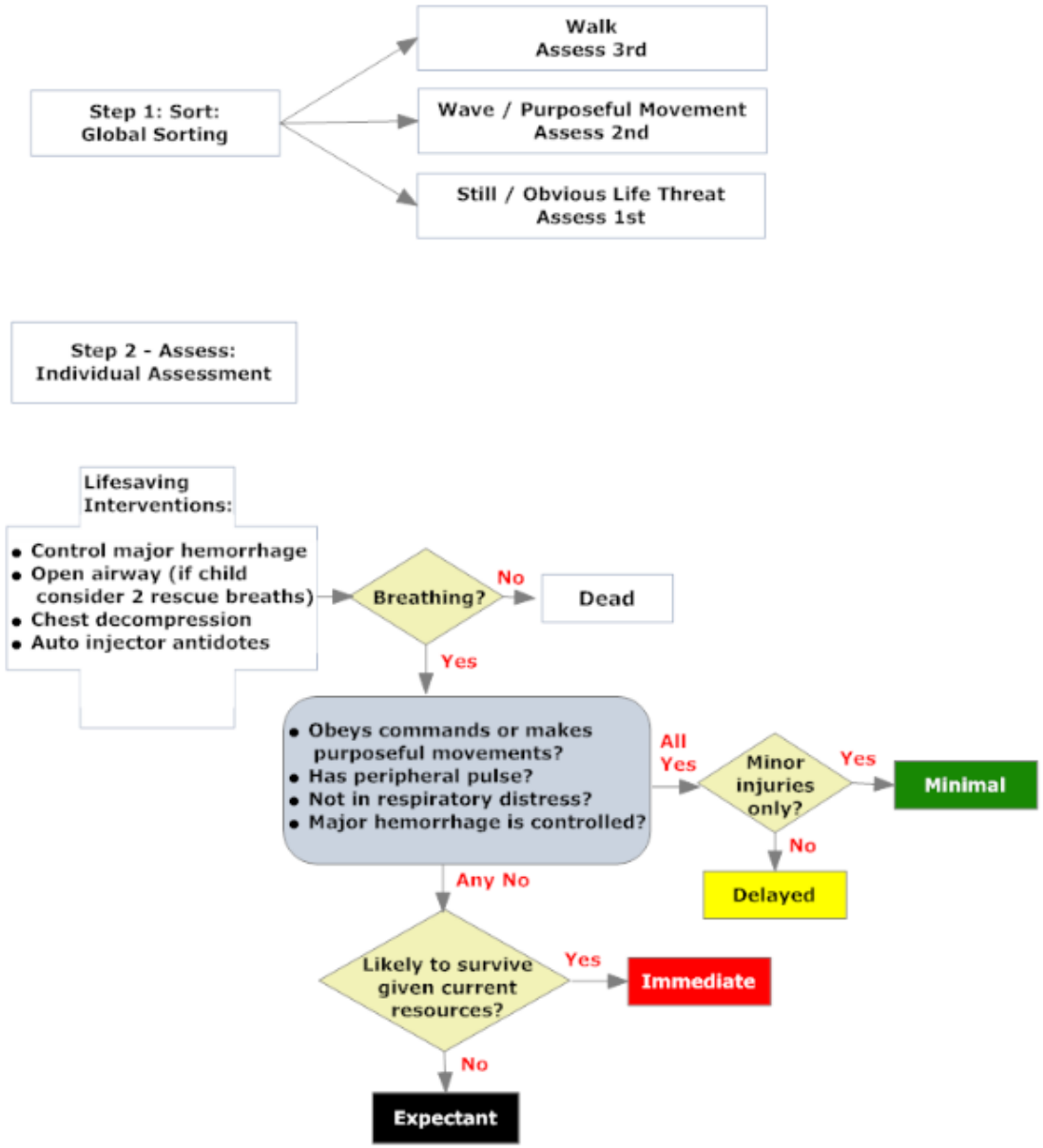
- Children have unique physiology, anatomy, and development needs
- Communication and self-advocacy
- Care-giver dependence
- Pediatric-specific readiness must be planned

Operational Considerations for Hospitals

- Establish a pediatric plan prior to disaster
  - Do not try to adapt an adult plan into a pediatric plan mid-disaster
- The pediatric plan should consider:
  - Pediatric surge and Triage
  - Weight based medication protocols and equipment
  - Staff training
  - Identification, tracking, and reunification



SALT Mass Casualty Triage Algorithm (Sort, Assess, Lifesaving Interventions, Treatment/Transport)



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WE ARE HERE TO HELP
CALL EARLY

Emergency - Transport
1 (866) 353-KIDS (5437)

PEDIATRIC RESUSCITATION GUIDELINES

RESUSCITATION MEDICATIONS

EPHINEPHrine (1 mg/10 mL) IV/IO: 0.01 mg/kg

Atropine IV/IO/ETT: 0.02 mg/kg
(Max dose: 0.5 mg peds; 1 mg adolescent)

Na Bicarbonate IV/IO: 1 mEq/kg (Max dose = 50 mEq)

Dextrose Pediatric: **D25W** IV/IO: 2-4 mL/kg **OR D10W** IV/IO: 5 mL/kg
Neonates: **D10W** IV/IO: 2 mL/kg

Amiodarone 5 mg/kg IV/IO;
Push during cardiac arrest (patient has NO pulse)
(May repeat x 2 up to total dose of 15 mg/kg) ;
Maximum initial single dose = 300 mg and change to adult dosing

5 mg/kg IV infusion over 20-60 minutes with perfusing rhythm (patient has pulse)

Naloxone (full reversal dose)
0.1 mg/kg IV/IO/IN every 2-3 minutes (Max single dose = 2 mg)

INTRAVENOUS FLUIDS

NO DEXTROSE IV SOLUTIONS
FOR RESUSCITATION BOLUSES

For Hypovolemic Shock: 0.9% NS 20 mL/kg IV/IO
over 5 minutes (repeat as indicated)
Caution in renal/cardiac patients:
10 ml/kg with expert consult recommended

Maintenance Fluids D5NS, D5LR, D5 1/2NS

Initial Calculation of Maintenance Fluid Rate:

3-10 kg = 4 mL/kg/hr	30 kg = 70 mL/hr
15 kg = 50 mL/hr	40 kg = 80 mL/hr
20 kg = 60 mL/hr	50 kg = 90 mL/hr

VASOPRESSOR DRIPS

EPINEPHrine
0.05 - 1 mcg/kg/min

NORepinephrine
0.02-2 mcg/kg/min

DOPamine
5-20 mcg/kg/min

Titrate to desired blood pressure

ESTIMATED NG/OG & FOLEY SIZES

Age	0-6 m	6 m	3 y	5 yr	10 y+
NG/OG	5-8 Fr	8 Fr	10 Fr	10-12 Fr	14 Fr
FOLEY	6 Fr	6 Fr	8 Fr	8-10 Fr	12 Fr

ANTIBIOTICS FOR MENINGITIS OR SEPSIS (FIRST DOSES)

Neonates < 30days ampicillin (100 mg/kg)
+ ceftazidime (50 mg/kg)
+ (consider) acyclovir (20 mg/kg)

Children > (greater than) 1 month
ceftriaxone (50 mg/kg, max 2 g)
+ vancomycin (15 mg/kg, max 1 g)

Neutropenic/immunosuppressed
cefepime (50 mg/kg, max 2 g)
+ vancomycin (15 mg/kg, max 1 g)

Abdominal source meropenem (20 mg/kg, max 1 g)
+ vancomycin (15 mg/kg, max 1 g)
or cefepime (50 mg/kg, max 2 g)
+ metronidazole (10 mg/kg, max 500 mg)
+ vancomycin (15 mg/kg, max 1 g)

CARDIOVERSION/ DEFIBRILLATION

Supraventricular Tachycardia (Stable):
Adenosine 0.1-0.2 mg/kg rapid IV push
(Max dose = 6-12 mg IV/IO)

Supraventricular Tachycardia (Unstable)
or Ventricular Tachycardia WITH pulse;
(synchronized cardioversion) 0.5-2 J/kg

Ventricular Tachycardia NO pulse
or Ventricular Fibrillation: 2-4 J/kg defibrillation

ANTICONVULSANTS

Lorazepam (Ativan) 0.1 mg/kg IV/IO
(may repeat in 5 min); (Max dose = 4 mg)

Phenobarbital 10-20 mg/kg IV/IO
(Max dose = 1500 mg)

Midazolam (Versed) 0.1 mg/kg IV/IO

Midazolam (Versed) 0.2 mg/kg IN with atomizer
(Max dose = 10 mg)

Levetiracetam (Keppra) 40 mg/kg IV over 20 minutes
(Max dose = 3 g)

Fosphenytoin 10-15 mg PE/kg IV/IO x 1
(Max dose = 1500 mg)
Fosphenytoin is dosed in Phenytoin equivalents

If Fosphenytoin not available, may use Phenytoin

Phenytoin 10-15 mg/kg IV over 20 min
(Max dose = 1500 mg)

Monitor for hypotension and bradycardia. Rate of infusion no faster than 1 mg/kg/min, up to 50 mg/min

INCREASED INTRACRANIAL PRESSURE
3% Saline 3-5 mL/kg IV/IO over 10 min
(Max dose = 250 mL)

Mannitol 25% 0.5-1 g/kg IV/IO over 20-30 min
(Max dose = 50 g)

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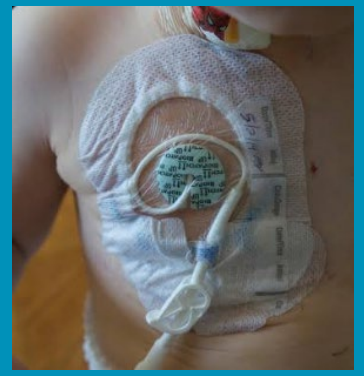
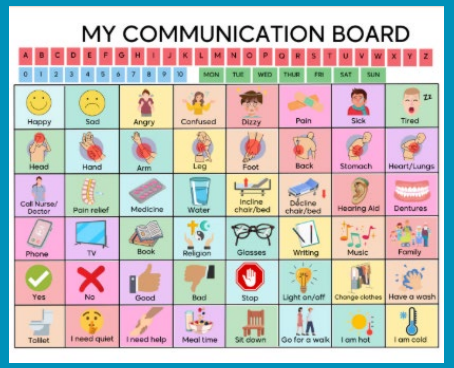
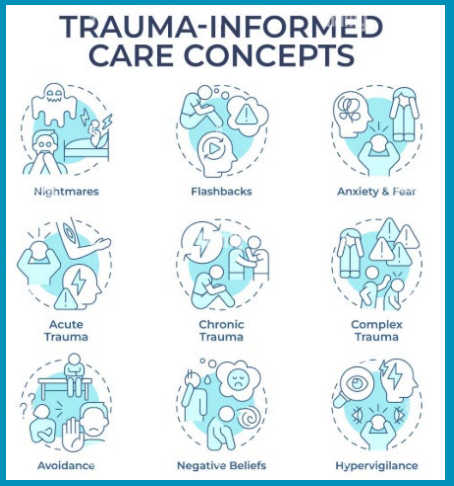
Access and Functional Needs

- Children with medical complexity
- Developmental, cognitive, sensory, or communication needs
- Behavioral health and trauma-informed considerations
- Equity, language access, transportation, and family resources







Build a system for everyday response

GEORGE'S PASS

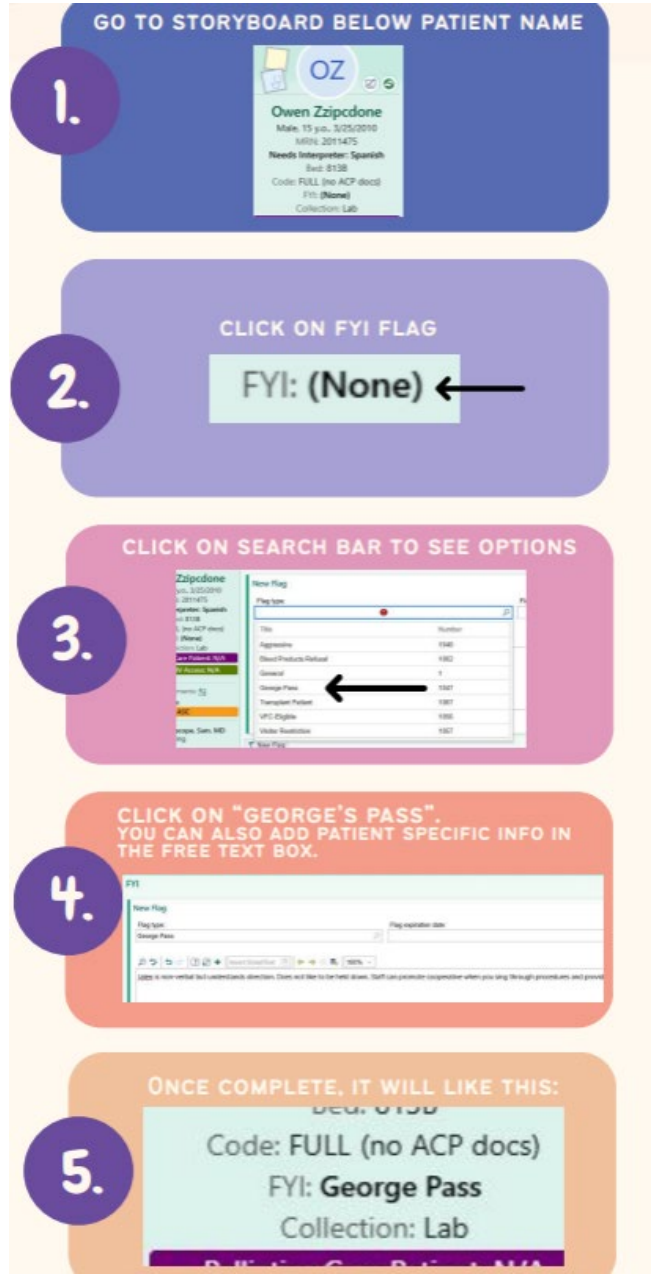
SHELLY REYES,BSN, RN, CPN
CLINICAL PROGRAM COORDINATOR

559-353-5059 / 559-908-3312

georgespass@valleychildrens.org

Resources:

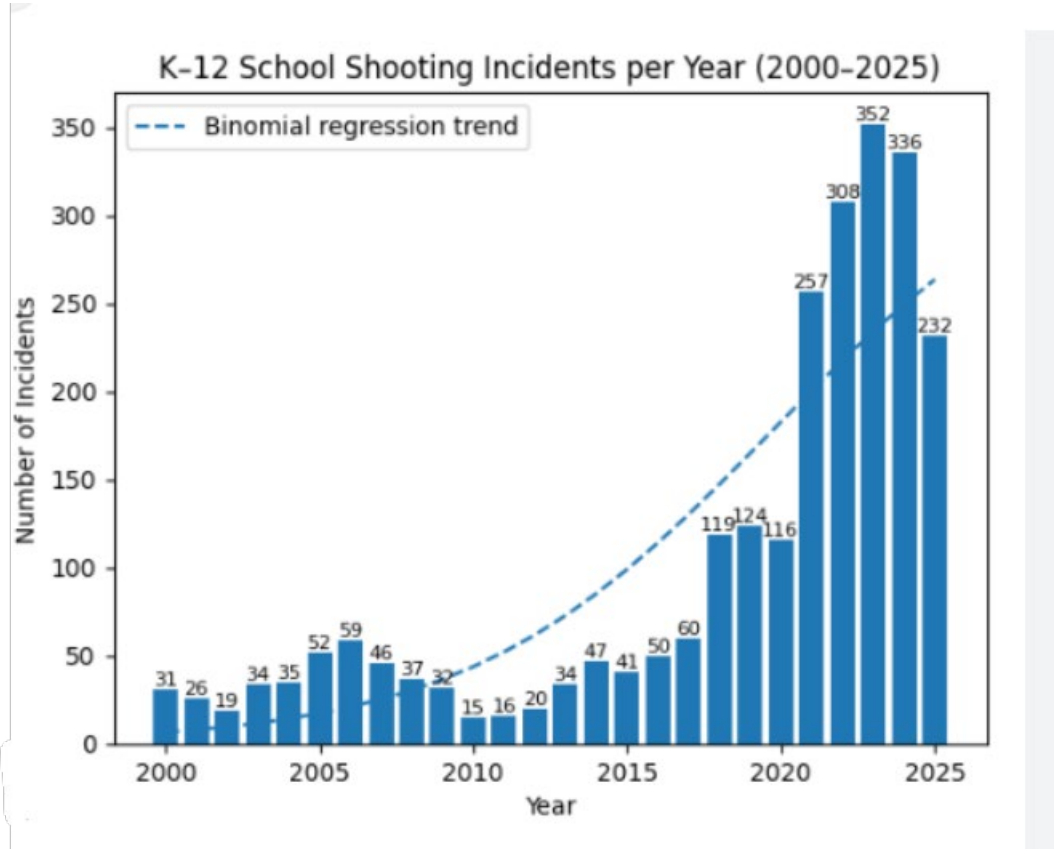
- How to identify a George's Pass patient
  - Identifiers.pdf
  - IdentifiersTools.pdf
  - FYI flag.pdf
- How to prepare a patient room
  - RoomPreparation.pdf
- How to support George's Pass patients and their families
  - CommunicationStrategies.pdf
  - BehaviorSupport.pdf
  - Visual Support.pdf
  - Parent Collaboration Allyship.pdf
- Examples & Scenarios:
  - Case Study Lab Draw.pdf
  - Case Study IV.pdf
  - Case Study Imaging.pdf
- Resources for families:
  - Resources Support.pdf
  - Resources Social.pdf

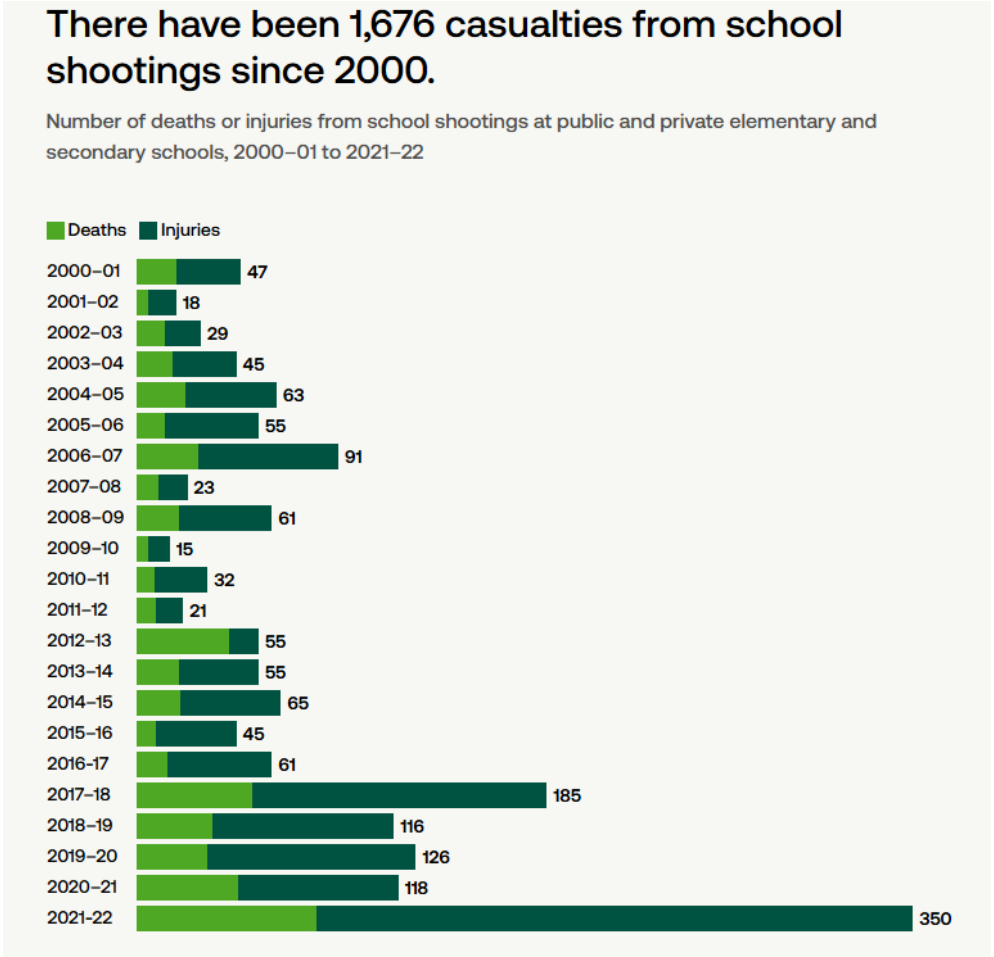


Resources

- Cal OES | Access and Functional Needs
- CDC | Access and Functional Needs Toolkit
- ASPR | Access and Functional Needs
- American Red Cross | People With Access and Functional Needs

School – Hospital Collaboration





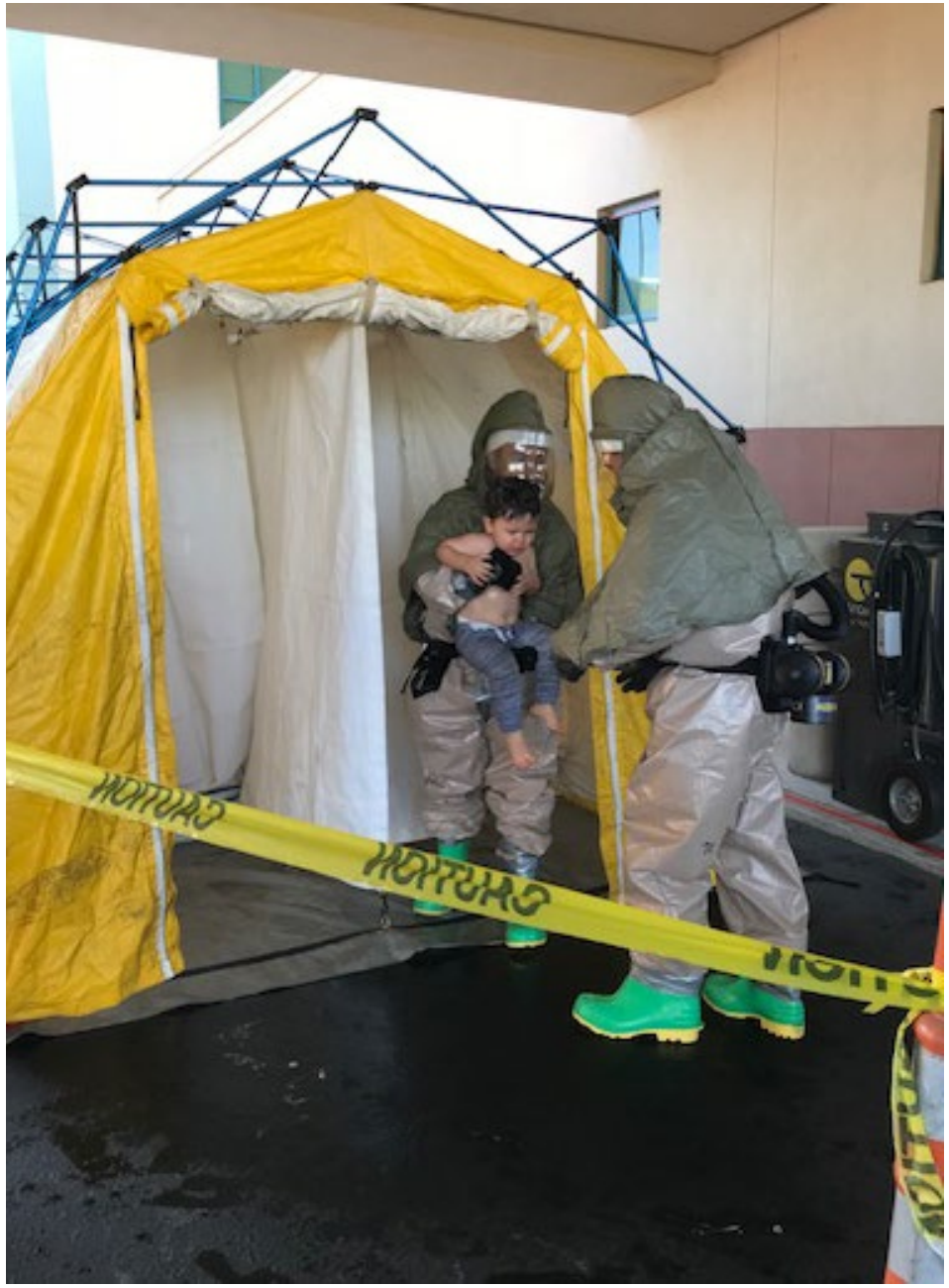
https://epicirvine.org/share

Incorporating those with Access and Functional Needs (AFN) into your program

Include at least one pediatric and one AFN objective in each exercise.

Examples include:

- Infant requiring age-appropriate decontamination
- Unaccompanied child arriving during a disaster
- Non-English-speaking family (or child) requiring interpretation
- Child with autism spectrum disorder experiencing sensory overload.



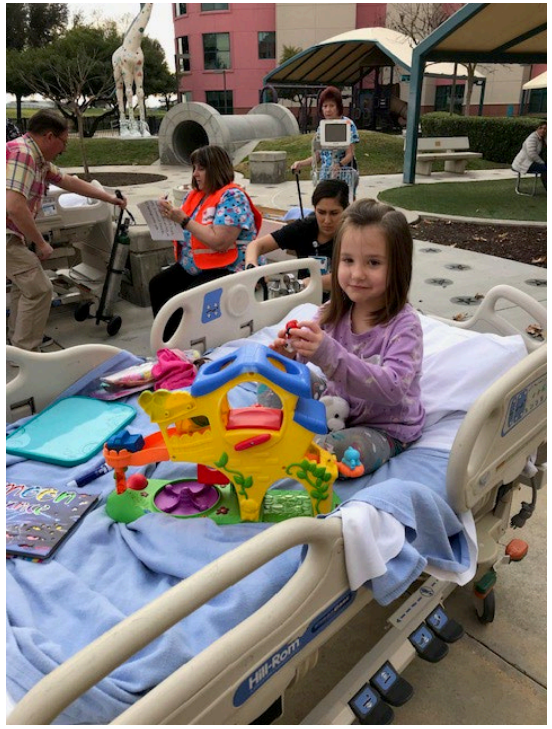
Drill with Kids

- Improves realism and tests actual pediatric workflows
- Reveals communication, movement, tracking, and supervision gaps
- Helps staff practice developmentally appropriate interactions
- Builds community relationships and preparedness culture

Where do kids come from?...

Where do you get kids to be volunteers for drill?

Do not be afraid to incorporate kids in drills



Just be responsible…

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Responsible Management of Children in Drills

- Obtain appropriate consent and assent when applicable
- Use age-appropriate roles, scripts, and moulage limitations
- Provide clear boundaries before, during, and after the drill
- Assign dedicated child supervisors and safety monitors

THIS IS NOT NORMAL

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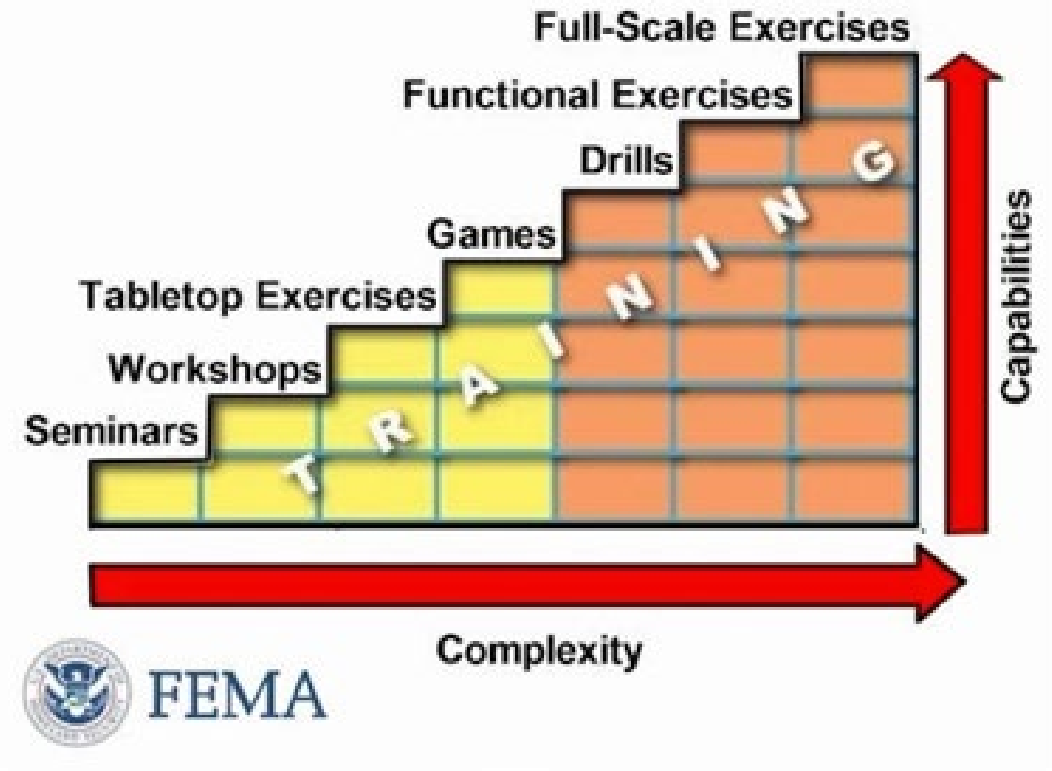
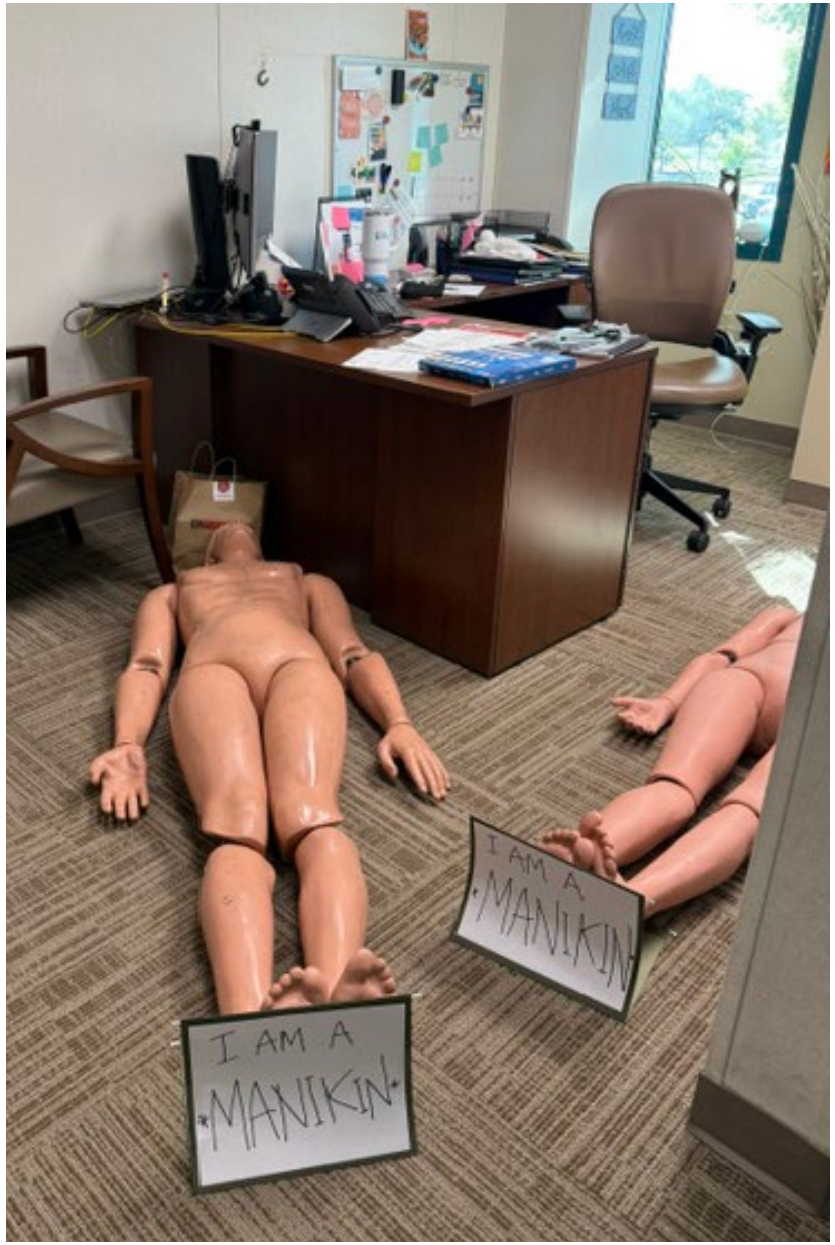
THIS IS ONLY A DRILL



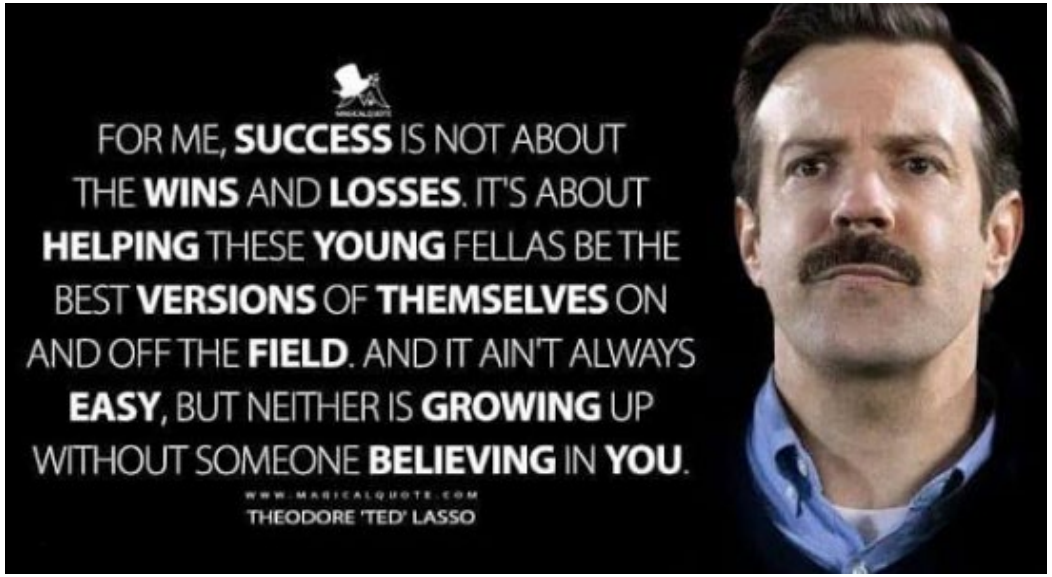
Simulation Labs as a Pediatric Disaster Readiness Tool

- Safe environment for high-risk, low-frequency events
- Supports pediatric resuscitation, triage, decontamination, and surge scenarios
- Reinforces teamwork, communication, and role clarity
- Allows immediate feedback and repeated practice

Low fidelity manikins



Volunteers

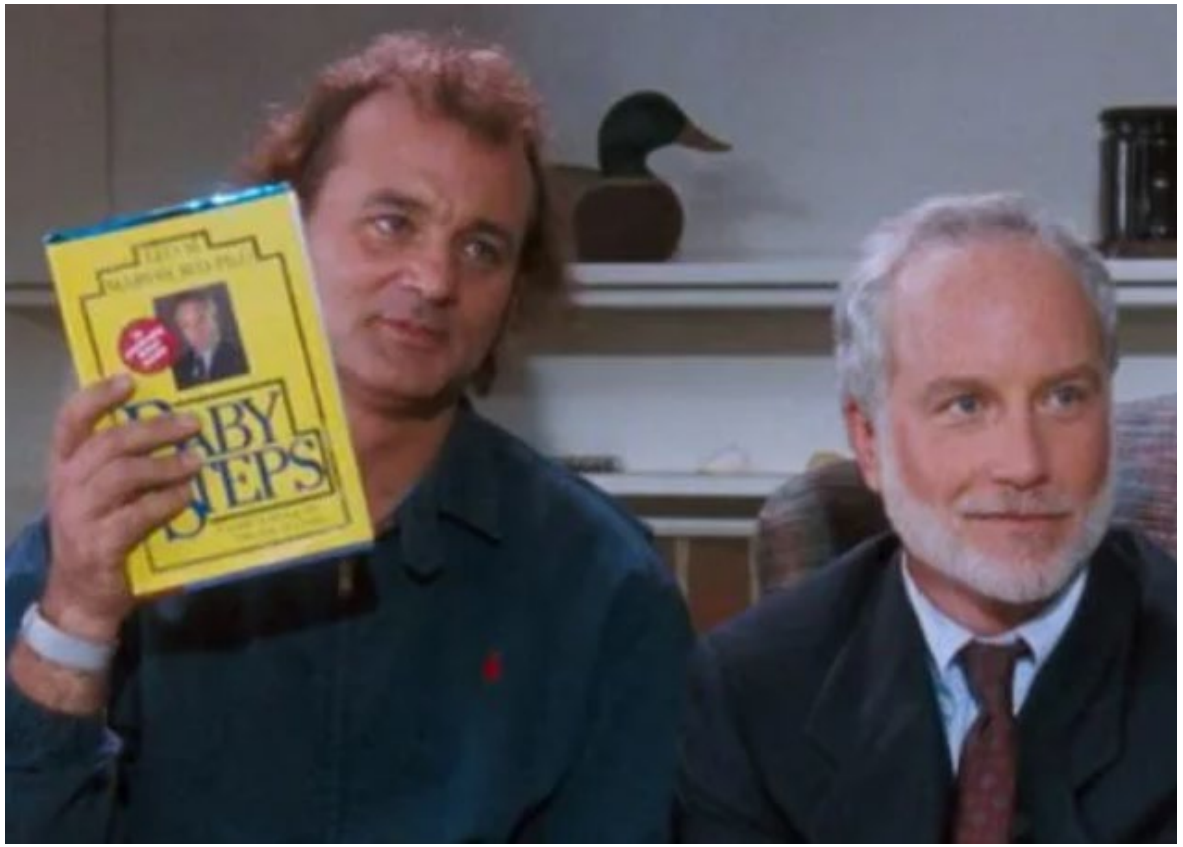


Turning Exercises into Improvements

- Capture observations during the exercise
- Debrief with clinical, operational, and community partners
- Document strengths, gaps, and corrective actions
- Assign owners and timelines
- Update plans, training, supplies, and future exercises

Key Challenges and Practical Solutions

- Challenge: limited staff, time, equipment, and pediatric expertise
- Challenge: coordinating across hospitals, schools, EMS, and public health
- Challenge: balancing realism with participant safety



Key Takeaways

- Pediatric disaster response requires intentional planning
- Functional and access needs must be embedded into EVERY DAY AND emergency workflows
- Children can be included in drills with careful safety planning
- Simulation strengthens team performance and reveals system gaps
- Partnerships improve preparedness before, during, and after emergencies

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