EDITORIAL
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The Educational Direction of the ACLS Training Program

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THE ORIGINAL INTENT OF THE PROGRAM

The original intent of the Advanced Cardiac Life Support (ACLS) Training Program was the education of health professionals in the skills and knowledge needed for a successful resuscitation.[1] To this end, the American Heart Association (AHA), in conjunction with the American Red Cross (ARC), the American College of Cardiology, the Canadian Heart and Stroke Foundation, the National Heart, Lung, and Blood Institute, the American Academy of Pediatrics, and other health organizations sponsored the development of a set of national guidelines and recommendations for the delivery of emergency cardiac care (ECC). In the ACLS area, the AHA developed an educational program to disseminate these skills and knowledge. Development of the program included:

1. Development of a consensus on the science and practices underlying optimal management of victims of cardiac and pulmonary arrest. This has been accomplished through the national conference process approximately every six to seven years.[2]
2. Identification of the set of resuscitation skills and knowledge to be acquired by the rescuer, including the distillation of the principles of early management of the arrest victim into the Standards and Guidelines for CPR and ECC.[2]
3. Creation and publication of a textbook (the *Textbook of Advanced Cardiac Life Support*[3]) to describe the scientific basis and practice of resuscitation in greater detail.
4. Design of a course (the ACLS Provider Course) as the setting in which participants could acquire the skills and knowledge necessary for an optimal resuscitation event. Features of the ACLS course that differentiated it from other continuing education courses for health professionals included both emphasis on hands-on education and didactic sessions to promote the acquisition of both

psychomotor skills and knowledge of resuscitation. The course also stressed evaluation of the learner's acquisition of both the knowledge and the psychomotor skills through practical and written examinations. The AHA developed a list of skills to be mastered for each of the areas (stations) of psychomotor skills development covered in the course. A multiple-choice examination was developed for the assessment of the acquisition of the knowledge needed for a successful resuscitation attempt.

5. Design of a course (the ACLS Instructor Course) for the training of instructors, including educational theory and practice teaching. For many health professionals, including some in health professional education, this was the first exposure to the science and art of education. The instructor training program included training in the successful conduct of both teaching and evaluation skill stations.

6. Creation and publication of materials (the *Instructor's Manual for Advanced Cardiac Life Support*[4] and *Supplement*[5] covering the instructor training process and useful to instructors, especially those who would direct ACLS courses (course directors).

7. Establishment of a training oversight structure, through the AHA affiliates, responsible for the quality of the educational programs conducted in their catchment.

USE OF ACLS COURSE COMPLETION BY OTHER ENTITIES

The entities responsible for the provision of health care are required to ensure the clinical competence of their providers. The entities responsible for the provision of ECC include hospitals and their emergency departments, emergency medical service (EMS) systems, and other health care entities. These entities are motivated to assess the competence of their clinicians because of both internal and external motivating factors, including the requirements of the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO), laws, liability concerns, professional ethics, and other factors.

The entities responsible for the assurance of clinical competence developed a reliance on the training programs sponsored by the AHA and ARC for the assessment of their providers in resuscitation skills. Both the use of the Basic Life Support (BLS) and ACLS courses and the choice of resuscitation as an area in which to assess competence were natural developments for the following reasons:

- National standards in resuscitation practice (BLS and ACLS Standards and Guidelines) are developed and endorsed by nationally recognized organizations (AHA, ARC).
- The skills and knowledge are taught in a nationally developed, uniform, and structured program by a trained faculty.
- The participant is evaluated for the acquisition of both skills and knowledge using nationally uniform tests.
- The participant only receives evidence of his/her performance if successful in passing all criteria of the course as measured by the tests.[4,5]

There are several problems with the use of the ACLS educational program for the assessment of clinical competence. The ACLS Provider Course is not designed to test whether a health care provider performs a skill to some uniform national standard. Great variability exists across courses as to what constitutes a passing performance on a skill station and how many remediation attempts are permitted.[6] Some courses allow multiple attempts to pass a station or examination, while others fail participants after one unsatisfactory attempt. Some will fail a participant who fails to intubate the trachea in 32 seconds but pass a participant who takes 28 seconds. Efforts to establish nationally uniform, explicit passing criteria for psychomotor skills have been unsuccessful because of the healthy diversity of opinion as to what constitutes an acceptable minimum performance in a simulated setting, let alone in real life. Moreover, it is impractical to disseminate such explicit standards throughout the program and expect consistent compliance with their use nationwide.

Diverse participants bring diverse backgrounds into resuscitation courses and perform differing roles in the health care delivery system. These rescuers will be called upon to perform different skills in practice, including the resuscitation response. The level of perfection in practice to which the ACLS participant will be held will vary based on his/her profession, role, and practice setting. At best, performance in an ACLS course only represents performance at one point in time. Skills may be lost between the time of course completion and the need for their use.

Who, then, should test the competence of the individual health professional? Clinical competence should be tested by the entity held accountable for the quality of the care delivered by its providers. The hospital, its ED, the county EMS system, or other employing entity must test clinical competence and determine whether the professional has met a minimum standard.

EFFORTS TO CLARIFY THE INTENT OF COURSE COMPLETION

From the beginning, the AHA has been clear in its intent that successful completion of these courses implies nothing other than that: successful completion of a course. The AHA has attempted to communicate this intent through a variety of methods.

Every edition of the *Textbook of Advanced Cardiac Life Support*[1,3] has included specific statements clarifying the definition and implications of course completion. While the language has changed over the several editions, the intent always has been that ACLS course completion "... in no way warrants performance, does not *per se* qualify or authorize a person to perform any procedures, and is in no way related to licensure, which is a function of the appropriate legislative, health, and educational authorities."[1] The AHA-produced ACLS slide set includes a slide in the first lecture that reinforces this point.[5] Moreover, every edition of the multiple-choice examination used in the ACLS course, including all five new versions released in 1991, contained a question designed to check the participant's understanding of the meaning of course completion. Despite these efforts, employing agencies continued to require health care workers to "pass" BLS and ACLS courses, often irrespective of or without knowledge of the conditions under which the "certifying" course was conducted and the actual criteria used for "passing" or "failing."

In the past five years, the ECC Committee of the AHA took further steps to clarify the role of the ACLS course as a training program that is educationally oriented rather than focused on testing and certifying. The AHA removed the term *certification* from all the cards and materials used in the BLS, ACLS, and pediatric resuscitation programs. After lengthy debate, the term *successful completion* was chosen to replace *certification* on the cards distributed at courses and in all the textbooks and instructors' materials. Unfortunately, this step did not achieve its intended effect, because the leadership of health care institutions knew that course completion cards still were awarded only after all testing requirements were met — the participant "passed" all stations and the written examination.

INHERENT DISADVANTAGES OF A "CERTIFYING" PASS-FAIL COURSE

The fact that other health care entities are using ACLS course completion for their own purposes is not in itself a problem. Problems arise because this secondary use of the ACLS program to test for competency and to "fail" some participants has impaired the educational mission of the program. As an educational program, the goal should be to help all learners, regardless of their levels of skill and knowledge, improve their understanding of resuscitation science and skills to respond in an arrest setting to the best of their ability. In contrast, as a "certifying" course, once the learner has achieved a "passing score" on the examination or station, the mission is accomplished. This has led some courses to allow "challenges" in which the participant just takes the examination and completes the testing stations. It is unclear what educational goal this type of course accomplishes.

The role of "testing" in an ACLS course with an educational orientation is different than in a certifying course. In the educational paradigm, evaluation (testing) plays a key role. Evaluation helps the participant identify areas needing further work. Evaluation also provides instructors with insight into a particular participant's problems; this insight improves the effectiveness of remediation efforts. Another use of evaluation results is to provide the course director and instructors with diagnostic information about the strengths and weaknesses of both the course and the participant population. Evaluation also motivates participants to learn. When written examinations are used in a certifying course, test security is a high priority. There are reports of participants copying the examinations from library editions of the instructor's manual to ensure a passing score. In a course with a purely educational focus, the examination questions can be made available to the participant as a study guide or can be used as a pretest to help the faculty understand the strengths and weaknesses of a particular participant group. One strategy that has worked well has been for the participants to meet with an expert instructor after they have received their graded multiple-choice examination answer sheets. In an interactive format, the instructor can review the questions missed by the learners, discussing not only the correct answer but also the knowledge and problem-solving process required to answer correctly. This can be a powerful teaching session, because the learners are focused on the material by the experience of the test. These sessions can be valuable for both the expert and novice in the course.

In summary, the educationally focused ACLS course has several key features:

- The object is to raise the knowledge and skill level of each participant as much as possible within the constraints of the schedule rather than to ensure that each participant, with their different backgrounds and roles in resuscitation, will achieve the same level of knowledge and skill.

• Flexible course design is not only permitted — it is encouraged, as it often means tailoring the material content, depth, and presentation to the particular needs of that group of participants.

• The examination and testing stations become evaluation opportunities to help participants and instructors target areas that need further work. Participants with problems are identified early and remediated aggressively.

• All participants who attend the entire course and participate actively in stations would receive a course completion card.

FOCUS ON EDUCATION MEANS REJECTION OF THE VESTIGES OF CERTIFICATION.

One key feature of changing the ACLS course focus from "pass/fail" testing and certification to education is a redefinition of which participants receive a course completion card. As long as cards or certificates are only awarded when a participant successfully passes the evaluation components of the course, employees will continue to use them as evidence of competency. This will likely be true regardless of the specific term used (*certification* or *successful completion*) or disclaimers made by the AHA. Therefore, to accomplish the goal of education, the AHA must adopt the policy of awarding course participation documentation on the basis of participation, not on the basis of performance on tests.

What becomes of the certification of competency? As noted above, if considered necessary, it is the responsibility of the employing or other legally responsible institution to assess the clinical competency of the health care workers in that entity's jurisdiction, whether the institution is a hospital, clinic, ED, health department, or EMS system. In the field of resuscitation, the skills and knowledge that are helpful in the management of most arrests are outlined by the Standards and Guidelines for CPR and ECC and are well taught by the BLS and ACLS courses. A responsible agency may choose to accept "successful course completion" as an appropriate educational experience. The major change in the course, from the agency's perspective, is simply a realization that a course card does not explicitly mean "the absence of failure." In reality, it never meant this in the past, either. Pediatric hospitals have already followed this approach in regard to the Pediatric Advanced Life Support (PALS) courses, in which "passing" and "failing" were eliminated some years ago. If a responsible agency feels impelled to test individuals explicitly in a "pass/fail" manner, they may choose to do so and may use the evaluation tools and standards for performance included in the BLS and ACLS instructional materials. In other words, the institution may, at its own discretion, choose to conduct a BLS or ACLS course as an educational program and combine with that the use of the examinations and testing stations for the purposes of assessing the competency. While this may, at first, seem like the reintroduction of the disadvantages into the educational program, it has several advantages over the current situation. The responsible institutions would be able to evaluate their own employees to their standards rather than relying on the definitions of passing and remediation policies, which are known to vary among different courses. Likewise, the institution could test each participant to a standard appropriate to the role which that practitioner will play in a real resuscitation attempt. In this way, health care workers who require only a rudimentary understanding of arrhythmias can accomplish that achievable goal rather than cramming to learn information they will not use regularly and likely will not retain. This is consistent with adult learning theories, which hold that adults enter educational experiences because they have a problem to solve. They expect to learn skills they will use in their life after the course.

The training of different health professions in the same course is clearly a valuable part of the educational experience and should be preserved. It provides the opportunity to see the resuscitation attempt from other perspectives, thus helping the practitioner understand individual expectations and how he/she fits into the larger effort. It also builds teamwork essential to successful resuscitation. Group practice and teamwork, however, do not require all participants to be evaluated by the same standards when the responsible entity is assessing clinical competency.

CONCLUSION

The ACLS Training Program represents a powerful tool for educating the community of practitioners with a role in the resuscitation of patients. This tool is most effective when used in a purely educational context in which each participant focuses on learning thoroughly his or her role in a resuscitation attempt to the best of his or her abilities.

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