

Mar. 6, 1992: 1). In fact, Dr. Ernest McCulloch and Dr. Jim Till in their research over 30 years ago at the Princess Margaret Hospital in Toronto showed for the first time that there were certain cells — stem cells — in the bone marrow from which all blood cells originate. This discovery was instrumental in the development of life-saving therapy for patients who had undergone marrow transplantation. Assertions such as those of Tsongas are unreasonable, obdurate and patently false, and they may cause increasing fears and misconceptions among Canadians about their health care system. There has been no hint of an apology.

The Harvard Community Health Plan Annual Report,<sup>1</sup> which surveyed health care consumers in six countries, found that Canadians were the most satisfied with their system, followed by Germans, Americans, Britons, Swedes and Japanese.

I do not see any justification for Squire's conciliatory response. Many of us know of friends and patients who have experienced financial ruin after prolonged stays in US hospitals. The relationships between physicians and politicians in Canada and the United States are at their lowest ebb in many years. The losers in this confrontation are patients.

Squires' comments may have been "overly sarcastic," but the comments made by Munro and Tanenbaum clearly indicate that there are many physicians who are similarly disabled.

**Bhubendra Rasaiah, MD, FRCPC**  
Consultant clinical pathologist  
and director of laboratories  
Sault Ste. Marie General Hospital  
Sault Ste. Marie, Ont.

## Reference

1. Anderson HJ: Looking abroad for changes to the US health care system. *Hospitals* 1991; May 20: 30-35

## A survey of resuscitation training in Canadian undergraduate medical programs

**W**e have followed with interest the correspondence on the article by Dr. David H. Goldstein and Robert K. Beckwith (*Can Med Assoc J* 1991; 145: 23-27). The information contained in the survey is very valuable.

The American Heart Association developed the courses mentioned in the article. The Emergency Cardiac Care Committee of the Heart and Stroke Foundation of Canada sets standards and guidelines for the following Canadian programs: basic life support, advanced life support, pediatric advanced life support and neonatal resuscitation.

Although the tone of the replies to the article is confrontational it seems that Drs. Jim Ducharme (*ibid*: 1561) and Tim Allen (*ibid*: 1561, 1564) in fact agree with Goldstein and Beckwith that teaching resuscitation skills to medical students is important and needs improvement and regular review. Dr. Stephen Lloyd and colleagues (*Can Med Assoc J* 1992; 146: 440-441) confirm this and describe the approach of McMaster University.

We disagree with Ducharme's comment that advanced life support courses are "no longer accepted." Over 6000 Canadians participated in these courses last year. The educational success of the courses is reviewed at an international conference every 5 to 7 years and continually monitored by the American Heart Association and the Heart and Stroke Foundation of Canada. Many talented educators and researchers are attempting improvements. These courses are educational packages; they are not "merit badges," nor do they "certify" competence.

The courses are based on solid educational objectives. Learning is assessed through observation of the appropriate learned behaviour. The strength of the advanced life support courses lies in the simulated resuscitation. If some courses are given without significant student practice they are clearly the exception and are outside the guidelines. Well-organized precourse reading materials supplement the background. The development of a differential diagnostic list is discussed when appropriate. Social and ethical considerations in resuscitation are frequently covered.

The problem noted by Ducharme of obsolescence within a year has been addressed. Important information that affects patient outcome is changed when necessary. This was most recently demonstrated by the addition of a chapter to the reading material regarding automated external defibrillators.

Protocols can result in rigid practice. However, protocols also give a panicky resuscitator a framework in which to organize the many aspects of resuscitation. They are offered as a teaching and a practice aid. Deviations from protocols for logical reasons are clearly warranted and acceptable in practice and within the framework of the courses.

We disagree that the level of the courses is much higher than should be expected of undergraduate medical students. The examination is well within their reach. It is appropriate for medical students to acquire resuscitation skills and the ability to recognize an infant or child in trouble. In many centres the students are not "frustrated and unreceptive" but enlightened, excited and rewarded, and they leave the courses with a distinct sense of accomplishment.

The Heart and Stroke Foundation of Canada wishes to improve the performance of health

professionals practising resuscitation. All medical students in Canada deserve sound instruction in resuscitation. We would appeal to each of the aforementioned authors to recognize that we are all working together toward this common goal.

**James M. Christenson, MD, FRCPC**  
Chairman  
Emergency Cardiac Care Committee  
**Lyle F. McGonigle, MD, FRCPC**  
Chairman  
Advanced Life Support Subcommittee  
Heart and Stroke Foundation of Canada  
Ottawa, Ont.

In their article Dr. Goldstein and Mr. Beckwith make a plea for more time and money to go to the teaching of resuscitation in Canadian medical schools. They list seven courses as essential to an undergraduate curriculum and conclude that "deans must support recommendations from ongoing curriculum review and allocate funds to a specific resuscitation program."

As the undergraduate deans responsible for the curricular content of the five Ontario medical schools we have reviewed this article with some care and have come to quite a different conclusion. We feel that except in the case of courses in first aid and basic cardiopulmonary resuscitation (CPR) all the learning of skills provided by these standardized courses may be included in the undergraduate program but should be clearly defined as a postgraduate objective. Our reasoning is as follows:

1. We can think of no instance in which an undergraduate student would or should be required to practise more than basic first aid and CPR in order to function optimally in clinical settings.

2. All curricula currently teach the principles underlying the appropriate use of resuscitation techniques but must leave the learning of more

advanced skills to a time when they are actually required (i.e., during the intern and residency years).

3. Goldstein and Beckwith admit that for competence to be maintained in even basic CPR skills yearly recertification is necessary. This is also true in the case of advanced resuscitation skills, which supports the need to position these courses early in the postgraduate period.

4. As undergraduate deans we are constantly bombarded by groups that, with the best of intentions, feel it essential for their subject to be included in the undergraduate curriculum. An additional 136 hours of curricular content is an enormous increase. The dollar costs cannot be eliminated, although they may be directed through the use of our faculty resources. We ask Goldstein and Beckwith whether they view such technical training as optimal use of the undergraduate student's precious learning time.

All schools are reviewing their curricula and struggling to develop strategies to unburden them. Although the principles of resuscitation are essential components of all undergraduate curricula the teaching of the skills is best done early in the postgraduate training program.

**David Hollomby, MD, FRCPC**  
Assistant dean, curricular affairs  
University of Western Ontario  
London, Ont.

**Jennifer M. Blake, MD, FRCSC**  
Chair, MD Program  
McMaster University  
Hamilton, Ont.

**Ken H. Shumak, MD, FRCPC**  
Associate dean  
Undergraduate medical education  
University of Toronto  
Toronto, Ont.

**Hugh F. Pross, MD, PhD, FRCPC**  
Associate dean, undergraduate education  
Queen's University  
Kingston, Ont.

**Jeff Turnbull, MD, FRCPC, MEd**  
Assistant dean, undergraduate education  
University of Ottawa  
Ottawa, Ont.

*[The authors respond:]*

We thank the undergraduate deans for their interest. We acknowledge that they are faced with the very difficult task of identifying the goals and objectives of an ever-evolving undergraduate medical program.

Let us clarify some misinterpretations of the article. We did not state, as was suggested, that the seven courses reviewed were essential parts of an undergraduate curriculum. These courses were a sample of the growing number of resuscitation courses now available. In appreciation of the limited "curriculum time and funding" we recommended that "consideration should be given to providing a comprehensive resuscitation curriculum rather than seven individual courses."

We also recommended that a conjoint committee be established to tailor a resuscitation curriculum that would consolidate the principles and methods necessary to teach resuscitation skills. It is unclear to us why the learning of resuscitation information and skills "may be included in the undergraduate program but should be clearly defined as a postgraduate objective." The undergraduate and postgraduate deans should meet to review which resuscitation skills can be expected at the various levels.

The four reasons given why advanced resuscitation skills should be part of the postgraduate curriculum represent an approach that produces interns who may be required to provide advanced life support without the proper training. We endorse the ongoing teaching of advanced cardiac life support (ACLS) to clerks at the middle or end of their clerkship, as is now being done in three of the five Ontario medical schools. This would allow clerks to observe and participate in resuscitation under supervision.

We also agree that advanced