memo

To: Members of the Training & Certification Committee

From: TR90A/TR999 Integration Workgroup

Date: March 30, 2022

Re: EMT Student Competencies and the 2021 NEMSES

History

The TR90A/TR999 Integration Workgroup met twice during the month of March 2022 in response to the Medical Direction Committee's request to send the motion "*…to remove CTS testing as a requirement of Virginia EMT certification. Instead, programs will have confirmation of psychomotor skills by the programs' OMD and Director using a format approved by the OEMS such as a TR999 or TR90A that have been proven successful*." back to the committee for further review.

The workgroup, at its first meeting, determined that the best path moving forward was for the Commonwealth of Virginia to eliminate the process of sending students to a CTS for the sole purpose of repeating a memorized skills sheet in front of a state evaluator. Rote memorization and subsequent testing of EMS memorized skills is not producing a better product for Virginia's EMS system—in fact, anecdotal evidence seems to prove otherwise.

In surveys conducted by the Virginia Office of EMS on behalf of TCC in the fall of 2021, evidence from educators and agencies alike point to an improvement in the quality of EMT that agencies are seeing since CTS testing was first paused and later indefinitely cancelled due to the COVID-19 pandemic.

The precautions put in place due to the pandemic, forced many of the Commonwealth's educators and Program Directors to think outside the box. This resulted in new ways of teaching EMS content and skills, new ways of learning for students and a renewed focus on the "big picture" in EMS—***Can EMT students be rewired to think of the call critically "from dispatch to transfer of care at a hospital"?*** Not simply rote memorization or parroting of one or more skills from a piece of paper. Anecdotal evidence shows it appears as though Virginia EMT educators are making headway in this regard with their students in large part thanks to the need for quick thinking due to the pandemic.

This new process—introduced due to the pandemic (TR-999)--of skills verification through a competency-based model taught with real-world, scenario-driven training coupled with in-house testing has proven to be a benefit to the Commonwealth. When asked whether there were any large, outstanding issues with newly minted EMT's trained during the pandemic, the

Division of Regulation & Compliance indicated that they have not seen an increase in enforcement actions at the EMT level due to the elimination of the CTS process and implementation of in-house testing. Many educators and agency administrators have commented that they feel EMT's are better prepared now, then they were in the past.

EMT education in Virginia (since May 2020) has been on a new path—one that will make the transition to the 2021 National EMS Education Standards smoother and one which will ensure that Virginia EMT's continue to meet or exceed national standards set in place by the National Registry (NREMT), the National Association of State EMS Officials (NASEMSO) and the Committee on Accreditation of EMS Programs (CoAEMSP) where psychomotor skills and testing is program based and culminates in a national cognitive CBT certification exam which tests students' knowledge, factual information, mental processes and clinical judgment.

Workgroup Proposal

The TR90A/TR999 Integration Workgroup then set out to develop the ***EMT Psychomotor Competency Verification Guidance for Educators***, which you have before you, to outline what the Commonwealth will expect of EMT programs moving forward once the Office fully implements the 2021 NEMSES later this fall.

The goal of this document is to describe minimum expectations for student formative experiences and minimum expectations by which the program must ensure reasonable evidence of entry level competency of each student before making them eligible to sit for the National Registry cognitive exam.

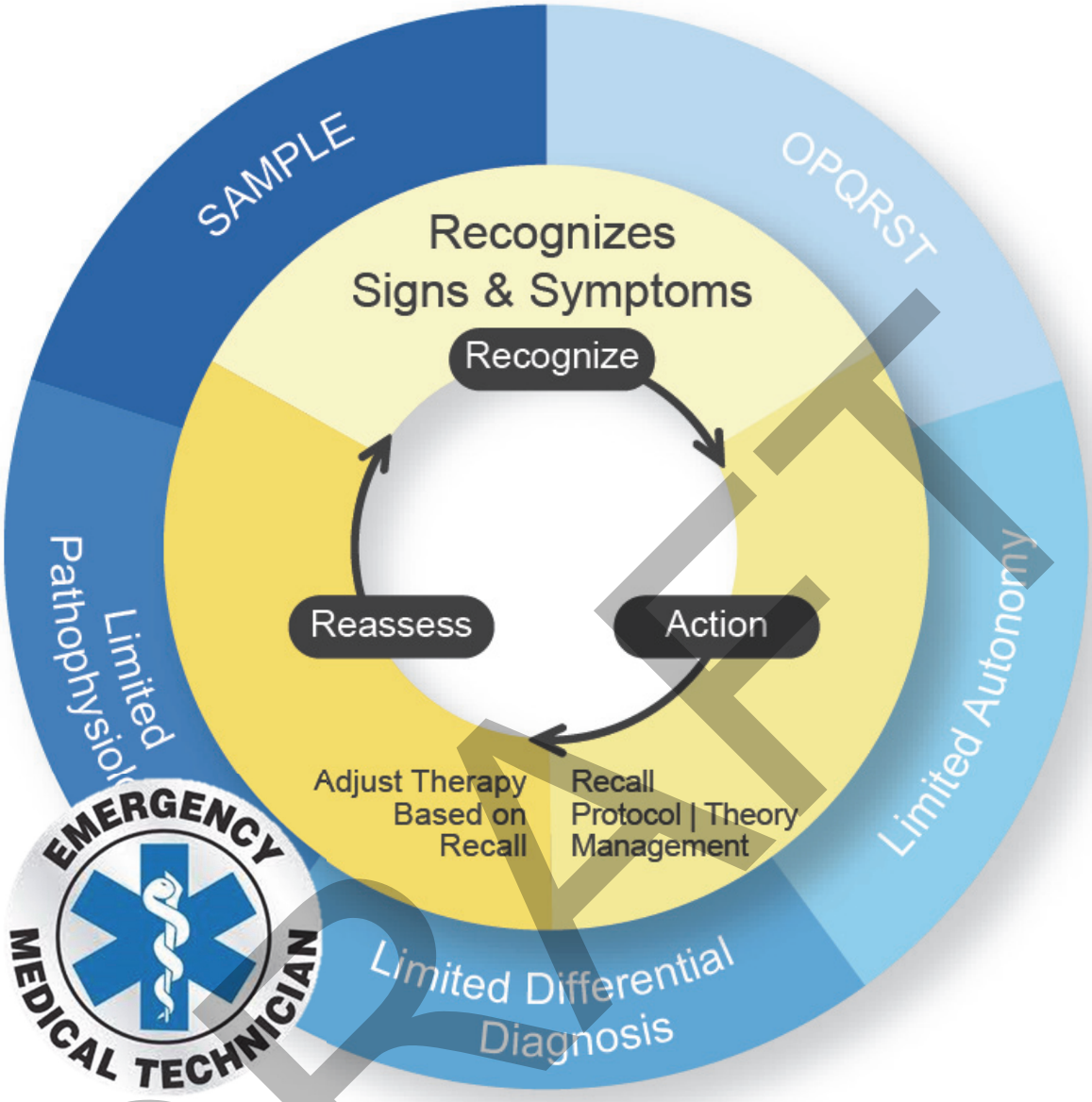
Formative experience is defined as an activity in which the student performance is assessed to provide feedback to the student during the educational experience and to expose the student to the variety of patients and conditions seen by a practicing EMT.

Reasonable evidence of entry-level competency is defined as the performance expectation by which the educational program can attest that the student has amassed a portfolio of demonstrated performance of skills and abilities necessary for safe and effective care of patients.

Final Thoughts & Recommendations

In summary, the TR90A/TR999 Integration Workgroup strongly supports the removal of CTS testing in the Commonwealth, so long as the following items are in place:

- Requirement that a ***Terminal Competency Psychomotor Exam*** be conducted in-house by the educator or Program Director;
- Educators read and understand the ***EMT Psychomotor Competency Verification Guidance for Educators;***
- Implementation of an electronic sign-off process built into the Virginia EMS Portal whereby the educator/Program Director **AND** the program's EMS physician will sign off on ***evidence of entry-level competency*** psychomotor competency **BEFORE** the student is allowed to take the National Registry cognitive exam;
- Implementation of an Office of EMS managed group of evaluators who will visit EMT programs across the Commonwealth regularly and systematically to ensure that records are in order and to confirm that the Terminal Competency Psychomotor Exam has taken place.



EMT Psychomotor Competency Verification Guidance for Educators

Virginia Office of EMS **March 31, 2022**

Background

The goal of this document is to describe minimum expectations for student formative experiences and minimum expectations by which the program must ensure minimum entry level competency at the BLS level.

Formative experience is defined as an activity in which the student performance is assessed to provide feedback to the student during the educational experience and to expose the student to the variety of patients and conditions seen by a practicing Emergency Medical Technicians (EMT). Reasonable evidence of competency is defined as the performance expectation by which the educational program can attest that the student has amassed a portfolio of demonstrated performance of skills and abilities necessary for safe and effective care.

The standards for reasonable evidence of competency are built on the concept that competent performance must be demonstrated over time in a variety of conditions. A single evaluation of skills performance by the educational institution cannot provide sufficient evidence of competency.

The principles herein were first adopted by the Training & Certification Committee and the Virginia EMS Advisory Board in the early 2010's and were then known as the "TR-90A Competency-based EMT Program" which was used to track student competencies in accredited EMT programs in the Commonwealth.

The workgroup developing the originally and subsequently revised TR-90A Competency-based EMT Program (January 2020) considered educationally appropriate processes and practical capacity for Virginia EMT educational institutions and programs in keeping with United States National Highway Traffic Safety Administration's National EMS Education Standards and Scope of Practice Models in place at the time.

Public trust in the competency of Virginia EMT's depends upon consistent evaluation and documentation of skills competency using these minimum expectations.

The tracking system for demonstration of skills and experiences during training should track each of the four (4) dimensions for the educational activity that assesses skills and abilities:

- Description of the assessed skill or ability
- Age or developmental category of the patient
- Pathophysiology or type of patient presentation
- Environment of the evaluation: lab setting, simulated patient encounter, or live patient encounter.

Principles of Design

The principles behind this document are to communicate minimum expectations in a manner that enables consistency of application and verification of competency. The workgroup used the following principles to guide the discussion and development of the document.

Simplicity

The document should be easily summarized and understood. It should provide a consistent standard for data storage and data communication that is scalable and open. EMT educational programs range in size and structure, and the expectations should provide a common baseline that can be implemented and tracked.

The document should focus on the "what" rather than the "how." This principle is particularly important as medical science and educational practices evolve. The document does not specify how a skill should be performed but rather focuses that the skill should be performed according to the current standard of care.

Modularity

This document aims to provide a modular format that can be adapted to evolving standards. Updates to a particular skill do not require reconsideration of the entire table. Continued research and evaluation will result in updates and revisions based on evidence-based guidelines.

This document aims to provide a framework and model that can be used for ALL levels of Emergency Medical Services (EMS) personnel. A modular framework can be easily adapted to other levels of education and training regulated by other organizations.

Clarity

This document aims to identify which tasks are essential for the verification of competency, including skills. The aim is clear identification and communication of minimum expectations that constitute reasonable evidence that the student can perform the task on demand.

Required Psychomotor Skills

The skills listed in the National EMS Scope of Practice Model and further elucidated in the National EMS Education Standards must be taught and assessed in each EMT program in the Commonwealth. The Education Coordinator and/or educational institution must assess student ability to provide safe and effective performance of skills. Ultimately, the student should be able to consistently perform a listed skill for a variety of conditions and patient ages.

The skills referenced above are listed in a chart on pages 32 through 37 of the National EMS Scope of Practice Model as found on www.ems.gov in example one (1) shown below.

Example. 1

VI. Interpretive Guidelines

The interpretive guidelines are used to help guide the users of this document by providing additional insight into the discussions and deliberations that revolved around the decisions of the *Expert Panel*. These interpretive guidelines represent the collective opinions of the *Expert Panel* in June 2018.

The interpretive guidelines are included to allow future users to apply similar methodology in deciding appropriateness of new interventions at each personnel level. They are illustrative and NOT all-inclusive.

I. Skill – Airway/Ventilation/Oxygenation

I. Skill – Airway / Ventilation / Oxygenation	EMR	EMT	AEMT	Paramedic
Airway – nasal		X	X	X
Airway – oral	X	X	X	X
Airway – supraglottic			X	X
Bag-valve-mask (BVM)	X	X	X	X
CPAP		X	X	X
Chest decompression - needle				X

It is important to note that this table only includes discrete psychomotor skills – not integrated judgment and performance. Motor skills are tracked separately because valid evaluation of pure psychomotor skills requires a log of skills performed over time in various conditions – not single point in time evaluations such as a summative examination

The following are psychomotor skills for which patient exposures during clinical and field environments is not sufficient to document skill proficiency. In these cases, acquisition of psychomotor skills should be conducted in planned laboratory settings prior to testing integrated skills performance in simulated patient encounters. This table can be used to assist in the development of curriculum, clinical and simulation sequences.

Peer student evaluation may be useful for formative evaluation but should not be used for competency verification.

Optional Skills in Virginia

The Virginia Scope of Practice Procedures and Formulary, permit EMT's to perform skills which are not included as a part of the National EMS Scope of Practice Model. The following language comes from this document.

> *"The use of supraglottic airways (SGA) and waveform capnography at the EMT level was extensively debated by the Expert Panel that developed the National EMS Scope of Practice Model. Several public commenters expressed a lack of support on draft language that proposed to add them to the interpretive guidelines for EMTs during the national engagement period."*
>
> *"The Expert Panel concluded that while SGA and waveform capnography could successfully be taught and measured at the EMT level, it is an intervention that should be reserved for an experienced practitioner and therefore, is not a prudent addition as an entry-level skill to the Practice Model for an EMT now."*

Since Virginia permits the use of supraglottic airways (SGA) and waveform capnography at the EMT level, the Education Coordinator and/or educational institution may permit the teaching of these skills with the approval of their EMS Physician.

WORD OF CAUTION: Virginia EMS agency administrators and EMS Physicians should note that not all EMT programs in the Commonwealth will opt to teach these skills and providers coming into Virginia of out-of-state may not have been exposed to these skills, so it is incumbent on the agency and it's EMS Physician to have a plan in place to ensure providers without exposure to these skills can gain the requisite additional

training necessary for the provider to meet the requirements of the Virginia Scope of Practice Procedures and Formulary.

Competency Determination

Past indicators of student minimum competency measured the number of successful performance but did not prescribe a success rate. Consistent successful performance is a critical part of competency.

The descriptors used to illustrate the increasing complexity of knowledge and behaviors through the progression of licensure levels originate, in part, from the *National EMS Scope of Practice Model*. These terms reflect the differences in the breadth, depth and actions required at each licensure level.

Depth

The *depth* of knowledge is the amount of detail a student needs to know about a particular topic.

Breadth

The *breadth* of knowledge refers to the number of topics or issues a student needs to learn in a particular competency.

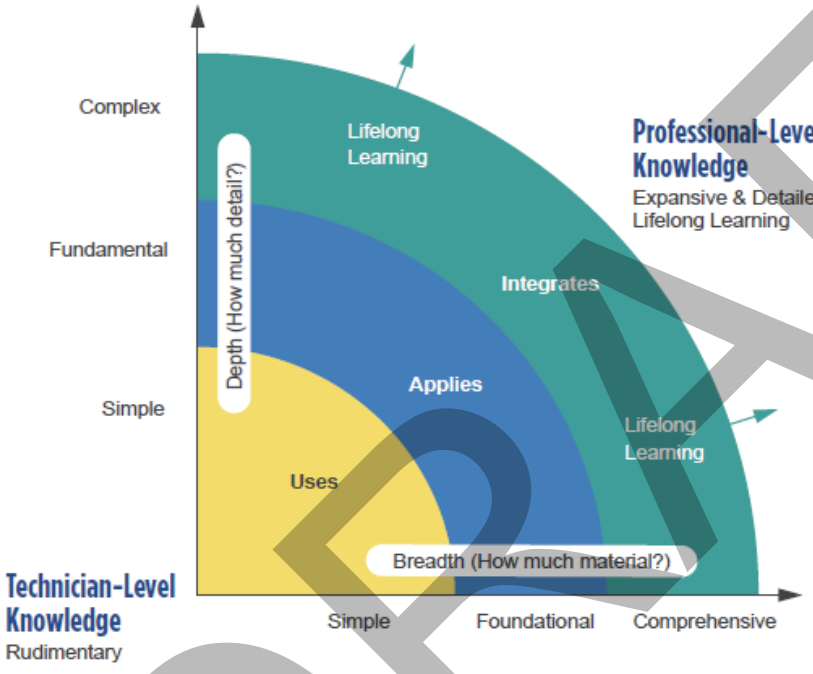
For example, EMS instructors need to ensure the emergency medical responder has a thorough understanding of how to use the bag valve mask (BVM) safely and effectively. The amount of detail the instructor provides about how to use that BVM represents the depth of knowledge. Some instructors might adjust their specific curriculum to provide slightly more information about the BVM compared to other instructors, but every graduating EMR will know how to use the device.

To describe the intended depth of knowledge of a particular concept within a provider level, the revision team uses the terms *simple, fundamental* and *complex* as seen in *Figure 2.1*. These terms can seem ambiguous and confusing when used in isolation (e.g., learning to correctly use a BVM is not a "simple" task). Instead, the meaning of each term is relative to the other terms. For example, knowledge that is categorized as "simple" is only simple relative to another curriculum that provides more detail, such as when comparing EMT to AEMT. EMT students may need a greater level of airway anatomy detail because the scope of practice is different.

Scope of practice is even more different for the AEMT and paramedic student, who will need increasingly greater levels of airway anatomy detail (complex). Course directors, instructors, medical directors and local stakeholders can decide the precise level of detail based on community and student needs rather than establishing a single prescriptive curriculum for the entire nation.

Similarly, the intended breadth of knowledge surrounding a concept is reflected in the terms *simple, foundational* and *comprehensive*. As curricula include an increasing level of detail about the use of the BVM, airway assessment and airway anatomy, the increasing size of the toolbox reflected by the increased scope of practice necessitates a broader list of related subjects.

Figure 2.1: Depth/Breadth Terminology



For example, the addition of CPAP, nasopharyngeal airway and oxygen delivery devices at the EMT level broadens the curriculum for the EMT instructor. For instructors teaching paramedic students, the increased scope of practice broadens the knowledge base even more. Clearly, the use of CPAP requires the EMT to have an increased depth and more complex breadth of knowledge than the EMR, but not nearly as much as the paramedic.

Terminal Competency Psychomotor Exam

Once the EMT program has determined that all students are entry-level competent, the Education Coordinator shall schedule a terminal competency psychomotor examination that will allow the Program Director and Medical Director to validate entry-level psychomotor competency. It shall be conducted through competency based critical thinking scenarios as approved by the program's EMS Physician. Whenever possible, your students should be evaluated by other Education Coordinators that were not part of the program, or had very little involvement, in order to ensure an objective evaluation.

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