

# Pediatric Continuing Education for EMTs

## *Recommendations for Content, Method, and Frequency*

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The process of maintaining competence in all aspects of prehospital emergency care is a daunting task. When one considers the volume of knowledge and ability needed in providing quality care, it becomes evident that the process should focus on what is needed and on reliable methods to ensure the economy of the investment.

Continuing education is the vehicle by which Emergency Medical Services (EMS) providers maintain their competence, yet before education comes need, which must be determined through evaluation. In creating a responsive continuing education program of quality, all stakeholders must work to implement a plan that evaluates performance to determine need and to then provide continuing education to meet those identified needs.

In an effort to provide guidance in the creation of relevant and quality continuing education, the National Council of State Emergency Medical Services Training Coordinators has completed a project that, while specifically addressing pediatric issues, is applicable across the board for all EMS continuing education.

Continuing education typically focuses on 3 content categories—refreshing core content, enriching/enhancing core content, and providing new concepts. Each of these categories is important to ensure continued competence and in remaining up-to-date on new practices, medications and equipment.

Continuing education can be presented in a wide variety of formats that can be divided into 2 classifications, dynamic and static. The dynamic classification requires interaction between instructor and students and sometimes even between students. While this classification traditionally in-

cludes instructor-led training in a classroom lecture or laboratory, during a conference or seminar, or during a clinical or field internship experience, it might also include continuing education delivered through independent study methods with delayed instructor/student interaction.

The static classification includes methodologies that lack the opportunity for interaction between instructor and student. This classification includes independent learning using resources such as journal articles, textbooks, videotaped presentations, computer CD ROM programming, or Internet-based presentations.

Both of these classifications have proven value in establishing learner competence and must be considered when creating continuing education offerings. The value of each format, including their varied methods, is best determined by the individual student's needs, abilities, and learning styles.

### CONTINUING EDUCATION STAKEHOLDERS

The process of creating a continuing education program requires input from individuals with specific interest in the outcomes. These individuals are the stakeholders, and each group has unique needs, expectations, and perspectives relevant to the process. Each stakeholder group should be involved to ensure that the best system is implemented to achieve the end goal. Since continuing education is intended to address deficiencies in knowledge, performance, or attitude, or to provide new concepts, the goal is the maintenance of provider competence. In this light, everyone has a stake in the competence of EMS providers.

#### The Public as a Stakeholder

Potential users of EMS hold the greatest stake and include all other stakeholder groups. Although this group is too large and varied to be relied upon for direct input into a continuing education program, their input can be valuable when establishing general expectations of performance. Customer opinion surveys, used as part of a quality improvement process, can provide this valuable input.

#### EMS Providers as Stakeholders

Although EMS providers are the focus of continuing education, they too are stakeholders. A basic tenant of

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medicine is “first, do no harm.” In an effort to adhere to this principle, each EMS provider must first recognize personal deficiencies and then attempt to correct them with continuing education as the vehicle for correction. EMS providers typically invest time, effort, and money in maintaining their competence and therefore must be involved in the creation of continuing education that meets their individual needs.

### Sponsoring Physicians as Stakeholders

Physicians who sponsor emergency medical technicians (EMTs) performance do so by extending their license to cover the provider when they act as the physician’s agent in the field and as a result have a vested interest in assuring that these providers/agents are both capable and willing in providing the best possible care. The sponsoring physician should take an active role in determining and assisting in the correction of deficiencies in addition to assuring that sponsored providers remain up-to-date on industry changes.

### Credential Regulators as Stakeholders

As “gate-keepers” to employability, regulators are responsible for ensuring that individuals are fully eligible for credential renewal. Their influence in the development of quality continuing education programs includes establishing parameters of acceptable methods for verification of credential eligibility. Typical verification of an individual’s eligibility is done, in part, through completion of required training.

### Employers as Stakeholders

Employers who use either paid or volunteer EMS providers have significant interest in the continued competence of their work force since it is the employer who places the provider in this role. The employer therefore has an obligation to ensure provider competence to the extent of occasionally devoting monetary resources to the continuing education process. Employers can also provide run data for each provider; an invaluable resource for determining education need. Considering these obligations, investments, and resources, the employer should be involved in the development of a continuing education program.

## CREATION OF A CONTINUING EDUCATION PROGRAM

In an effort to assist in the creation of continuing education programs that are responsive to the needs, expectations, and resources of all stakeholders, the National Council of State Emergency Medical Services Training Coordinators has contracted with the Health Resources and Services Administration, Maternal and Child Health Bureau. This project examined the current status of pediatric continuing education requirements for credential renewal, reviewed

current literature on skills and knowledge degradation, and resulted in recommendations for pediatric continuing education to the nation’s EMS community. While this project focused on pediatric specific continuing education, the direct application to all other categories of continuing education is undeniable. This project was undertaken in September 2001 with the intent of addressing one goal of the EMS for Children 5-Year Plan—2001 to 2005—*Improve and Expand Pediatric Emergency Care Education Systems*.<sup>1</sup> Objective B-1 of this plan states, “Pediatric clinical experts shall participate in the process of developing core content, scope of practice, and education standards for out-of-hospital providers.” Objective B-2 calls for work to “develop tools for assessing the competence of out-of-hospital providers in pediatric emergency care.” Some of the suggested activities for each of these objectives are addressed through this project.

While the Council’s recommendations do not constitute a mandate, it is sincerely hoped that states and territories will take them into account when evaluating modifications of current regulatory requirements. These recommendations may be adopted by providers, educators, employers, and sponsoring physicians at any time and modified to suit local needs. Assistance in applying these recommendations is available through National Council of State Emergency Medical Services Training Coordinators.

The recommendations were arrived at through a multistep process that included:

- Evaluation of the current pediatric emergency care continuing education training requirements for EMT credential renewal in all 50 states and 6 territories; 54 (96%) of the 56 agencies reported, with results indicating very little consistency.
- Execution of a literature search to identify articles and research studies that examined skills and knowledge retention and degradation. The literature search netted 28 references with close or specific relevancy to pediatric EMS skills and knowledge degradation. National Council of State Emergency Medical Services Training Coordinators members evaluated each reference to determine relevance to the project with consideration given to those with educational methodology, frequency, and content.
- A consensus process to establish final pediatric continuing education recommendations was conducted. Participants in this consensus process were National Council of State Emergency Medical Services Training Coordinators members and representatives from the Emergency Nurses Association, National Association of EMS Physicians, National Association of EMTs, the National Registry of EMTs, National Association of EMS Educators, the National Highway Traffic Safety Administration-EMS Division, and the Maternal and Child Health Bureau, EMS for Children Project. This process involved the evaluation

of each reference combined with expert opinion and resulted in the following recommendations.

While these recommendations appear to be general in nature, it was so intended to encourage refinement through future efforts.

### PEDIATRIC CONTINUING EDUCATION RECOMMENDATIONS FOR CREDENTIAL RENEWAL

Regarding pediatric continuing education for EMTs, the National Council of State Emergency Medical Services Training Coordinators hereby recommends that:

1. *A pediatric competency-based continuing education program is implemented to sustain proficiency in knowledge and skills for out-of-hospital providers.*

For the provider, sponsoring physician, and/or employer to focus on competency maintenance, it is inherent that an evaluation process be conducted. This process establishes specifically needed content review of core curriculum or introduction of information on advances in the industry. Once content of needed education is determined, the requisite resources of time, effort, and money can be devoted to precise rather than estimated needs. Resource expenditure specifically on determined need can positively affect provider performance while ensuring fiscal economy and time efficiency.

2. *States transition providers to the pediatric knowledge and skills objectives of the most current Emergency Medical Technician level National Standard Curriculum.*

The EMS Agenda for the Future<sup>2</sup> and the EMS Education Agenda for the Future,<sup>3</sup> vision documents published by the National Highway Traffic Safety Administration, call for national standardization of all EMS components. The transition of EMS providers to the pediatric knowledge and skills objectives of the relevant National Standard Curriculum meets this national objective.

3. *Evaluation of pediatric prehospital emergency skills occurs at least annually. Indicated retraining should be accomplished through accepted continuing education approaches such as psychomotor and/or cognitive instruction. Frequency of skill performance is not used as an indicator of skill competency.*

Research strongly indicates that psychomotor skills competence degrades within 6 to 12 months following training.<sup>4-11</sup> While some research indicates that repetitive skills retraining results in longer term competence,<sup>12</sup> further research needs to be conducted to verify this. It is nonetheless advisable that competencies be determined at least annually with deficiencies addressed through accepted methods. Performing skills in real life are important in the reinforcement of training; they should not be used as evidence of competence.<sup>13,14</sup>

4. *Providers should receive frequent and accurate feedback on performance during pediatric skills practice to establish psychomotor skills competency.*

Research indicates that feedback on skills performance during instruction and practice is more effective when given frequently. The accuracy of feedback is also important for its credibility and consistency.<sup>15</sup> Whenever possible, performance feedback should be objectively, rather than subjectively, determined.

5. *Pediatric continuing education methodology is based on individual learning styles.*

If the provision of continuing education were more effective and efficient as a result of need-focused resource expenditure, it would also be valuable to provide education in the style to which each provider is best suited. To do this requires an individualized approach to continuing education. Research indicates that independent learning is as effective as instructor-led education.<sup>16</sup>

6. *Quality assurance processes drive all performance improvement plans.*

a. *Focus pediatric retraining based upon individual provider's need.*

b. *Focus pediatric retraining based upon a sample of the provider population's need.*

When a comprehensive quality assurance process is implemented, the resulting data can be used along with skills and knowledge evaluation results to determine continuing education content for the individual provider and/or the general population. This, again, ensuring that time, effort, and money are devoted only where needed.

The National Council of State Emergency Medical Services Training Coordinators also recommends that further research be conducted into pediatric out-of-hospital emergency care knowledge and skills retention.

In conclusion, the National Council of State Emergency Medical Services Training Coordinators is interested in seeing that continuing education for EMS providers is competency-based, in line with nationally recognized content standards, is determined through annual evaluation of skills performance and through analysis of ongoing quality assurance data, is focused on content that is needed either by the individual or by the population to justify resource expenditure, and is tailored to the preferred provider learning style utilizing accepted educational methods. If all continuing education is presented, thus we could anticipate industry-wide performance improvement.

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