



Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions

Definition of Airway Competency

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The Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP) determined it was necessary to define airway competency for paramedic programs throughout the country. This **document is not a standard, rather it is a recommendation** to help programs define and obtain airway competency for their students. This document is not fixed in stone, but will evolve with changes in the Emergency Medical Services' (EMS) community polices, particularly with reference to airway management.

Why did our board set up an airway management subcommittee? Basically, we realized there was a strong need to define airway competency based on the three surveys we conducted with program directors of CAAHEP-accredited Paramedic programs during a seven month period. The average response rate of those surveys was 47.7%. Programs were experiencing difficulties obtaining live endotracheal intubations in their respective affiliated hospitals. Anesthesiologists were using alternate airway devices, for example, various laryngeal mask airways (LMAs). There were competitors in the operating rooms for the airways such as anesthesiology residents and fellows, emergency medicine residents, critical care and pulmonary medicine fellows, CRNAs and student CRNAs, medical students, and anesthesiologist assistants, just to mention a few. The threat of malpractice from damaged airways, in particular dental injury, was real with a strong concern for the hospital as well as the anesthesiologists.

The first survey with 140 participants was conducted over a two-day period inquiring about the level of difficulty a program has providing live intubations, the minimum number of intubations the program requires, and the various modalities used to learn intubations. The response rate for the first survey was an astounding 55% with seven pages of comments. This showed us there certainly was a need to define airway competency. 60.7% of program directors said it was difficult to obtain live endotracheal intubations for their students. 48.6% of the programs required 5 live intubations and 28% of the programs required 10 or more live intubations. 54% of program directors said no, when asked if they would like to see CoAEMSP eliminate the requirement for live intubations and replace it with only simulation techniques. Program directors, when asked about which modalities a program should be able to use to contribute to a student's airway competency in endotracheal intubation, stated high fidelity simulation with a rate of 90.7%. 83.5% of program directors said every student should have performed at least one successful live patient endotracheal intubation, and 71.4% of program directors stated that students should use a combination of modalities to develop airway competency. Finally, the program directors stated that the subcommittee should consider the barriers to access for live patient endotracheal intubation when defining airway competency.

The second survey with 108 participants focused on how each program assesses airway competency with intubations for their students. This survey resulted in a 41.6% response rate with open-ended questions intentionally asked. Responses varied, but were based on state requirements or access availability in the program's area: use of the NREMT skills sheet, combination of mannequin, simulation, and live intubation, specific number by state mandates, written, practical and skills, demonstration on a mannequin, ability to explain intelligently about airway management, and anesthesiologists sign off for the student. 92% of programs focused on both teaching the skill set as well as the thought processes. 12.3% of students did not obtain the minimum number of live intubations required by the program. Therefore, these students needed to continue with their clinical rotations until the minimum was achieved, either by scheduling more operating room time, or increasing their number of simulation intubations.

The third survey with 132 participants focused on access that programs have to live intubations, how programs define airway competency, and what barriers programs experience to provide adequate opportunity with their students for airway management. 53% of the program directors reported that their students have difficulty getting access to live intubations, with 26.5% of their students traveling more than 50 miles each way to obtain live intubations. 20.5% of programs have lowered their required minimum for live intubations in the last 5 years. High fidelity simulation is being used by 81% of the programs and only 29.5% have access to cadaver laboratory with 66.7% using it. Program directors were again asked to define airway competency and came up with the following common themes: anesthesiologists in the operating room would determine by signing off; 20 intubations with an 80% first time success rate; skills laboratory, live intubations, and skills test were used; successful demonstration of 10 live intubations while being supervised; use of simulation devices; combination of successful live intubations and laboratory skills; demonstration of airway skills with accuracy and efficiency; and successful intubations on the first or second attempt without any trauma to the patient or desaturation between attempts.

From these surveys and research of the literature, the subcommittee developed the one page definition of airway competency (Appendix I) to help our paramedic programs. The first section of the statement defines what a paramedic student should master to establish their airway competency: basic and advanced airway management skills, performing airway management in various environments they will experience, verifying correct placement of airway devices utilizing current assessment tools, and finally demonstrating critical thinking and clinical judgment regarding total airway management decision making. The second section of the statement allows the paramedic student to be **successful in any combination** of live patients, high definition and low definition fidelity simulation, **or** cadaver laboratories. The number of attempts at airway management across all age levels and success rate is based on current research. **As with all other required skills, terminal competency in airway management must be defined by the program's Advisory Committee and validated by the program's Medical Director.**

The intent of this statement is to help paramedic programs, their medical directors, and their students obtain airway competency. The purpose of this statement was not to set a standard to follow for paramedic programs.

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Sincerely,
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