National Association of EMT's Emergency Pediatric Care (EPC) Course Philosophies and Approaches

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"Children are not small adults" has long been the battle cry of pediatric emergency medicine specialists seeking to advocate for better training and resources for *all* providers of urgent and emergent pediatric medical care. Unfortunately, that statement is easily twisted to imply that large volumes of pediatric-specific knowledge and years of experience are required by anyone wishing to provide the very best of care. In reality, the majority of the practice of pediatric emergency medicine in all settings consists of assessing and treating very basic and predictable problems; in many cases, children and their caregivers require only teaching and moral support. When true emergencies occur, much of what most EMS practitioners learn about adults in their basic training can be applied to children, but in a size-appropriate fashion. Although there *are* many differences between adult and pediatric physiology, illnesses, injuries, and interventions, relatively few of them are *critical*. It is these *critical* differences that must make up the core of pediatric emergency education for providers at all levels of training.

Emergency Medical Services (EMS) providers operate under an intrinsic disadvantage when it comes to acquiring pediatric experience. Excluding specialized critical care transport services, pediatric patients comprise only about 6–12% of EMS runs in the United States. Roughly 10% of *those* patients require Advanced Life Support interventions; therefore, approximately 1% of all EMS patients are children requiring Advanced Life Support treatment.

Acknowledging that the great majority of pediatric EMS encounters are not immediate life-or-death situations led our course developers to focus on four main aspects of care:

1. EMS providers must be able to quickly identify unstable and potentially unstable children so they can efficiently and appropriately adjust on-scene approaches and treatment and transport decisions.
2. EMS providers must be educated with regard to the *most common* pediatric illnesses and injuries rather than just the most dangerous ones.
3. Because Advanced Life Support skills are infrequently used for children in the field, skill maintenance is an issue. Each possible procedural intervention must be regarded from a risk- versus-benefit perspective, and alternative interventions must be carefully considered.
4. Nobody knows a child better than those who care for that child. Effective utilization of a child's caregivers as respected members of the patient care team can improve medical care, as well as patient, family, and provider satisfaction with the *effort* and *caring* that went into the call, regardless of the ultimate outcome.

It is important that all who teach Emergency Pediatric Care understand and are able to convey the strongest guiding philosophies of the course. Emergency Pediatric Care is as much about changing thought processes and empowering EMS providers as it is about presenting didactic information. The following principles are intrinsic in the course:

1. **Patient assessment is the key to pediatric patient care.** Because of the average EMS provider's lack of experience with pediatric patients, it is useful to take advantage of tools that empower providers to tailor their approach to each patient based on their assessment. Emergency Pediatric Care uses the Pediatric Assessment Triangle as a tool for a rapid patient size-up, paralleling the EMS practice of a quick scene size-up for active hazards. The Pediatric Assessment Triangle sets the tone for the call, determining if limited data acquisition, rapid intervention, and transport are needed, or if there is time to collect more patient information and provide care and transport in a less hurried, calmer environment. Further assessment centers on identifying signs and symptoms that signal abnormalities in physiology and disruptions

in anatomy. Treatment is rendered when the child's body indicates it is needed. Children rarely need "prophylactic" intravenous lines, oxygen, or medications. Assessment truly does drive treatment, and even triage and transport decisions, so EMS providers must be able to assess children accurately and confidently.

2. **"Basic" means "Foundation."** The word "basic" does not mean "stupid," "simple," or "ineffective." Emergency Pediatric Care considers Basic Life Support skills to be the foundation of all EMS interventions. If Basic Life Support skills are not critically important, why must all paramedics become emergency medical technicians and learn basic skills before they can move on to advanced interventions? Why are most emergency department personnel required to remain current in their Basic Life Support skills? We are never stooping below our abilities when we institute Basic Life Support treatment: we are building a solid foundation for further treatment and a base to which we can retreat if our attempts at more advanced and invasive interventions do not succeed. Advanced Life Support supplements Basic Life Support, rather than replaces it.
3. **Procedures must be guided by physiologic goals and risk-versus-benefit considerations.** In the Emergency Pediatric Care course, we emphasize that procedures are performed in pursuit of physiologic goals. A clear example of this approach is in the sequence of airway management. We progress from the least invasive interventions toward more advanced procedures, remembering that advanced procedures often also carry increased risk to the patient. We must always be sensitive to the fact that our real goal is to provide and maintain adequate oxygenation and ventilation. Note that the concept of "airway protection" is simply one aspect of pursuit of that physiologic goal. If we can meet the goal using Basic Life Support maneuvers without increasing risk to the patient, there may be little reason to progress to advanced procedures, especially those of arguable benefit in the field setting. Even if a child will ultimately need tracheal intubation, it does not necessarily mean that the procedure must or should be done in the field. Our goal in the field is NOT to successfully place a plastic tube in a child's trachea, but to achieve our physiologic goals of adequate oxygenation and ventilation while minimizing risk to the patient.

   Procedures sometimes make the provider the center of attention, when all attention should be focused on the child. It is Emergency Pediatric Care's stance that there should be no stigma to delivering a respiratory failure patient to the Emergency Department with adequate oxygenation, ventilation, and airway protection provided via scrupulous bag-valve mask technique with careful preparation to act as needed to prevent aspiration. In doing so, you have met your physiologic goals for treatment and (hopefully) gotten your patient to a facility where intubation can be performed under the safest and most stable possible circumstances. On the other hand, field intubation may be the best choice under certain circumstances, so it should probably not be summarily eliminated from the Advanced Life Support EMS arsenal. Emergency Pediatric Care supports the provision of diverse pediatric treatment alternatives for EMS providers, so long as those alternatives are of documentable benefit and minimizable risk and proper quality management strategies are employed.
4. **Course recommendations must be based on the best available evidence.** In order to remain current and pertinent, Emergency Pediatric Care must incorporate the intelligent use of evidence-based medicine. Much common practice in EMS is based on dogma or hospital-based medicine that has been extrapolated to the field. We must acknowledge the dynamic nature of medicine and remain aware that what we recommend for the care of children in the field today may change tomorrow. Changes must, however, be carefully considered, weighing all available evidence as well as the benefits, risks, and costs of adopting those changes. The Emergency Pediatric Care Committee is dedicated to maintaining a course that is both responsive to the dynamics of medicine and responsible to our EMS constituents. We constantly monitor changes in pediatric practice and will adapt the course on a regular basis as standards change based on supporting evidence.
5. **Families are crucial to the success of pediatric emergency care.** Dealing with family members and other caregivers is inevitable on most pediatric calls. It does not take long to realize that caregivers can work with you to care for their child or they can work against you, sometimes to the point of obstructing care. The most frequently cited reasons for not including guardians as full members of the medical team

have been debunked in numerous studies. When treated respectfully and appropriately prepared by medical personnel, the great majority of caregivers do not get in the way of patient care, threaten or intimidate medical staff, or provoke more distress in their children. Kids do best when surrounded by those who know and care for them. The support of loved ones is a critical ingredient in the success of a child's medical treatment. EMS providers must join their hospital- and office-based colleagues in respecting the rights and needs of both children and their caregivers, incorporating the principles of family-centered care throughout all aspects of a child's assessment and treatment. The Emergency Pediatric Care course strongly advocates for family-centered care as a critical component of excellent EMS care, as does NAEMT as an organization.

6. **EMS providers must be critical thinkers.** No set of protocols or standing orders can cover every possible situation confronting EMS providers. The large number of variables presenting themselves in the potentially unstable prehospital environment virtually assures that no one patient will be exactly the same as another. What works for one patient in a specific environment can be vastly different than what works for a similar patient in a different set of circumstances. EMS providers may not have real-time access to experienced *pediatric* guidance in particular, making it imperative that emergency medical technicians and paramedics are able to independently understand and analyze the pediatric patient's pathophysiology and to choose the most efficient, effective, and safest treatment options from a list of permitted alternatives. Emergency Pediatric Care is committed to encouraging EMS providers to become competent critical thinkers. To that end, we have developed small-group patient simulations that are disconnected from the performance of psychomotor skills, highlighting the complex thought processes that help providers anticipate, recognize, and respond to patient needs. By slowing the decision-making processes down from milliseconds to minutes in these exercises, providers learn to recognize and appreciate the complexity and importance of analyzing scene and patient data and applying protocols and procedures to maximize benefit and minimize risk to their patients and themselves.

Finally, the Emergency Pediatric Care course is not just about EMS providers taking better care of kids and their families; it is also about providers taking better care of *themselves* by growing professionally and learning how to better cope with what might be some of the most emotionally and intellectually challenging calls of their careers. By enhancing the competence, confidence, and compassion of emergency medical responders in dealing with pediatric patients, Emergency Pediatric Care hopes to contribute to the longevity, success, and gratification of the careers of our brothers and sisters in Emergency Medical Services.