By David Page, MS, NREMT-P

The Quest for Competence

What does it take to achieve competence in EMS?

If you are anything like me, I'll bet you were on cloud nine when you received your certification card and first EMS patch. A feeling of great pride, nervous anticipation and general feeling of accomplishment was like a bubble of superpower created when you passed your class and certification test. It was also the bubble that burst when you encountered the first patient in the field you didn't know how to treat. After returning from my first failed call, I remember staring at my patch and feeling like I didn't deserve to wear it. Are you a competent EMS provider? Do you have satisfactory skills? Knowledge? Work habits? Can you point to specific actions, attributes, or events that prove your competency? If you are an instructor or supervisor who routinely evaluates others, are you confident in your tools to identify who is competent?

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"Competency" has long been a buzzword in the world of EMS quality improvement and education. The meaning of this word and scope of its concept vary greatly. One state agency might use the term "competencies" for psychomotor skills on a certification exam (like splinting and oxygen administration), while an EMS service might use it to determine if a new employee is ready to work on the street. Adding to the confusion of a definition, there is little research to support any of the standards we seem to hold as critical in our business.[1–4] Does a 90% success rate at intravenous cannulation[5] and endotracheal intubation make you a "good" clinician?[6–8] If a patient complains about your attitude, does that suggest you are incompetent? How many assessments should you perform in clinical training with an instructor before you graduate?[9] Does it matter if an EMT knows cardiac anatomy?[10]

For the purposes of this article, let's agree that a competent EMS clinician is one who has the physical skills, mental ability and emotional attributes necessary to properly care for a patient in the prehospital environment. From this perspective, competency is a comprehensive term that represents the sum of all knowledge, attitudes and abilities needed to be a successful EMS clinician.

Let's also agree that competency is not a state that is achieved or bestowed upon a clinician by some higher power, person or agency.[11] In EMS, we often seek out the evaluation of others as proof that we are meeting a standard and complain that tests only measure a small part of our skills and knowledge. In fact, no state EMS agency, instructor or supervisor can simply declare us competent.

Sure, you may have aced a test, performed a skill exactly to specification or received a commendation for handling a difficult case, but let's face it: What "looked good" may be an illusion. You may have guessed at some questions, or your perfectly performed skill may have failed, and your commendation may have been because you simply kept your cool even though you had no idea what to do. In other words, just because things looked right and turned out in your favor, it doesn't really reflect your abilities. This is why, if you're honest with yourself, you are the best person to assess your own competence. Your self-reflection, self-evaluation and self-directed acquisition of new knowledge to correct your own deficiencies are perhaps the most important processes in the quest for competency.

State agencies and work supervisors are important safeguards to grant you entry-level permissions to practice, but remember that you need to do just that: practice the art of prehospital medicine.[12,13] Deliberate practice will lead to experiences you can both test your abilities on and learn from. The more you perfect your practice, the more your work quality will improve. The Greek philosopher Plato is quoted as saying, "Experience develops our best flute players. And also our worst." You (the clinician) are ultimately responsible for honestly appraising your performance, learning from your experiences and improving.[14–17]

Finally, let's agree that competency is not a permanent state of being.[18,19] Medical science and technology are constantly improving, and your skills are constantly deteriorating or improving (depending on your practice). With that in mind, no agency or person could or should declare anyone permanently competent. Every time we care for a patient, or encounter a new piece of equipment or new technique, we are really facing a small test and another opportunity to perform a self-diagnostic check. Ask yourself, "Was I familiar with the patient's medications, medical diagnoses and current condition? How can I refresh or improve my knowledge of these conditions? Did I miss something the next caregiver found? How were my skills? How was my affect (attitude)? What should I do to fill any gaps in my knowledge or performance?" Competency in this context is more of a journey than an achievement. It is a constantly evolving state that requires you to systematically engage in a self-diagnostic and improvement loop.

Because of the lack of EMS-specific research, it is essential to look at research from similar professions to better define competency. This article borrows from well-researched concepts in other medical professions and triages their relevance to our prehospital world. We will examine the groundbreaking work of Drs. Ronald Epstein and Edward Hundert, who performed a meta-analysis of this topic in a 2002 *JAMA* article titled "Defining and Assessing Professional Competence."[20] Be forewarned that reading and thinking about this topic may challenge your current belief system, especially if you feel pretty good about your current work.

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SPECIFIC MARKERS OF COMPETENCY IN EMS

Before you continue, write down what you think are at least five key attributes of a competent prehospital clinician, then try to categorize them by topic area. Once you have finished, compare your list to the attributes described in this article. Research shows that our minds learn and retain more information when they have been properly "primed." Self-reflection is one way to prime our brains, and happens to be one of the key elements of competency.[21, 22]

If you completed the opening exercise, chances are you are a self-starter and are honestly seeking to improve yourself. Give yourself a point in the realm of competency, as no one is forcing you to do this and you are fully engaged in analyzing the elements that can make you a better clinician.

To better understand the elements of competency, let's break this topic into four major categories: Operational, Medical, Psychomotor and Behavioral.

OPERATIONAL COMPETENCY

I like to think of this element of competency as the most basic and easily defined. It's so simple, it's often implied as part of a job interview or hiring process. The bottom line is that EMS agencies need personnel who are certified and able-bodied. Operational competency is a grouping of crucial markers an EMS provider needs in

Competency involves thorough preparation and constant vigilance so that errors are minimized.

order to work. Examples of this are the ability to:

- Show up to work on time and in full uniform (including a watch)
- Attain and maintain current EMS certification cards
- Hold a valid driver's license with a clean enough driving record to be insurable
- Drive an ambulance and back one into a garage without crashing
- Be in good enough physical health to operate an ambulance stretcher, lift (heavy) people
- Read a map or know every street in the service area
- Keep out of trouble with the law (no felonies, no crimes against a person, etc.).

I'm sure you can think of more examples that are specific to your work area. The point is, somewhere along the road to achieving and maintaining operational competency, you must possess the simple qualifications to meet some commonsense requirements of the career. As an aside, and without any research to support my claim, I'm often underwhelmed by the lack of operational elements tracked or taught during the educational preparation of EMS professionals. Overlooking these elements during training simply results in graduates who cannot lift, map or drive well, and who may not be reliable workers.[23, 24] They may not even be insurable drivers. In short, they are card-carrying theoretical EMS workers.

MEDICAL COMPETENCY

Medical competency begins with basic knowledge. Being "book smart" in EMS is often looked down upon in favor of being "street smart." In reality, you need to have the knowledge before being able to apply it. Someone once said, "The eye does not see what the mind does not know." This is essential in emergency medicine. Early recognition of a lethal condition is only possible if we know the signs and symptoms to look for. Certainly, knowing our protocols is a first step in basic knowledge, but learning about conditions that simply cannot be adequately covered in our condensed EMS certification courses is also essential. EMS certification programs must focus on the basics and be efficient with the short amount of time they have with students. It is up to us, the practicing clinicians, to keep learning the additional information we need to be truly competent.

Acquiring new knowledge is therefore a key element of competency.[25,26] How this is achieved is not necessarily a uniform process. Unless we want to make EMS classes as long as medical school, our only hope for embracing new knowledge is to adopt a continuous learning strategy. Every patient should be an excuse to learn more about an aspect of medicine that may not have been covered in school. Biting off little chunks of information that are easily digestible and immediately relevant to a patient you have just encountered will stick in your memory like small pieces of a huge puzzle. As you connect the pieces of the puzzle, you will see more and more of a road map to the assessment and treatment of the sick and injured patients in your ambulance.

Having just promoted the benefits of simple knowledge, we must also consider that knowledge alone does not lead to appropriate medical care. The ability to put that knowledge to work is critical. Therapeutic judgment is the cognitive skill that helps us move theoretical knowledge into real practice.[27] It is a continuously evolving skill that each of us must improve over time. It involves weighing the importance of signs and symptoms, formulating a presumptive list of potential diagnoses and considering which of these is most likely and which is most lethal, then making an educated decision about the risks versus benefits in each of the possible treatments that seem appropriate. In short, you need to make decisions that will benefit the patient based on available information. Other examples of this are knowing when:

- to try a procedure
- not to try a procedure
- something is not working
- to modify your treatment
- to stop trying a particular approach.

Continuing education in EMS is too often relegated to rehashing basic material in predetermined areas that may or may not be a participant's areas of strength. It is also too often measured in seat-time—how long we sat in a classroom listening to someone lecture. If competency is what we are after, we must rethink how we measure knowledge. If you learn best from expert consultation with receiving medical staff or using reliable Internet resources, referenced articles and textbooks, should you have to sit through a lecture with information you already know? Wouldn't it make more sense to simply demonstrate your knowledge and critical thinking and use the seat-time for more learning, or simply more fun?

PSYCHOMOTOR (SKILLS) COMPETENCY

Think back to when you learned to drive a car. Every element in the process, from starting the engine to merging into traffic, was a slow, methodical and deliberate step. After years of driving, most of us don't even think about it. We just put our foot on the brake and turn the key in one fluid motion, and we consistently achieve the same result. This smoothness or fluidity is achieved as part of our naturalization of the skill. We know the steps so well, our muscles perform the task subconsciously. For skills that are naturalized, we can easily

Table 1: Sample Patient Satisfaction Survey

PATIENT FEEDBACK

Patient Name: **Date of service:**
EMS Provider Name (if known):

Check one: I was the ❑ **Patient** ❑ **Family Member**

Thank you for your assistance in providing feedback to the EMS provider who just took care of you. Please take a moment to complete this form and return it to the EMS provider, nurse or simply mail it back. The address and postage are already provided on the card. Thank you.

5 = Strongly Agree; 4 = Agree; 3 = Disagree; 2 = Strongly Disagree; 1 = Not attempted

	Interest in Patient as a Person; The EMS Caregiver:	5	4	3	2	1
1	Attended to my physical comfort during interview, exam and treatment					
2	Communicated caring, including learning my name and addressing me with respect					
3	Listened carefully					
4	Made me feel like I could tell him/her anything, even something personal					
5	Created a positive rapport including identifying him/herself, and making eye contact					
	Participation in Care; The EMS Caregiver:					
6	Asked me if I had any questions					
7	Clearly explained things (both assessments and treatments) in a language I could understand					
8	When possible encouraged me to make decisions about my treatment (including hospital destination, etc.)					
	History, Physical and Treatment; The EMS Caregiver:					
9	Warned me about what he/she was going to examine next					
10	Performed a respectful physical exam					
11	Seemed to know appropriate treatment(s)					
12	Overall, successfully led the EMS team to take good care of me					

Additional Comments ______________________________

Adapted from Rochester Communication Rating Scale 2002; Epstein RM; Comprehensive Assessment of Professional Competence: The Rochester Experiment; Teaching and Learning in Medicine; April 1, 2004, V16, N2, p.186–196

adapt our procedures should we need to account for new variables. This ability to modify, improvise and still perform well is the goal of psychomotor competency. In EMS, we do not have the luxury of knowing when and where our patients will call us. Adapting our skills, from splinting a fracture to ensuring a patent airway, is an essential part of our work.

Achieving consistent results with the fluidity and adaptation that are hallmarks of motor skill competency may be easier said than done. Current research on our ability to ventilate nonbreathing patients at an appropriate rate and successfully place advanced airway adjuncts is an example of a skill that EMS providers take great pride in and think we perform well, but we appear to fall short.[28, 29] In this realm, deliberate and perfectionistic practice under increasingly difficult (and realistic) conditions is key.[30] Next time you are practicing airway skills with a manikin on a table in a well-lit room, ask yourself how many patients are kind enough to find a waist-high table on which to have their airway managed during an emergency? Is there a way to adapt your practice and skill performance to accurately reflect the complexity of applying the skill? Can you videotape yourself, or get impartial real-time feedback so you can stop and correct a mistake before you learn bad habits? How many perfect repetitions of the skill will it take for you to achieve a reasonably high success rate?

Intravenous cannulation training is one example of how our current standards have little to do with competency. The current national standard paramedic curriculum suggests that students perform at least 25 successful starts to demonstrate some level of skill proficiency. Yet available research clearly shows that different students attain consistent success rates at widely different numbers of attempts.[31, 32] If competency is our goal, doesn't it make more sense to name an acceptable success rate and then ensure that all candidates achieve that rate of success, regardless of how long it takes them to achieve it? Wilson suggested an 80% success rate over 20 attempts.[31]

Monitoring our own success rates with various procedures has become easier with technological advancements. Specifically, electronic charting and quality improvement databases can give us feedback on critical skills. This can certainly help guide us in what to refresh or improve if the information is made available and if it was accurately recorded in the first place. But, there is no substitute for that little bird on your shoulder saying, "That didn't go so well; better practice that a few times before you do it again." Listening to that little bird and acting on its suggestion may be more powerful than any computer analysis of critical skills.

BEHAVIORAL (AFFECTIVE) COMPETENCY

In the long run, our attitude, belief system, emotional intelligence and behavior toward others is probably of much greater consequence to competency than any amount of knowledge or skill performance. If we are not humble enough to admit we have more to learn, that we have made an error or have a potential for future errors, then we are not likely to self-evaluate accurately or seek out the help we need to improve.

For example, research shows that patient satisfaction is linked to biomedical outcomes. It is possible for someone with little or no knowledge of medicine to accurately judge their caregiver's competency.[25] It is also a well-established fact that patients will not sue a doctor they like, even if the doctor has made a grave error. On the other hand, patients will not hesitate to sue doctors they dislike. It is clear that we have much to learn about our competency from our patients, not only about whether we had good bedside manner, but whether we treated them with clinical accuracy. Now ask yourself: "Does my ambulance service routinely survey its patients and pass along detailed feedback to employees about patient satisfaction?" (See *Table 1* for a sample patient survey.)

> "No state EMS agency, instructor or supervisor can simply declare us competent."

Affect is not only about being nice to patients or humble enough to admit your own knowledge gaps. It is also about your level of integrity, described by some as "doing the right thing when no one else is watching." I have a partner who has arrived to work one hour early for the better part of a decade. He checks every piece of equipment in the ambulance. He is as polite to the foul-mouthed, inebriated driver who insults him as he is to an elderly patient who requires nothing more than a stretcher and a warm hand to hold. His level-headed behavior follows the golden rule to treat others as you would want them to treat you. His affect expresses itself through deliberate actions that demonstrate his compassion and respect for others, and how he holds himself accountable for his performance. This is the crux

Psychomotor competency means applying and adapting skills under difficult circumstances, knowing when to and when not to perform certain skills.

of behavioral competency: actions that demonstrate humility, respect and empathy.[33–36]

The beginning of this article highlighted the need for a continual self-evaluation and self-improvement loop. The critical ingredient to successful self-evaluation is the initial courage to start the process. Courage is needed, because each time we undertake the process, we risk discovering we aren't as good as we wish. We must be willing to accept feedback even when it may be difficult to hear or improve upon.

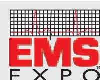
CONCLUSION

In their 2002 meta-analysis, Epstein and Hundert helped us define professional competency. The concept that competency is a constant process of evaluation, identification of knowledge or performance gaps and the self-directed acquisition of new knowledge is an important cornerstone of their analysis. In EMS, we ought to be looking for ways to teach our clinicians how to evaluate their performance and acquire knowledge in a variety of ways. Problem-based learning may be one way to accomplish this.[37–39] We should be learning on our own and more frequently than the two-year recertification and refresher cycle currently in place. We should be listening to our patients and encouraging a more prominent role of the affective domain in learning.

More EMS research is needed to define and validate elements of competency. Adjusting our practice to improve patient outcomes would be an essential step in this research. Consider part of this article an urgent call for action to take charge of our own future and define our standards in a more defendable way.

The bottom line for street-level providers is don't wait for others to judge your performance. If you continually learn from your experiences, identify knowledge gaps and remain humble and open to feedback, the process of continual learning is itself the marker of competency.

Don't ever expect to reach a static point in time where you are deemed competent. Instead, make every day count in the quest for improved knowledge, skills and great attitude. ■



David Page is a featured speaker at EMS EXPO, October 15–17, in Las Vegas, NV. For more information, visit www.emsexpo2008.com.

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