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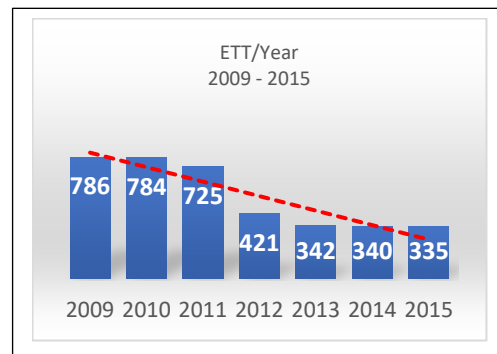


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White Paper Airway Management

Pre-hospital intubation continues to be a critical skill for EMS patients suffering from respiratory distress/arrest. However, the number of intubations and airway management events in EMS are declining, due to multiple factors, including the benefit of CPAP. As an example, Maine EMS providers saw a 57% decrease in intubation attempts between 2009 and 2015. In 2015, only 1 out of every 4 paramedics attempted intubation of a pre-hospital patient. With fewer numbers of EMS providers practicing the skills of intubation and advanced airway management in their clinical practice, the MDPB has been discussing the impact of decreased clinical airway management experiences on EMS provider proficiency. The MDPB believes that intubation should remain an airway management procedure for pre-hospital providers. The MDPB also recognizes that without regular practice, airway management skills, and critical decision-making fatigue. Therefore, since we MUST maintain airway management and intubation as options for pre-hospital providers and these skills diminish over time when not practiced, for EMS Providers and services it is imperative to dedicate time to practice these skills on a routine basis. We must maintain proficiency over time so that, when called upon, these skills and the medical decision making surrounding the skills may be applied excellently.



While the MDPB is not able to mandate that providers and services practice airway management skills, **the group strongly recommends that providers and services build regular airway management practices, including intubation skills, into their training schedule.** It is difficult for the MDPB to offer an exact frequency of such training, as many factors affect this. As a guide, the MDPB recommends that providers and service leaders offer enough training to maintain provider proficiency in airway management. In some settings, this may be up to or more than four training sessions/year while in others, this may be closer to once/year. Your service level medical director can work with the members of your service and help determine the proper amount and content of needed airway management training by getting to know the members of your service, their skills, and their educational needs.

Just as the MDPB is uniformly unable to determine the proper frequency of training for every EMS provider, it is also unable to determine the exact educational needs of every EMS provider in terms of their airway management skills. The MDPB suggests that system leaders, service training coordinators, and service medical directors evaluate the needs of

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their providers and tailor educational offerings to discovered needs. As a guide, the MDPB and the Maine EMS Educational Committee have worked together to provide an airway management training Reference for services to consider.

The MDPB continues to believe that EMS agencies and providers receive empowerment by local quality improvement activities at the service level. Please consider working with your Regional Medical Director to **develop meaningful QI practices** that help determine the frequency and content of regular Airway Management training.

Additionally, the MDPB continues to recognize the value and importance of service-level medical directors. **All Maine EMS services should consider creating relationships with a medical director.** There is no call volume cut-off or scope of practice level that determines the importance of medical direction. There is a value in having a medical director for large services and small services, services with large run volume but also services with small run volumes. Services with paramedics can benefit from medical direction, as can services with EMRs and EMTs. Ultimately, medical direction is a valuable part of a high functioning EMS service, independent of service size, volume, or makeup. Many services of varying characteristics across the state have benefitted from medical direction. In the instance of airway management, a medical director can assist in the service's education, quality improvement, and determination of ongoing needs. Additionally, a medical director can facilitate obtaining patient outcome information, which is essential when considering EMS care, including pre-hospital airway management.

The MDPB and the Maine EMS Board approved a video laryngoscopy pilot project in 2016. Amongst other valuable lessons learned from the services which engaged in this project was that airway management success with video laryngoscopy is supported by a system that has an established educational program, quality improvement program and medical direction program. *Ultimately, the pilot program taught us that it is not the TOOL, but your TALENT upon which airway management success is predicated.* The MDPB supports the use of pre-hospital video-laryngoscopy but recognizes that this tool alone does not improve airway management success or patient outcomes. Therefore, the MDPB feels very strongly that these devices should only be considered by services who have developed routine educational programs that determine their providers' needs and maintain their providers' airway management proficiency over time, created quality improvement programs that track airway management characteristics and patient-centered outcomes, and have a relationship with a medical director, preferably at the service level.

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Video-laryngoscopy is not mandatory in the 2019 EMS protocols. Services may choose to implement one of these devices but are not required to purchase these devices. Should a service choose to implement a video-laryngoscopy program, these are some device characteristics to consider:

- 1) The service should have educational, QI, and medical director programs as outlined above.
- 2) The device **MUST** be standard geometry and **MAY NOT** have a hyperangulated geometry. Overwhelming experience and the medical evidence indicate that standard geometry blades are more successful in the pre-hospital setting. Standard geometry devices maintain the shape of your current direct laryngoscopy blades. These devices are used in the same manner as your current blades, meaning, the motor skills are maintained. Additionally, they can function without the camera/screen – which is necessary if the camera becomes obstructed or the screen fails. Hyperangulated devices use a different technique and cannot be used for direct laryngoscopy if the device fails.
- 3) If you choose to implement a video-laryngoscopy program, you may wish to consider elements such as battery life, cost of maintenance over time, cost of replacement blades, ability to use with pediatrics, etc. If you have questions, please reach out to your service, hospital, or regional medical director.

Thank you for taking the time to read this white paper and consider these issues. The MDPB recognizes and appreciates the hard work you and others do every day on behalf of your communities and the State of Maine.

Frequently Asked Questions

- 1) If I choose to implement a video laryngoscopy program, do I still need to stock traditional pre-hospital intubation equipment?

YES. These devices are not mandatory, and therefore, providers should have the opportunity to use the intubation tool with which they are most comfortable. The device you choose may be a video laryngoscope, but it may also be a traditional laryngoscope. Additionally, any technology has vulnerabilities, and there are examples of video devices failing batteries losing their charge. The MDPB believes that having redundancy in equipment in airway management is essential.

- 2) Are these devices mandatory in the 2019 Maine EMS protocols?

NO. These devices do not appear in the Maine EMS protocols. The protocols continue to reference intubation, but not the tool that providers use to intubate. Services may choose to implement a video laryngoscopy program and should have

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the educational, QI and medical director elements described above, but the protocols do not mandate services use video laryngoscopy in 2019.

- 3) If I want to build an educational program for my service that addresses airway management, where can I get help?

There are many potential sources of assistance for help in building an airway management educational program. Beyond service resources, including service training officers and service medical directors, the state EMS training centers, other EMS educational resources, regional medical directors, regional offices, and hospitals are all potential sources of excellent airway management training support. Additionally, the Maine EMS Education Committee and the MDPB have developed some training resources for EMS services to use if interested. These resources are available at the following link:

<https://www.maine.gov/ems/publications/documents/Maine%20EMS%20Airway%20Training%202019.pdf>