
Letter to the Editor

The Journal of Extracorporeal Technology (JECT) is the official scientific journal of the American Society of Extracorporeal Technology (AmSECT). The intent of its publication is to provide scientific and technological information to the membership of AmSECT and the perfusion community at large. As an officer of AmSECT and as an AmSECT member of long standing who has been involved with training programs for 15 years and who was involved with the development of the certification and accreditation program, I feel compelled to respond to the article submitted by Richmond, Arnold and Kurusz. Even though this article appears under the heading of "Editorial," it was submitted as a scientific article and should stand the scrutiny of such. There are a number of errors within the article that need clarification, errors that lead to false conclusions. Some of these errors are probably due to lack of information on the authors' part, some are due to poor scientific reasoning. Since the issue addressed by this paper (the 1981 deadline) is one that is being discussed in a number of forums, and is one that may have a profound effect on the future of our profession, I feel that it is appropriate to respond.

In the introduction of the paper there are several subtle but very important points that need discussion.

The *hypothesis* tested in this study is based on an unproven assumption! The unproven assumption is that performance on the written examination correlates with competency in perfusion. The basic problem here is that neither AmSECT nor (later) ABCP has gone through the very necessary step of defining competency in perfusion technology. AmSECT's Certification Committee that developed the first examination and administered the exam during those years used to establish a "knowledge base", was composed of well intentioned members of AmSECT (this respondent included) who had absolutely no idea of certification methodology. As a result, no attempt to define the cognitive domain of the technology was made, no attempt to define the required competencies was carried out, and no legitimate method for defining adequate

competency (pass-fail cut off point) levels were established. As an example, consider the area of anatomy. There were several questions on the exam concerning the azygos venous return anatomy. Now it is entirely possible that many of the "good test takers" could answer questions concerning the azygos drainage; but, is knowledge of this system necessary to be a competent perfusionist? One might well find similar correlations between knowledge of the history of medicine and good test takers but competency is neither proven nor demonstrated. A substantial part (approximately 60%) of the exam dealt with such questions. Without defined cognitive domains and competency levels, the establishment of pass-fail cut off points is highly questionable.

Another point that needs expansion concerns the authors' statement concerning recent literature recommending structured curricula, etc. The studies cited did *not* include perfusion training programs but rather other allied health disciplines. There will probably be similarities in educational methodologies between some of the other allied health programs and perfusion technology but until these methods are proven for perfusion, recommendation rather than requirement is as far as one should go. (This respondent was the first proponent of academic preparation and remains so.)

Finally, it is interesting to note that shortly after 1975, the ABCP established the 1981 deadline and that at this late date the validity of this move is being tested.

A significant error exists in the authors' definitions of training programs as given as a preface to the Methods section.

In defining the B.S. program, the authors erroneously state the "training usually lasts four years." This is simply not so! The two programs offering B.S. degrees including the Ohio State Program which provided the B.S. test takers used for this study are typical 2 + 2 allied health programs. This means that the first two years of the program are *not* taken in the cardiovascular perfusion training setting and the courses are not related to perfusion but rather the basic college level

courses in English, math, and basic sciences. Furthermore, the Ohio State Circulation Technology program curriculum includes several non-cardiovascular perfusion areas limiting the actual cardiovascular perfusion training to approximately six months time.

In defining the "OJT" and the "AP" there are, furthermore, unsubstantiated or unreferenced claims to the lengths of these two modes of training. Since the premise of this paper is to correlate length of training program to test results, the error concerning the B.S. program and the lack of data on the length of the other two types of training program are significant shortcomings.

The Conclusions section of the article carries on with the same invalidity as the body of the article. To conclude that exam scores correlate with length of training when inappropriate lengths were used is invalid. To correlate training programs to exam scores achieved on an exam that may or may not relate to competency is irrelevant. All that a positive correlation between scores and training programs may mean is that training programs are successful in teaching the exam whether it is related to competency or not. Furthermore, it is unproven *conjecture* that "schools of perfusion are themselves undergoing growth as sound education

practices and clinical training programs are established." The statement concerning the OJT category containing a substantial number of perfusionists who had undergone formalized training is just an example of the authors trying to manipulate the data into a preconceived, biased hypothesis!

The paragraphs concerning the ABCP examination being able to discriminate among perfusionists is total nonsense; there is no data anywhere in this article or elsewhere that will substantiate this conclusion!!!

My own conclusions, after careful study of this article are:

1. The basic hypothesis of the entire article is based upon an untested hypothesis (success on the exam demonstrates competency) and is thus invalid.
2. The authors are misinformed concerning the lengths of training programs (at least at the B.S. level) and thus their conclusions are wrong.
3. The authors are using an invalid hypothesis along with inaccurate data to defend a poor decision made several years ago rather than working towards resolving problems in the ABCP procedures.

James P. Dearing, B.S., C.C.P.

NOTE: The authors of "The Relationship of Duration of Training to American Board of Cardiovascular Perfusion Written Certification Examination Scores" will respond in the next issue of *JECT*.