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CAEP REVIEW

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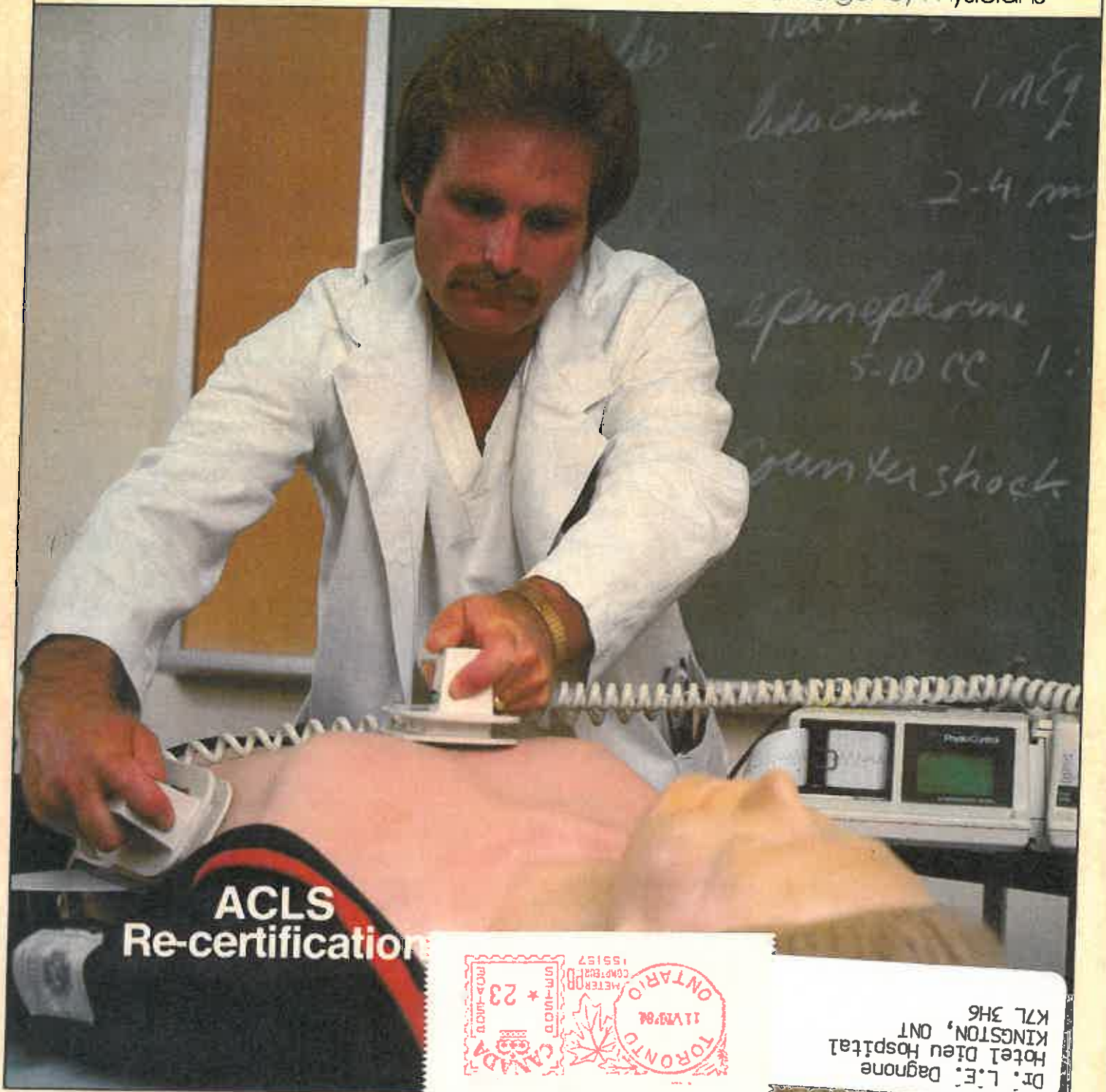

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CAEP REVIEW

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President's Notebook

You may have read articles concerning Emergency Medicine in a recent issue of the C.M.A.J. Interesting and varied viewpoints were expressed by Dr. Donald Rice, Executive Director of the College of Family Physicians of Canada, Dr. Graham, his opposite number at the Royal College of Physicians and Surgeons and Joe Chouinard, Co-Ordinator of the C.M.A. Council on Medical Education.

There is no doubt that the training and certifying of Emergency Physicians is receiving extensive attention at the present. This is as it should be. The inception of C.A.E.P. was predicated upon recognition of Emergency Medicine and also upon achieving certain standards in this critical aspect of patient care.

The two Colleges are very careful to define the target groups at which they are aiming. The Royal College is recognizing Emergency Medicine and will train Emergency Physicians to work in teaching hospitals and major urban Emergency Departments. The College of Family Physicians of Canada is dedicated to upgrading and adding to their training programme to better equip their trainees in providing emergency coverage by Family Physicians in community hospitals.

The Canadian Medical Association is concerned that those physicians who wish to practice primary care after training other than in Family Medicine Programmes will be unable to obtain training in Emergency Medicine.

It seems clear that Emergency Medicine has become a pawn in a large game of chess with many players. One wonders what the political impact will be within the C.F.P.C. when physicians trained in Family Medicine/Emergency Medicine Programmes apply to work as part-time or full-time Emergency Physicians and create pressure on physicians who have simply had Family Medicine training, who yet work in Emergency Departments.

One further wonders whether the discussions between the C.M.A. and the C.F.P.C. regarding Emergency Medicine reflect the wider issue of pre-licensure training and the training slot negotiations that will ensue.

And naturally, one wonders how those who become career Emergency Physicians will choose eventually to train: via C.F.P.C. or R.C.P.S. This latter issue will determine to a great extent the future character of the practice of Emergency Medicine.

There is no doubt that the practice eligible route to certification will be easily achievable by full-time Emergency Physicians via the C.F.P.C. route, and our input to that examination process will be to ensure a valid and high standard examination. C.A.E.P.'s position on practice eligibility towards Royal College of Physicians and Surgeons Certification will, we hope, ensure appropriate access for experienced capable Emergency Physicians to achieve certification in the R.C.P.S. if they so wish.

There is little doubt in my mind, however, that there is a subtle conflict that exists to garnish the realm of Emergency Medicine within the organizations mentioned. The Canadian Association of Emergency Physicians represents physicians who, in the main, are not strong constituents of any of these factions, and until the process of certification has been clearly defined (albeit with extensive input at each level from C.A.E.P.) the Association has clearly remained non-partisan. The day may not be far distant when that position will change, when the final positions on training programmes, examination structure and content and practice eligibility are arrived at, it will be the Emergency Physicians, and aspiring Emergency Physicians of Canada who will determine the marketplace validity of each. It is clear that we have had a powerful influence so far in helping the Colleges arrive at their considerations to date, and that that influence will continue. Our efforts in this regard, allied with input and creativity in accreditation, economics and continuing medical education will, I believe, ensure that Emergency Medicine in Canada is practised by physicians who are appropriately trained, interested in their work, and a credit to the medical profession.

David M. C. Walker, M.D., FRCP(C)
President

From the Editor

Changes . . . more changes

Things change so much with each issue of the *Review* that one wonders if it isn't time to change our name. I was re-reading our first issue of last September a few days ago, and it truly bears little resemblance to the present publication. Change, however, should never be for its own sake. I trust that most of the alterations we've made have been worthwhile. Please let us know whether or not you agree, Appropriate letters will be published.

A new feature of this issue is the "Case Conference" appearing in the Scientific Section. Dr. Charles Ramesar of the Toronto General has agreed to provide us with one for each issue. These will be of a consistent format: a case presentation and a brief discussion. Topics will be designed to cover a variety of problems presenting in Emergency Departments. I am confident that this will prove a valuable addition to the *Review*.

Letters to the Editor regarding material presented in the *Review* have not to date over-taxed our postal service. If this publication is to continue, it must be read and be seen to be read by the physicians practising in Canada's Emergency Departments. If you agree or disagree with the scientific material or political opinions presented, use the pages of the *Review* to establish some dialogue with your colleagues. Similarly, if you have a brief communication regarding a clinical observation that would be of value to other Canadian Emergency Physicians, consider using the *Review*.

Apologies to Western Canada By the time this is read in Vancouver, it may well be time to make up your Christmas shopping list. The publication must, unfortunately, be sent third class mail through Canada's postal service. While most issues do seem to arrive, it is taking two to three weeks for subscribers west of the Ontario border to receive their copies. The publication is mailed on the first day of each quarter, so this should give you an idea of how long it takes. Please let us know, as we're pursuing alternate means of getting the *Review* to you sooner. In the meantime, please accept our apologies.

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Resident's Corner

By Paul Assad, M.D.

The Bellevue Experience

Emergency Medicine residency programs in Canada compare variably to most of the well recognized programs in the United States on all aspects except management of Trauma. Because of the high crime rates in the major cities, E.M. residents have certainly more exposure to various types of trauma including gunshot wounds, stabbings, beatings, and etc. They therefore, become very competent in this field and developed trauma teams that are remarkable by their efficiency, quickness, and good survival rates. These are qualities that every Emergency Physician should strive to obtain whether he works in a large or small emergency department.

In order to increase the level of exposure to this type of trauma, the Royal Victoria residency program has been considering for the past two years in an elective of one to two months in one of these major U.S. hospitals. This year, one senior spent two months at the Detroit General Hospital which serves as the Wayne County Medical facility, and three residents have spent one month each at New York's Bellevue Hospital. The following is a summary of a typical day in the Bellevue Emergency.

8:25 A.M. Morning report was short. Relatively quiet night. As I wander into the Emergency room, I can see that the waiting room is already overflowing and that all the examining rooms are filled. A female patient in Room #1 was beaten in a subway around 4 A.M. Her face is swollen, she has bruises everywhere including abscessed needle tracks. As I headed for Room #2, I am again amazed at the amount of security guards and policemen actually in the Emergency room. Several of these are prison guards watching over their prisoners which come in with monotonous regularity from the different municipal jails for a variety of problems from seizures, lacerations, and complaints of being beaten up by the cops. The constant presence of these policemen and their prisoners gives the emergency room an air of an armed camp.

8:55 A.M. A nurse has just yelled out, Doctor up front. Immediately, several physicians leave the main Emergency and cross over to the Trauma Room where a young Chinese man has been rolled in, surrounded by paramedics and policemen. He has apparently been shot once in the left chest. Immediately, his clothes are cut off and two 14 gauge intravenous lines are started peripherally. Within seconds, the trauma team arrives with each of its member placing itself at predetermined locations around the patient. Successfully, the patient is intubated and ventilated while a large bore chest drainage tube is inserted in the left side, and immediately 900 cc. of blood was drained and type negative 0 blood is put up. A saphenous vein cutdown is performed at the right groin area and a pediatric feeding tube is inserted for blood infusion. Total time for stabilization and insertion of lines: 15 minutes. The patient is now brought to the O.R. where a laceration of his left pulmonary artery is repaired, with the patient expected to do well.

10:15 A.M. A paramedic squad has just phoned in on the base station telemetry unit. They have a 55-year-old male with chest pain and unstable vital signs. By telemetry, they sent in an ECG rhythm strip which shows frequent ventricular premature contractions. They asked permission to administer morphine sulphate for pain and lidocaine for PVC's. A small dose of morphine is ordered because of the unstable vital signs and permission is given for the lidocaine. The patient was later found to have had an anterior myocardial infarction and was admitted to the Coronary Care Unit.

2:30 P.M. The cry goes out again, Doctor up front. This time, it's a 3-year-old girl who was thrown off a 5th floor balcony by her mother. The child is comatosed, not moving the right side, and has a fixed and dilated left pupil. The left side of the body is bruised with a large fronto-temporal hematoma. The pediatric trauma team is called into action and again, a variety of resuscitative steps are taken including endotracheal intubation. Because no C.T. scan is available, a left temporal hole is made draining an epidural hematoma. At the same time, a peritoneal lavage has revealed gross blood in the abdomen. Within a few minutes, the child is whisked to the operating room for a laparotomy.

Of course, not all the cases are as interesting and challenging. The percentage of derelicts and drug ad in this Emergency population is very h Drug users are forever feigning complaints in order to obtain drugs a one must always be on guard against this. They will go to any lengths to convince the physician that their complaint is genuine.

Although, this type of elective provide extensive exposure to urban trauma, setting where the Emergency Medicir resident would be actually performing the different stabilization maneuvers would be preferable. At Bellevue, this mainly done by the trauma team whi does not include an Emergency Medicine resident. If such an elective considered by an EM program, this aspect should be carefully considere Also, a maximum period of two month should suffice to acquaint the residen with this aspect of Emergency Medici

Bellevue has two additional advanta The first one is an excellent Poison Co Centre and Toxicological Research facility. This Unit is staffed 24 hours a d to answer enquiries from the public a medical personnel all across the New York State. They have two full-time doctors of pharmacy and an extensiv computerized pharmaceutical and toxicological information bank. Resid are welcome to spend several days getting acquainted with the Centre i answering enquiries on the phone.

The second advantage is the field of E.M.S. The level of pre-hospital care a paramedic competence is extremely variable across the United States. However, on the whole, it is more advanced than on the Canadian sce

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Across Canada

Emergency Medicine in Halifax, Nova Scotia

By Nigel Merchant, M.D.

The city of Halifax, apart from being a major port and the capital of Nova Scotia, has a total of seven hospitals within its limits. All but one are affiliated with Dalhousie University Medical School and have an active teaching role. The Victoria General, Halifax Infirmary and Camp Hill offer primary, secondary, and in the case of the former two, tertiary levels of care to adult patients. The Grace Maternity looks after obstetrics, the Izaak Walton looks after paediatrics; the Abbie Lane takes care of adult psychiatric patients; and the Halifax Civic serves as a long stay institution for the chronically ill.

Across Halifax Harbour lies the City of Dartmouth. Dartmouth has two hospitals: the Dartmouth General and the Nova Scotia Hospital. The former is a community hospital, not affiliated with the Medical School and the latter is Provincially run and is the major referral hospital in Nova Scotia for psychiatric cases.

The Victoria General, Halifax Infirmary, Izaak Walton Killam and the Dartmouth General have emergency departments which have on-site physician coverage 24 hours per day. Of these, only the Victoria General and the Halifax Infirmary have full-time Emergency Physicians. Outside of Halifax, no other hospital in the province has full-time Emergency Physicians, although a few have expressed interest.

The Victoria General was the first hospital to employ full-time Emergency Physicians. This started in 1974 when, as a pilot project, six recently graduated interns were hired to provide 24 hour per day, seven days a week, medical coverage in the Emergency Department.

A Co-ordinator was appointed to assume overall responsibility for the quality of care provided by those physicians. Prior to that time, Emergency Department medical coverage was obtained from local physicians in private practice and from house staff. One person who influenced the Hospital to consider the concept of full-time Emergency Physicians was Doctor Robert Scharf, currently Director of the Emergency Department at Saint John Regional Hospital. He was active in the Emergency Department at the Victoria General in the early seventies and has always been an active promoter of Emergency Medicine.

In 1975, the Hospital decided to continue its pilot project for another year. Towards the end of the second year, the physicians involved became convinced that Emergency Medicine should be developed locally and nationally, and began working toward this goal at the local level. Specifically, they attempted to have the temporary nature of the Emergency Room Physician concept removed. They encouraged the Hospital to create an environment which would be conducive to enticing physicians interested in Emergency Medicine to seek a career with the Victoria General, and they petitioned the Medical School to provide them with formal recognition for the teaching they were doing to medical students and interns.

Unfortunately, the Medical School did not offer any appointments at any level, because it could not find a department through which the appointments could be granted, and it could not establish a department or division of Emergency Medicine at that time. Both the Hospital and the Provincial Department of Health took the viewpoint that the Hospital should continue employing full-time Emergency Physicians, but did not consider that Emergency Medicine should be considered a career. Rather, it was felt that full-time employment in an Emergency Department was something that a recently graduated physician may do for a year or so before going out into another aspect of medicine and that physicians should be discouraged from working full-time in an emergency department for more than three years. It should be pointed out that these opinions were not reflected in the minds of a substantial proportion of the active medical staff of the Hospital.

A dark period of stonewalling, polarization, and other assorted unpleasant things followed. The result was that, of the original group of Emergency Physicians, the last left in 1979. Since 1977, Emergency Physician staff turnover at the end of each contract year has been very high, ranging from 69 to 90% per year. The tragedy is that the vast majority of those physicians who have come and gone were very interested in Emergency Medicine, were very capable doctors, and left because they did not perceive a future for themselves at the Victoria General.

As for the Halifax Infirmary, this Hospital has had full-time Emergency Physicians since 1978. The climate in that Emergency Department seems to be entirely different. The Department is expanding and there are good indications that Emergency Medicine will flourish there.

The future of Emergency Medicine in this area will depend to a large extent on the Medical School and the Victoria General. Unless the Medical School provides an academic base for this specialty, its growth will be impaired. Since the Victoria General is regarded as the "Flagship Hospital of the Province" its attitudes toward Emergency Physicians and Emergency Medicine are potentially profoundly influential. There is some evidence that improvements in the status quo are pending. In the first instance, since the Victoria General will probably not take the retrogressive step of doing away with full-time Emergency Physicians, there is nowhere to go but up. Secondly, the Hospital has recently reversed its earlier stance on the subject of Emergency Physicians. It now recognizes the value of having residency trained, career oriented Emergency Physicians and appears to be interested in creating a department which will attract these doctors. Thirdly, the Medical School has begun preliminary manoeuvers aimed at starting a post-graduate training program in Emergency Medicine. And finally, a new government has been elected, with a Minister of Health and a newly appointed Deputy Minister who appear to be quite progressive.

I am willing to prognosticate that

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Letters to the Editor

To the Editor

Dear Sir:

I was delighted to read your April issue of the CAEP Review. In i you carried the full text of Dr. William Ghent's Roads Lecture and for that I congratulate you. The highlights of it, of course, were published in the CMAJ, but, simply didn't do justice to the excellence of the lecture in full. It was in a word masterful, and that's exactly what one would expect from the old master himself Bill Ghent.

Sincerely,

R.Y. McMurtry, M.D., F.R.C.S.(C)

A Proposed Format for Re-Certification Programmes in ACLS

By Rocco Gerace, M.D. and Mark Hyslop, M.D., C.C.F.P.

INTRODUCTION

Standards for emergency cardiac care in general, and advanced cardiac life support in particular, were first published in 1974[1]. That was followed by a rigidly outlined program which led to certification. One of the first Canadian Advanced Cardiac Life Support (ACLS) Provider Courses was completed in London in November 1977. This certification was valid for a maximum period of two years, after which time certified individuals were to have been re-tested. Unfortunately, no formal mechanism has been recommended to this date regarding methods and techniques for insuring continuing proficiency in ACLS. With increasing requests from medical students and others for review and update in advanced cardiac life support, it was felt that a program should be developed to meet this need.

In designing the contents of the program, the following factors were taken into consideration:

1. A method to present the contents to a group in a complete fashion but compact period of time.
2. A need to determine the most vital components of the program and those most likely needing review.
3. The necessity of ensuring competence of participants completing the program.

With these factors in mind, an ACLS Recertification Program was designed and two courses were conducted in London early in 1981. The course was designed to accommodate a maximum of 24 candidates. The participants were 4th year medical students who had completed an ACLS Provider Course within the context of the medical curriculum two years prior to taking the recertification program. Medical students were used because they were immediately accessible, had requested a course, and were willing to take an as yet non-approved program. A questionnaire was submitted to the candidates after the course, devised to assess the design of the program.

Course Design: Time Allotment

The first consideration in presenting this program was the total time allotment that should be given. Because the purpose of the program was primarily to review the information and ensure competence, a maximum time allotment of one day was felt to be sufficient. Because participants have been involved in provider courses, it was felt that there would be no need to review formats in Stations with each group, allowing more time for teaching and assessing competence. The final program developed was six hours long, involving approximately 22 instructor hours. A minimum of six instructors were required for a three-hour period during the program.

The next consideration was to determine the components of the program to be included. These components were further divided into lecture presentations and Station presentations.

Components

Lectures

On review of all the lectures, it was felt that it would be necessary to repeat three. The first review lecture was "Dysrhythmia Recognition". Past experience[3] with ACLS courses has shown that although the malignant dysrhythmias were easily recognizable by the majority of course participants, they consistently had difficulty with some of the more subtle dysrhythmias such as blocks. Because dysrhythmias were being presented in the Stations, it was felt that an overall review of the essentials of dysrhythmia recognition would be a worthwhile introduction.

The second lecture to be included was "Essential Drugs". This lecture has consistently been considered valuable by previous ACLS participants[4]. The drugs contained in this lecture are those most frequently used in the emergency cardiac care situation, and so, a comprehensive lecture of the material in the text would be pertinent.

The final lecture was that of Useful Drugs. There has been significant revision in the updated standards of ACLS[2] regarding this classification of drugs. Therefore, this lecture was included with these revisions and reinforced in the cardiac arrest station.

Stations

1) Station A

In determining the performance/testing Stations, there were numerous considerations. Because Basic Cardiac Life Support is the cornerstone of ACLS, it was imperative that participants be able to demonstrate their competence in BCLS. All participants were advised that they would have to be current on BCLS standards and would be expected to perform as such. Therefore, a Station was included in BCLS and the participants were simply expected to demonstrate their competence. There was no practice or teaching in this Station.

The next Stations which were felt important but not requiring a great deal of time were the airway Stations, ie. airway management and intubation. Therefore, they were presented in one

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session. During this Station, after a brief review of standards by the instructor, the participants were able to practice these procedures and were then required to perform them according to the ACLS standards.

In overall organization, the BCLS and airway Stations were combined into one. When a group of eight participants entered this station, they would split into two groups. The first group would demonstrate their competence in BCLS for the first half hour and airway management for the last half hour. The second group reversing the procedure. Two instructors were utilized in this station. Again, it was felt by the instructors that time was adequate to ensure competence in these areas.

2) Station B

The second Station revolved around dysrhythmia recognition. Because students, during previous ACLS Provider Programs, consistently requested more extensive teaching in both dynamic and static dysrhythmias, the Station was divided into two. The first group of four would go into the dynamic dysrhythmia Station. For the first 25 minutes, the Tudor^{R} demodulator tapes were used to review a wide range of monitored rhythms. During the last five minutes, the students were tested as a group and asked to write the answers to a number of unknown rhythms according to ACLS standards.

During the second half of Station B, the students were taught static dysrhythmias as in a standard provider course. A wide selection of dysrhythmias were able to be presented to a small group in this period of time. Testing was deferred until a later session. For Station B then, two instructors were used; one to teach each component.

3) Station C

The final station was cardiac arrest management or Stations V/VIII combined. During past courses, this has consistently been the Station to which students have desired more exposure. Therefore, when entering Station C, although splitting in half, each group of four spent one full hour with one instructor in review of defibrillation and management of cardiac arrest. The instructors in this Station objectively assessed the technique of defibrillation of all the participants according to CHF standards, as well as subjectively assessing their knowledge of dysrhythmias and drug therapy. Further, an objective test of drug therapy was given in the afternoon.

Following the Stations, time was allotted for a lunch break.

Testing

The final component of the Recertification Program was formal testing. This testing took two formats. The first was the standard multiple choice exam for the ACLS Course. The participants were expected to obtain a minimum score of 85% in order to successfully complete the program.

A second test was given on static dysrhythmias. During this test, the students were shown 14 dysrhythmias on a screen which they were to identify. For seven of these dysrhythmias, there was also multiple choice answers regarding therapy which the students were to choose. This latter test was the standard test given in the ACLS Provider Course for formal testing of Station VII & VIII.

A course outline is included to outline time allotments and station schedule. (Table 1)

Course Assessment

Methods

The recertification course was offered on two separate occasions and a questionnaire was devised to assess the design of the recertification program. The students were questioned regarding the usefulness of the lectures and practice stations, time allotment to lectures and stations, confidence in performing procedures, and the benefits of the recertification course as a renewal of ACLS. In addition, the students were asked how often recertification courses in ACLS should be offered and whether or not they would recommend the recertification program. The students were surveyed immediately upon completion of the course.

TABLE 1 – ACLS Recertification Program: Course Outline

Course Schedule

7.30	Registration
7.45	Essential Drugs
8.15	Useful Drugs
8.35	Dysrhythmias
9.20	Coffee
9.30-12.30	Stations A,B,C
12.30- 1.30	Lunch
1.30- 2.30	Testing
2:30	Wrap Up

Station Rotations

A_1 – BCLS
A_2 – Airway
B – Dysrhythmias – B_1 Dynamic
B_2 Static
C – Cardiac Arrest

Stations

Group 1	A	B	C
Group 2	C	A	B
Group 3	B	C	A
	0930-1030	1030-1130	1130-1230

Results

Of seventy-eight students eligible to participate in the recertification course, 41 or 53% completed the course. Forty or 98% were successful in passing the

course. Thirty eight or 93% of the students completed the survey.

Lectures and Practice Stations

The majority of students felt that the lectures and practice stations were of some use or very useful. In particular, most students found the practice stations on dynamic and static dysrhythmias and cardiac arrest management very useful. Seventy one percent felt that no lecture or station was not presented that would have been useful to review. (Table 2).

Time Allotment

With the exception of the station on cardiac arrest, the majority of students indicated that the time spent on each lecture and practice station as about right. The majority felt that the time allotted the cardiac arrest station was too short. Eighty two percent felt that the total time allotted to the course was about right. (Table 3)

Performance at Practice Stations

The majority of students expressed being either confident or very confident in performing the practice procedures on human subjects. Notable exceptions were the stations on cardiac monitor interpretation and cardiac arrest management in which 53% and 60% respectively, felt unsure or only somewhat confident. No student surveyed felt they had no confidence in performing the practice procedures. (Table 4)

Benefit of Recertification and Frequency of Recertification

Ninety two percent of those surveyed felt that the recertification program was a very useful or essential review of ACLS. (Table 5)

Sixty three percent felt that recertification every two years was appropriate while 32% indicated that recertification be

TABLE 2 Usefulness of Lectures and Stations (n = number of reponses)

		little or no use		of some use		very useful	
		n	%	n	%	n	%
Lectures	Essential Drugs	2	5	22	58	14	37
	Useful Drugs	2	5	26	68	10	26
	Dysrhythmias	1	3	23	62	13	35
Stations	BCLS	0	0	24	63	14	37
	Airway	3	8	20	53	15	39
	Dynamic Dysrhythmias	5	13	9	24	24	63
	Static Dysrhythmias	0	0	9	24	29	76
	Cardiac Arrest	0	0	9	24	28	76

TABLE 3 Time Allotment to Lectures and Stations (n = number of reponses)

		too short		about right		too long	
		n	%	n	%	n	%
Lectures	Essential Drugs	1	3	35	95	1	3
	Useful Drugs	4	11	32	84	2	5
	Dysrhythmias	6	16	30	81	1	3
Stations	BCLS	1	3	32	86	4	11
	Airway	1	3	31	84	15	14
	Dynamic Dysrhythmias	14	37	22	58	2	5
	Static Dysrhythmias	7	13	30	79	3	3
	Cardiac Arrest	25	66	12	32	1	3

TABLE 4 Confidence in Performance of Procedures (n = number of responses)

	no confidence		unsure		somewhat confident		confident		very confident	
PRACTICE STATION	n	%	n	%	n	%	n	%	n	%
BCLS	0	0	0	0	3	8	19	50	16	42
Placement of oropharyngeal airway	0	0	0	0	2	5	15	39	21	55
bag-valve-mask ventilation	0	0	0	0	12	32	12	32	14	37
tracheal intubation	0	0	3	8	14	37	16	42	5	13
rhythm strip interpretation	0	0	0	0	15	39	20	53	3	8
cardiac monitor interpretation	0	0	1	3	19	50	16	42	2	5
defibrillation	0	0	1	3	10	26	21	55	6	16
management of cardiac arrest	0	0	5	13	18	47	14	37	1	3

TABLE 5 Response to Course as Review of ACLS (n = number of responses)

	useless		of little use		of some use		very useful		essential	
	n	%	n	%	n	%	n	%	n	%
Recertification course as beneficial and instructive review of ACLS	0	0	0	0	3	8	24	63	11	29

TABLE 6 Frequency of Recertification (n = number of responses)

	never		yearly		every 2 yrs		2 yrs	
	n	%	n	%	n	%	n	%
Frequency of recertification in ACLS	0	0	12	32	24	63	2	5

conducted yearly and 5% felt that recertification at intervals greater than two years was adequate. (Table 6) Ninety five percent of the students surveyed recommended the course while 5% recommended the course but with reservations.

SUMMARY

An ACLS recertification program was held to review pertinent material in the provider course as well as to test participants according to Canadian Heart Foundation standards.

The response of the participants to the program in terms of how it met with these criteria was assessed. The six hour recertification course appeared to be adequate in fulfilling those criteria.

While it is recognized that medical student group may not be typical of all ACLS certificants, the program is felt to be an excellent means of recertification in ACLS until more formal guidelines are proposed by the Canadian Heart Foundation. Whether or not this "recertification process" leads to a consistent measurable improvement in the performance of advanced life support skills in the clinical situation should be the subject of further study.

REFERENCES

1 Standards for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC) JAMA 227 (Suppl) 833-868, 1974

2 Standards and Guidelines for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC) JAMA 244 453-509, 1980

3 Unpublished results of previous ACLS written and practical examinations

4 Unpublished results of previous ACLS course evaluations

Once the resident is proficient in his knowledge of the paramedic treatment protocols and after having passed a written examination, he is permitted to advise the paramedics on specific aspects of management including drug use. If desired, he can spend time riding with the paramedic units in order to get a first-hand look at pre-hospital care.

On the whole, E.M. training in Canada is of high calibre. The weakest aspect of most programs is with regards to trauma management. This is mainly due to the Canadian lifestyle and the low incidence of violent crimes as compared to the United States. Therefore, the only way one can get this experience is to spend a period of one to two months in a major American centre where this experience will certainly be gained. It is important to choose a centre where the E.M. resident will be part of the trauma management team in Emergency, and will have the opportunity to perform and become adept at different maneuvers necessary in advanced trauma resuscitation.

Paul Assad, M.D.
Chairman CAEP Resident Ctte.

Notice of Motion

The following will be moved at the October CAEP Annual Meeting as the new Constitution and Bylaws of the Canadian Association of Emergency Physicians. It is included herein as official Notice of Motion to all CAEP members. Tear it out and bring it to the meeting.

Proposed Constitution of The Canadian Association of Emergency Physicians

Article I

This organization shall be known as the Canadian Association of Emergency Physicians (hereinafter sometimes referred to as the "Association").

Article II — Purposes and Functions of Association

Section 1 — Purposes and Objectives

This Association has been founded to promote emergency health services in Canada. The objectives of the Association are:

1. To study and recommend standards of Emergency Medical Care in Canada.
2. To encourage and participate in the development and maintenance of reasonable and effective standards for both post-graduate training programs and continuing education for Emergency Physicians.
3. To foster research in the field of Emergency Medicine.
4. To promote coordination of community, provincial, and national emergency care facilities and personnel.
5. To provide representation for physicians who are engaged in the practice of Emergency Medicine in Canada.

Section 2 — Legal Identity

This Association shall be affiliated with a management company known as the Canadian Emergency Physicians Management Ltd. (the "Company"). The Company is and remains a separate legal entity from the Association. The Company will carry out a management function for the Association. Effective control of the Company shall be by the officers of the Association.

Article III — Membership

Section 1 — Personal Qualifications

Membership in the Association is a privilege, not a right, and is contingent upon continuing compliance with the Constitution and Bylaws of the Association. No person shall remain a member of the Association unless he is of good moral character and agrees to abide by the Principles of Medical Ethics of The Canadian Medical Association.

Section 2 — Classes of Membership

Membership in the Association shall be classified as follows: (1) Active; (2) Affiliate; (3) Honorary; (4) Resident; and (5) Student. The qualifications required of the respective classes, their rights and obligations and the methods of their election shall be set forth in the Bylaws. No person shall be denied membership because of sex, race, age, or political or religious beliefs.

Article IV — Officers, Executive and Committees

Section 1 — Officers & Executive

The officers shall be President, President-Elect, Secretary, Treasurer, and Past-President. The Executive shall consist of these five officers and one Member-at-Large. Members of the Executive shall be elected by the Association members at the Annual Meeting. Wherever the term "Annual Meeting" is used in this document it shall mean the annual general meeting of the Association members.

Section 2 — Executive Meetings

The Executive shall meet at least twice annually in addition to the Annual Meeting. Additional meetings of the Executive may be called by the President. The Executive shall receive notification of any and all meetings at least thirty days prior to the meeting. Members of the Executive present at any meeting shall constitute a quorum. Action shall be initiated by a majority vote of Executive members present at a meeting. In case of a tie vote the issue shall be decided by a vote by the Chairman. All meetings shall be open to members of the Association. A closed meeting may be called for just cause but all voting must be in open session.

Section 3 — Standing Committees

Standing Committees are: 1) Membership, 2) Continuing Medical Education, 3) Annual Scientific Program, 4) Policy and Standards, 5) Constitution and Bylaws, 6) Nominating, 7) Resident, 8) Pre-hospital care and; 9) Publications.

All members of Standing Committees must be members of the Association. The Chairman of Standing Committees will report regularly to the Executive.

Section 4 — Other Committees

The Executive may appoint other committees and respective chairmen as it deems advisable from time to time. All the members of such committees must be members of the Association.

Article V

Non-Profit Organization

The Association is a non-profit organization. In the event of dissolution of the Association any remaining funds will be used to foster research in Emergency Medicine.

Article VI — Adoption and Amendment of Constitution and Bylaws

Any member may propose amendments to this Constitution and Bylaws by submitting the same to the Secretary at least sixty days prior to any Annual Meeting. Notice of such proposed amendments shall be given by the Secretary to all members of the Association at least thirty days before the meeting at which the proposed amendments are to be considered for action. The Constitution and Bylaws shall be adopted and amended by an affirmative vote of at least two-thirds of the members present and voting at the Annual Meeting. Amendments to the Constitution and Bylaws shall take effect immediately upon adoption.

BYLAWS OF THE CANADIAN ASSOCIATION OF EMERGENCY PHYSICIANS

CHAPTER I — Classes of Membership and Election

Section 1 — Eligibility

To be eligible for membership in this Association, the applicant must show a significant interest in Emergency Medicine. He must be of high moral and professional character.

Section 2 — Applications for Membership

All applications for membership shall be in writing on an application form approved by the Executive. Election to membership shall be by Executive action based on but not necessarily in accordance with the recommendation of the Membership Committee Chairman.

Section 3 — Dues

Dues for the various membership categories shall be determined annually by the Executive for the ensuing year. Such dues shall be payable on October first of each year.

Section 4 — Termination of Membership

Resignation of membership may be made in writing to the Chairman of the Membership Committee of the Association. Non-payment of dues within one month of notification of delinquency shall be presumptive of resignation.

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Notice of Motion continued

Section 5 — Active Members
The active members of this Association shall be physicians who are engaged in the practice, teaching, or administration of Emergency Medicine for greater than 80% of their professional time. They must be licensed in the jurisdiction in which they practice. The active members will enjoy the privileges of membership including the right to vote at the Annual Meeting and the right to hold appointed or elected office, as defined in Article IV, Section 1. They shall fulfill such continuing medical education requirements as may be prescribed by the Executive.

Section 6 — Affiliate Members
The affiliate members of this Association shall be physicians who are interested and/or involved in Emergency Medicine. The affiliate members shall enjoy the privileges of membership excluding the right to vote at the Annual Meeting and to hold elected office, as defined in Article IV, Section 1. They may sit on standing and other committees of this Association. They shall fulfill such continuing medical education requirements as may be prescribed by the Executive.

Section 7 — Honorary Members
The honorary members of this Association shall be those who have rendered outstanding service in the field of Emergency Medicine. Candidates for this form of membership shall be proposed in writing to the Chairman of The Membership Committee for subsequent approval by the Executive. The Executive shall decide by a two-thirds majority if such an honor is warranted. Honorary members shall not be entitled to vote at the Annual Meeting nor to hold elected office, as defined in Article IV, Section 1. They may sit on standing and other committees of The Association. They shall not have to fulfill continuing medical education requirements. If the honor is bestowed upon a current member of the Association, he may continue to enjoy the privileges of his membership category.

Section 8 — Resident Members
The resident members of this Association shall be physicians engaged in post-graduate training in Emergency Medicine. The resident members shall enjoy the privileges of membership including the right to vote at the Annual Meeting and to hold appointed office. They shall not be entitled to hold elected office, as defined in Article IV, Section 1. They shall not have to fulfill continuing medical education requirements.

Section 9 — Student Members
The student members of this Association shall be medical students who are interested in Emergency Medicine. The student members shall enjoy the privileges of membership but they shall not be able to vote at The Annual Meeting or to hold elected office, as defined in Article IV, Section 1. They shall be eligible to sit as non-voting members of the Resident Committee and shall be eligible for appointment to sit on but not chair other appropriate committees. They shall not have to fulfill continuing medical education requirements.

Section 10 — Membership Revoked
Any member who changes his occupation or status in such a manner as to render him ineligible for membership in this Association shall be stricken from the roll of members by Executive action. The Executive may revoke membership for good cause, provided that the members shall be given a fair and impartial hearing to determine the appropriateness of the revocation.

Section 11 — Agreement
Acceptance of membership in this Association shall constitute an agreement by such members to comply with the Constitution and Bylaws thereof and to recognize the Executive as the sole and only judge of his right to be or remain a member, subject to the hearing prescribed above in Section 10.
All right, title, and interest both legal and equitable, of a member in and to the property of this organization shall cease in the event of any of the following: a) the expulsion of such member, b) the striking of his name from the roll of members; c) his death or resignation.

CHAPTER II — Meetings of the Association

Section 1 — Annual Meeting
There shall be an Annual Meeting of the Association members at such place and time as may be determined by the Executive provided that the time and place of such meeting shall be announced at least three (3) months prior to the meeting.

Section 2 — Nominations and Elections
It shall be the duty of the Nominating Committee to select one nomination for each of the six Executive positions. At least thirty days prior to the Annual Meeting the Chairman of the Nominating Committee shall mail this list of nominations to all of the Association Members. At the Annual Meeting the Chairman of the Nominating Committee shall present this list of nominations to the members, provided that nothing herein shall be construed as preventing nominations from the floor at the time of the Annual Meeting. The election of the Executive shall be by a majority vote of the members present and voting.

Section 3 — General Meetings
The Executive may, from time to time, deem it necessary to call a General Meeting of the membership, to deal with pressing business on which the membership ought to be consulted. Notice for such General Meetings shall be mailed at least thirty (30) days prior to the meeting, along with the proposed agenda.

Section 4 — Procedure at Meetings
Quorum at both Annual and General Meetings of The Association shall consist of fifty (50) voting members. Meetings shall be chaired by The President or his designate. Where procedural disputes arise not dealt with in the context of this Constitution and Bylaws, "Robert's Rules of Order" shall prevail.

Section 5 — Recall Procedure
Any member of the Executive may be removed from office by a three-quarters vote of the members present and voting at any Annual or General Meeting of the Association. If a General Meeting is called for this purpose, notice of the vote to remove shall be given along with notice of the meeting thirty (30) days prior to that meeting.
Any vacancy created by a recall shall be filled by a majority vote of the members present and voting at the meeting at which the recall occurs. Nominations for any vacancy shall be accepted from the floor of the meeting.

CHAPTER III — Duties and Terms of Office

Section 1 — President
The President shall be an Active Member of the Association, ex officio a member of all standing committees. He shall be a voting member of the Executive. In the event of death or resignation of the President during the term of office or if he shall for any reason be unable or unqualified to serve, the President-Elect shall succeed to the office of President for the unexpired portion of the President's term. In the event of death, resignation, or incapacity of both the President and President-Elect, the Secretary shall assume the

President's duties for the unexpired term. The President shall serve as Chairman at Executive Meetings and at the Annual and General Meetings.

Section 2 – President-Elect
The President-Elect shall be an Active Member of the Association. He shall be a voting member of the Executive and shall preside at Meetings in the absence of the President. At the end of his term he will normally become the President of The Association.

Section 3 – Secretary
The Secretary shall be an Active Member of the Association. He shall be a voting member of The Executive. He shall cause to be kept accurate accounts of the affairs of the Association, including minutes of the Executive, Annual, and General Meetings. The Secretary shall be responsible for communicating to the Association members affairs of the Association.

Section 4 – Treasurer
The Treasurer shall be an Active Member of the Association. He shall be a voting member of the Executive. He shall keep financial records of the Association and he shall submit a financial report for each Executive Meeting. At the Annual Meeting, the Treasurer shall present a financial statement to the membership, and recommend a budget for the upcoming year.

Section 5 – Past-President
The Past-President shall be a voting member of the Executive. His term of office shall begin at the conclusion of his term as President. Normally he shall be appointed Chairman of the Nominating Committee during his term of office.

Section 6 – Member-at-Large
An Active Member of the Association, other than an Officer as defined in Article IV, Section 1 shall be elected to the Executive annually. He shall not be a resident of a province which is the residence of any of the Officers, as defined in Article IV, Section 1. He shall be a voting member of the Executive.

Section 7 – Executive Term of Office
The term of office shall be for the period of one year and shall coincide with the fiscal year October 1-September 30.

Section 8 – Concurrent Executive Positions
In the event that a member is elected to two executive positions simultaneously then an additional member-at-large shall be elected to the Executive for that term.

CHAPTER IV – Standing Committees

Section 1 – Appointments
As described in the Constitution, The Executive may appoint standing or other committees to assist the Executive in its work, including the Committees hereinafter specified.

Section 2 – Membership Committee
The Membership Committee shall be chaired by an Active Member who is nominated by the Executive and ratified by the membership at the Annual Meeting. The Chairman shall appoint other members of the Committee. The functions of the Committee shall be: 1) To consider and recommend to the Executive applications for membership; 2) To recommend changes in categories of membership and dues to the Executive; 3) To encourage the enrollment of all qualified physicians into the Association.

Section 3 – Continuing Medical Education Committee
This committee shall be chaired by an Active Member who is nominated by the Executive and ratified by the membership at the Annual Meeting. Members of this committee shall be appointed by the Chairman. The functions of the Committee shall be: 1) To recommend to the Executive minimum standards of continuing medical education for each category of membership; 2) To establish a system approved by the Executive to award Association approval of continuing medical education courses.

Section 4 – Annual Scientific Program Committee
This committee shall be chaired by an Active Member who is nominated by the Executive and ratified by the membership at the Annual Meeting. Members of this committee shall be appointed by the Chairman. The function of this committee shall be to prepare the Annual Scientific Program for the Association.

Section 5 – Policy and Standards Committee
This committee shall be chaired by an Active Member who is nominated by the Executive and ratified by the membership at the Annual Meeting. Other members of this committee shall be appointed by the Chairman. The functions of this committee shall be to consider matters relating to standard of training, certification, and practice of Emergency Medicine and to make recommendations to the Executive regarding policies in these areas, and positions to be adopted by the Association.

Section 6 – Constitution and Bylaws Committee
This committee shall be chaired by an Active Member who is nominated by the Executive and ratified by the membership at the Annual Meeting. Other members of this committee shall be appointed by the Chairman. This committee shall make a study of the Constitution and Bylaws and make recommendations to the Executive for changes, deletions, modifications and interpretations after having given due consideration to submitted proposals.

Section 7 – Nominating Committee
This committee shall be chaired by an Active Member who is nominated by the Executive and ratified by the membership at the Annual Meeting. This will normally be the Past-President. Other members of this committee shall be appointed by the Chairman. This committee shall prepare a list of candidates as outlined in Chapter II, Section 2 of The Bylaws.

Section 8 – Resident Committee
This committee shall be chaired by a Resident Member who is nominated by the Executive, after consultation with the Resident Committee, and ratified by the membership at the Annual Meeting. All Resident and Student Members of the Association shall be considered to be members of this committee. The function of this Committee shall be to consider all matters of interest and relevance to trainees in Emergency Medicine programs, and to make suitable recommendations to the Executive. This committee shall also solicit Resident memberships.

Section 9 – Pre-Hospital Care Committee
This committee shall be chaired by an Active Member who is nominated by the Executive and ratified by the membership at the Annual Meeting. The Chairman shall appoint other members of the Committee. The functions of this Committee shall be to make recommendations to the Executive with regard to pre-hospital medical care including but not restricted to the following: 1) Disaster planning; 2) Basic and Advanced Cardiac Life Support and Advanced Trauma Life Support programs; 3) Training programs for first-aid attendants, lifeguards, and ambulance, police and fire department personnel.

Section 10 – Publications Committee
This committee shall be chaired by an Active Member who is nominated by the Executive and ratified by the membership at the Annual Meeting. The Secretary shall be a member of the Committee, and other Committee members shall be appointed by the Chairman. This Committee shall ensure publication of the CAEP Review.

The Economics of Emergency Medicine in Canada:
A Survey of Incomes

by Peter L. Lane, M.D., and Marcia E. George, B.A., M.P.A.

Introduction

The pattern of the practise of Emergency Medicine in Canada has changed significantly in recent years. A measure of this change has been the drive towards certification at the national level.[1,2,3,4,5] A natural part of this trend towards improved professional status has been concerned with the economic aspects of Emergency Medicine. Some of the relevant features of different types of positions were outlined in a recent editorial in this publication "The Job Hunt is On".[6]

In an attempt to come to a better understanding of the current economic position of Emergency Physicians in Canada, a survey was conducted of CAEP members. The primary aims of the survey were to:

1. develop a rough professional and demographic profile of CAEP members.
2. define any regional/provincial differences that might exist in terms of income of full-time Emergency Physicians.
3. define any differences that might exist within the same or similar jurisdictions that were attributable to different methods of remuneration.

For reasons of confidentiality and statistical validity, actual income figures are not reported herein, but will be the subject of further study by the CAEP Committee on Economics.

Materials and Methods

A survey questionnaire was designed to gather the necessary information. Respondents were asked a series of questions, the first of which dealt with personal date: age, year of graduation, years and content of post-graduate training, certification, etc. The second group of questions dealt with the nature of the respondent's practise – full time VS part-time, university affiliation if any, type of hospital and university appointment, location of practise, years in present hospital, and years of experience in Emergency Medicine. A final group of questions dealt with the level of remuneration and method of payment.

Questionnaires were mailed to all registered members of CAEP as of December 1, 1981 (active, affiliate, resident and honorary). A stamped, addressed envelope was included with the single mailing, as was a covering letter explaining the purpose of the survey. Respondents were not required to sign the form, and no identifier code or marks were used. Confidentiality was emphasized in the covering letter, and was maintained throughout tabulation and analysis. Because of the excellent response rate to the initial mailing, a second mailing of the survey was not undertaken.

Results and Analysis

Of 343 survey forms mailed in December 1980, fully 215 forms were returned by the time of analysis (May 1981), for an overall response rate of 62.7%. One form was spoiled and six were from residents. These were removed from the sample, leaving a study group of 208 respondents. Table I shows respondents by province.

Table I Survey Respondents by Province

British Columbia	29
Alberta	24
Saskatchewan	7
Manitoba	8
Ontario	113
Québec	14
New Brunswick	4
Nova Scotia	5
Newfoundland	3
	208

Individual Data

The age of respondents showed a skewed distribution to the left, with a range from 26-74 yrs. of age, and an average of 36 yrs. of age for the 206 respondents who answered this question. As might be expected, year of graduation showed a similar skewing, with 147/208 (70.7%) having graduated in the 70s, 45/208 (22.6%) in the 60s, 12/208 (5.8%) in the 50s, 3/208 (1.4%) in the 40s and one graduate (0.5%) from the 1930s.

The number of years of post-graduate training was also examined. The number of years was totalled, regardless of the content of the training. Table II illustrates the results, showing that, although 92/208 (44.2%) respondents had only one year of training, more than ½ of the sample had more and fully 36 had four or more years of post-M.D. training.

Table II Years of Post-Graduate Training

One year	92
Two years	44
Three years	35
Four or more years	36
	207 answers

The content of this training varied considerably, involving most existing Canadian specialties. Few, however, had received certification – 35 had received the CCFP, 12 were fellows of the RCPS(C) and 4 were certificants of the American Board of Emergency Medicine. 14 had completed an Emergency Medicine training programme.

Practise Profile

Of the total of 208 practising Emergency Physicians, 153 were practising full-time (defined as 80% or more of professional activity) and 55 practised part-time (<80%).

Eighty-two respondents stated they were university affiliated, while 125 were not (one did not answer). Hospital appointments varies: 163 were on Active Staff, 18 Associate Staff, 8 had appointments as Courtesy Staff, and 6 had some other designation (12 did not answer).

Regarding the hospital departments to which they were appointed, 79 were to Emergency Medicine, 86 were to Family Medicine/General Practice, and the remainder were to Medicine, Surgery, and a wide variety of others.

Regarding clinical experience and physician mobility, the full-time Emergency Physicians reported an average of 5.0 yrs. experience in Emergency Medicine (range .5-22 yrs.). A total of 44 of the 53 full-time Emergency Physicians (28.75%) reported less time in their present hospital than years of experienced in E.M. Presumably, the remaining 71.25% continue to practise in the Emergency Department of their first appointment.

Methods of Payment

An analysis was made of methods of payment. Of the 153 full-time Emergency Physicians, 88 (57.5%) stated they were remunerated on a fee-for-service basis, while 65 (42.5%) were paid on a sessional or salary basis by either the group or the hospital. It should be noted that the various non-FFS arrangements were grouped together because there was no significant difference found between them in terms of income, experience nor other parameters.

In an attempt to explain the apparent income differences found between FFS and other methods of payment, an analysis was made of the clinical experience of FFS physicians vs. those on a sessional basis. Similarly, an analysis was made of the number of physicians still at their first hospital (See Table III).

Table III Clinical Experience by Method of Payment

	FFS	Sessional/ Salary*
Avg. yrs. present hospital	5.75	3.08
Avg. yrs exp. E.M.	6.26	4.05
No. remaining at first hospital	59%	62.5%

* included here are also hourly or sessional payments from these sources

Incomes

An extensive analysis was undertaken of the income data provided by the survey. This was analysed by province, by method of payment, by years of experience, etc. Because of considerations of confidentiality and, in some cases, small sample size, actual incomes are not reported herein. In a general sense however, some observations could be made, and these are discussed in the next section.

Discussion

As the pattern of practise of Emergency Medicine changes in Canada, it is reasonable to assume that the "profile" of the Emergency Physician should change as well. However, some of the results here are surprising. The E.P.'s tend to be older than might have been expected – the average age being 36 – and similarly, 30% of the E.P.'s graduated before 1970. This seems to run counter to prevailing opinion that E.P.'s in Canada tend to be young and on their way to some other form of medical practice.

Similarly, past practice has been that E.P's had very little training, little experience, and were a highly mobile group. Of the respondents here, the majority have done post-graduate training after their internship, many for several years. Few, however, have achieved certification or any formal recognition for their training. Regarding clinical experience and mobility, an average of five years of E.M. experience may be low for a Canadian specialty, although no comparable data exists. This may, however, simply reflect that full-time Emergency Medicine practice has not been economically nor professionally feasible in most of the country until recently.

The fact that only 82/152 (39.6%) full-time E.P's reported university affiliation might surprise some who maintain that full-time E.M. is limited to larger urban teaching hospitals.

Clearly, the incomes reported here are of considerable interest. Gaining an accurate understanding of physician incomes in Canada is difficult. Statistics-Canada gathers some information on professional incomes, but its relevance is unclear. A recent commercial Canadian publication reported an "Across Canada" physicians income survey but the sample size of less than 100 physicians of many different specialties combined made its results of little value. The Ontario Medical Association does income surveys annually, the most recent of which was for 1979 incomes.[7] The OMA surveyed 4000 Ontario physicians of all specialties, and derived average incomes by specialties. Because numbers of respondents were not reported, an overall average is not able to be calculated. Total net professional income for some specialties were as follows:

Orthopedic Surgery – 86,191; Internal Medicine – 75,733; General Surgery – 74,984; and General Practice – 51,672.

For the 1979 year, the average net income reported by Ontario E.P. respondants was not significantly different from that reported by G.P.'s in the OMA survey.

Regional disparities, as expected, are marked. Provincial average net incomes for full-time E.P.'s varied by well over 100%. Of particular note are the Atlantic provinces where in some areas, full-time E.P.'s are earning little more than one-half of the national average. A similarly wide discrepancy exists between Manitoba and Saskatchewan, and their neighbours, Alberta and B.C.

At first glance, these discrepancies are alarming. However, a closer look reveals that those provinces with above average incomes tend to have E.P.'s with significantly more clinical experience. They also tend to be remunerated on a FFS basis vs. their salaried, less experienced counterparts in Atlantic Canada, Manitoba or Saskatchewan. Of concern however, is whether the high turnover is the cause or the result of low incomes in these areas – a clear argument to be made is that a more generous level of remuneration might well result in a more stable, experienced group.

Finally, analysis of incomes by method of payment was undertaken. In some provinces, FFS physicians make as much as 40% more than their salaried counterparts in the same jurisdiction. The analysis of Table III shows, however, that FFS physicians have significantly more clinical experience in Emergency Medicine and tend to have been longer at their present hospitals. Again, it is speculative whether physicians are willing to stay longer because of an adequate FFS income, or whether more experienced physicians tend to opt for the FFS method of payment.

Conclusions

Through this survey of CAEP members, a somewhat different profile of the

The Economics of Emergency Medicine in Canada continued

Canadian Emergency Physician has emerged. He or she tends to be 36 years of age, to have completed two or more years of post-graduate training, to not have a certificate from either College, to not have a university appointment, to have an average of 5 years of Emergency Medicine experience, to still be in the hospital of his/her first appointment, and to be paid on a fee-for-service basis. Salaried emergency physicians are paid significantly less than fee-for-service physicians, and wide differences exist between provinces.

These are all noteworthy conclusions and will be analyzed in more detail by the CAEP Committee on Economics.

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Across Canada continued

Emergency Medicine will develop in Nova Scotia to the same degree as it has in the larger, progressive academic centers in North America; but, to bastardize the words of the poet (and with humble apologies to Mr. Frost), "We have miles to go before we meet." As a Maritimer who wants to stay, I hope that my optimism is not disappointed.

The Book Shelf

The Paramedic Manual
Copass/Eisenburg

W. B. Saunders, 1980, 283 pages.

This handy pocket-sized manual has been written and designed as a quick reference for practising paramedics. It should prove useful for those presently in the field in Canada.

The organization of the book is well done, with sections categorized by major types of emergencies. Each section is laid out in the manner in which information is gathered and decisions made regarding therapy. This format is compatible with the subjective (history), objective (examination), assessment, plan (management) approach to a patient.

The authors are obviously experienced with paramedics and the problems they face. The material itself covers much of what the paramedic deals with and is done in a fashion which is quick and easy to read. It tells you what you are dealing with, what to look for, and suggests how to manage it.

An unfortunate weakness of the manual is the section on Obstetrics and Gynecology. Only twelve pages are devoted to his wide array of topics, with most of it devoted to the normal labour and delivery. There is no discussion of the recognition and management of the high-risk pregnancy, nothing on the assessment of fetal well-being before and during transit, no mention of fetal monitoring techniques, etc. Similarly, there is no discussion of the use of isoxuprine and other methods to arrest the progression of labour, nor is there a discussion of pre-eclampsia and eclampsia. With the increasing trend towards specialized perinatal units, Canadian paramedics are being called upon more and more to stabilize and transport high-risk pregnancy patients, and this is a serious weakness of the manual.

Similarly, the same section has very little detail regarding the management of various gynecological problems. In particular, the sections dealing with ectopic pregnancy and vaginal bleeding are inadequate.

Another clinical area that perhaps does not receive the emphasis it needs is that dealing with hypovolemic shock. Next to out-of-hospital cardiac arrest patients, victims of hypovolemic shock represent the greatest potential to paramedics in terms of lives saved. If anything, this should be the focus of the book. Instead, only two of the manual's 283 pages are devoted to the topic. Few physicians would support the use of vasopressors "to buy time" as suggested on page 42. Finally, one of the cornerstones of the management of shock in the pre-hospital phase in this country, the use of the anti-shock trousers, is relegated to a one-half page discussion at the back of the book that is simply a how-to set of directions. No discussion is given of the indications, hazards, and contraindications for their use.

Despite these weaknesses, the book should serve as a useful manual for paramedics. It is not intended as, and should not be used as a teaching text in training programmes. Paramedics need a much more in-depth understanding of the material. It can however serve as a helpful pocket reminder in the field.

Ken Murray, Paramedic, Ontario Air Ambulance Programme.

Peter L. Lane, M.D., Base Hospital Medical Co-ordinator, Ontario Air Ambulance Programme.

Case Conference

Anaphylaxis

Charles P. Ramesar M.D.

The aim of this case conference is to review the management of the wide range of anaphylactic reactions seen in the Emergency Room. When the term anaphylaxis is used, it is meant to describe all allergic reactions manifested by *systemic* symptoms and signs, mild or severe, and *not local* allergic reactions of immediate type such as local urticaria at injection sites or local angioedema of lips following food ingestion.

CASE REPORT

A 20-year-old male with known allergies to eggs and nuts but no previous severe reactions ate some cookies at work. Within minutes he developed a diffuse itchy rash, swelling of his lips and mouth, stridor, wheezing and shortness of breath. He was seen by the company doctor and given two injections of epinephrine intravenously (dose unknown) along with oxygen, and transported to the emergency department by ambulance. There was some mild initial relief of symptoms but on arrival he complained of feeling a lump in his throat and shortness of breath. He denied any blackout or stomach cramps.

On admission he was alert, flushed, with audible wheezing and moderate respiratory distress but no cyanosis or stridor. Blood pressure was 90/70 mm Hg, pulse rate 152/min., and respiratory rate 22/min. Head and neck exam showed periorbital edema and nasal congestion, with angioedema of lips, uvula and pharynx but a patent upper airway. There was decreased air entry with diffuse wheezes on chest auscultation, and generalized urticaria on trunk and extremities.

Routine blood work and blood gases were taken, and an intravenous started with 2/3 D5W — 1/3 N.S. Oxygen 35% by mask was given along with diphenhydramine 50 mg I.M., aminophylline 300 mg loading dose I.V., methyl prednisolone 40 mg I.V. and the patient's E.C.G. was monitored. Thirty minutes later blood pressure was 110/70 mm Hg and wheezing had decreased, but uvular edema persisted. Initial blood gases returned showing p.H. 7.43, pCO_2 36, pO_2 53, and HCO_3 25. Epinephrine 0.3 ml subcutaneously resulted in clearing of uvular edema and with continued oxygen and aminophylline drip as well as one inhalation treatment of salbutamol 0.5 cc, symptoms gradually resolved. Four hours after admission the patient was discharged, to take diphenhydramine 25-50 mg every 6 hours and prednisone 40 mg/day over the next 48 hours, and with instructions to return if symptoms progressed despite treatment.

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Toronto General Hospital
101 College St., Toronto, Ont., M5G 1L7

General Discussion

This case illustrates the range of signs and symptoms in anaphylaxis, the variety of drugs used to treat it, and the problem of prolonged reactions with the need for extended treatment.

Fatal anaphylactic rections are uncommon — in one three year period in the province of Ontario (population approx. six million), seven cases were recorded[1]. Most severe reactions occur over age twenty but fatal reactions have occurred in infants. The clinical features have been widely described[1,2,3,4,5]. The sympton complex is highly variable but typically involves one or more of four systems — skin, gastrointestinal, respiratory, and cardiovascular. The life-threatening manifestations include respiratory distress due to bronchial obstruction, laryngeal edema or both, with resulting hypoxia and secondary vascular collapse, or primary vascular collapse without preceding respiratory problems[6]. Most reactions occur within five to sixty minutes, with most occurring within 30 minutes[7]; there may be a delay of onset up to twenty-four hours with some ingested antigens. In general the longer the interval between antigen challenge and onset of symptoms, the less severe the reaction. Though most commonly intramuscular or intravenous, any route of exposure in sensitive persons can cause reactions[8]. Any list of causative agents would be incomplete, and they are better classified under foods, drugs, antisera, vaccines, stinging insects (Hymenoptera group), allergy extracts and miscellaneous agents[3].

When only a portion of the full syndrome is present e.g. isolated urticaria, the asthmatic with sudden wheezing or vascular collapse after injections, it's difficult to exclude non-immunologic, toxicologic or idiosyncratic responses. The commonest condition we'll need to distinguish it from is vasovagal syncope — you give the patient an injection and he collapses. Typically the vasovagal patient is pale, sweaty, nauseated and bradycardic with no respiratory difficulty, in contrast to the flushed and tachycardic allergic reaction; although both have hypotension, the vasovagal patient recovers quickly when put in a recumbent or head down position.

The clinical manifestations of the anaphylactic syndrome are due to the action of various chemical mediators released rapidly by antigen activation of those target cells previously sensitized by interaction with immunoglobulin E (IgE, reagin) antibodies. The mediators — histamine, slow reacting substance of anaphylaxis (SRS-A) and eosinophil chemotactic factor of anaphylaxis (ECF-A) — act to increase vascular permeability, contract smooth muscle, and attract inflammatory cells. What makes one person more susceptible than another to the sensitization process is not known. Individual variation in the quantity and quality of mediators released may account in part for the diversity of the syndrome.

Treatment

Treatment of anaphylactic reactions is based partly on the empiric clinical effectiveness and partly on some understanding of the action of various classes of drugs. First are the adrenergic agonists (e.g. isoproterenol, epinephrine). Since the hypotension in anaphylaxis is secondary to leaking and pooling of blood, decreased cardiac output, fall in coronary blood flow and decreased contractility, and since the hypoxia is due to airway edema and bronchospasm, the useful β-adrenergic agonist responses would include increased heart rate and

contractility, and bronchodilation, while the useful α-agonistic responses would be cutaneous, mucosal and splanchnic vasoconstriction with resultant redistribution of blood to the central circulation and improved perfusion. Epinephrine is mixed δ and β, and it is the agent of choice for the early treatment of anaphylaxis[8]. Patients on drugs for intercurrent medical problems may have altered responses, for example patients β — blocked with propranolol may need unusually high doses of epinephrine to relieve bronchoconstriction.

The methylxanthines (e.g. aminophylline) mimic the actions of β-adrenergics by relaxing bronchiolar smooth muscle and increasing cardiac output. They may be more effective in reversing the bronchospasm induced by histamine and other mediators. They increase myocardial contractility but tend to vasodilate at the peripheral vasculature, therefore their benefits must be weighed against risks in bronchospasm accompanied by hypotension.

Antihistamines competitively block histamine at receptor sites. They have their greatest effect with high levels of circulating histamine — this may explain why they're effective in abolishing urticaria associated with circulating histamine but relatively inaffective for bronchospasm of anaphylaxis where histamine is locally released.

Corticosteroids have no direct histamine related action but are known to modify certain clinical immune reactions and have been used successfully in treating and preventing asthma and in moderating the ongoing hypotension and bronchospasm of anaphylaxis.

Table 1 outlines a treatment protocol for anaphylactic reactions. The initial treatment of choice for all manifestations of the acute reaction, whether generalized pruritis or laryngeal edema, is 0.3-0.5 ml. of aqueous epinephrine of 1:1000 dilution (0.2-0.3 ml in children), repeated as often as necessary.[9] In the absence of chronic hypertension or cardiac disease, 0.5 ml is the optimal initial dose as this produces greater effect than 0.3 ml without a significant difference in heart rate of dysrhythmias.[5] The dosage in anaphylactic shock is 1-2 ml of 1:10,000 dilution intravenously.

Judgement is necessary in the route of administration. For minimal generalized symptoms, subcutaneous will suffice.

TABLE 1 TREATMENT OF ANAPHYLAXIS

Reaction	Epinephrine 0.3-0.5ml 1:1000 S.C.	Epinephrine 0.3-0.5ml 1:1000 i.M.	Epinephrine 1-2ml. 1:10,000 I.V. or E.T.	Antihistamines 50 mg diphenhydramine acute (IM/IV)	Antihistamines 50 mg diphenhydramine rec. (p.o.)	Corticosteroids acute I.V.	Corticosteroids rec. p.o.	Aminophylline	I.V. V.A.	I.V. FLD	O_2	Intubation	Pressors or M.A.S.T.
pruritis, well devel.				+	+								
urticaria acute	+			+	+								
laryngeal edema	+			+	+		+						
unresponsive to epineph.	+			+	+	+	+		+				
stridor, cyanosis		+		+	+	+	+		+		+	+/−	
brochospasm	+				+		+						
unresponsive to epineph.	+				+	+	+	+	+		+		
with hypotension		+			+	+	+	+/−		+	+		+/−
hypotension		+		+	+	+				+	+		+/−
shock*			+	+		+				+	+	+	+

CODE: S.C. — subcutaneous; I.M. — intramuscular; I.V. — intravenous; E.T. — endotracheal; rec. — recovery period of 48 hours; V.A. — venous access only; FLD. — fluids given; M.A.S.T. — anti-shock trousers; *monitor recovery in hospital

When symptoms are more severe and progressive, or there's concern that hypotension may inhibit absorption from a subcutaneous site, intramuscular administration is necessary. The intravenous route is used for shock — however if intravenous access is difficult due to vasoconstriction, the endotracheal route is effective[11]. For reactions to drugs injected in extremities a tourniquet should be placed above the site of injection, and along with the usual dose in another extremity, 0.1-0.3 cc of epinephrine should be used at the injection site to delay absorption.

Hypotension and bronchospasm usually respond to the initial dose of epinephrine. If not, go to second line drugs — aminophylline and steroids in bronchospasm and fluids and vasopressors with hypotension — as well as repeated doses of epinephrine. Cardiac or respiratory arrest are treated in the same way as when they result from other causes. Anaphylaxis can continue, or recur with generalized manifestations after initial improvement, for up to 48 hours[10]. Current recommendations are that all patients with other than minor skin or gastrointestinal manifestations should receive steroids and antihistamines for 48 hours[10]. One suggested regimen is 4 mg. of chlorpheniramine and 10 mg. of prednisone every six hours for two days unless some clear contraindication exists. Patients should be observed in the emergency room at least two hours for other than minor reactions, and instructed to return to the emergency department for additional treatment if there is any recurrence of symptoms.

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Question: Was 2/3 D5W/1/3 saline the appropriate I.V. solution to use?
Comment: In fact, in anaphylaxis, it is wiser to use I.V. boluses of isotonic fluids — normal saline or lactated Ringers would have been better.
Question: Were the initial I.V. doses of epinephrine indicated?
Comment: The use of intravenous epinephrine in the absence of obvious shock is controversial. Its use without continuous EKG monitoring is absolutely contraindicated in view of the high risk of ventricular dysrhythmias.[11] In this case, the persistence of significant respiratory distress and hypotension was an indication for a repeat dose of epinephrine despite the tachycardia, because of the availability of monitoring facilities.

CME Calendar

1. Techniques in Emergency Medicine, Hamilton, Ontario.

Approved for 8 hrs Credit each session.

May 11

June 15th

October 5th

November 30th

January 25th 1982

February 22nd.

Contact:

CME, McMaster University H.S.C.,
1200 Main Street W.,
Hamilton, Ontario. L8S 4H9.

2. Man Alive 24th Annual Scientific Session, August 30th-September 3rd 1981.

Approved for 10 hrs CAEP Category 1 for the relevant sessions.

Contact:

Jacques LaFleur,
#81, 1750 Summit,
Kamloops,
B.C. V2E 1Y1.

3. Second Annual CAEP Scientific Assembly, October 12-16, 1981, Montreal, P.Q.

Approved for 20 hrs. CAEP Category 1 Credits and 20 hours Credit with CFPC.

Contact:

Wayne Smith
Emergency Dept.
Royal Victoria Hospital
Montreal, P.Q.
H3A 1A1

CME Courses Approved

Sept. 1979-Sept. 1980.

Emergency Medicine Program.
Calgary, Feb. 20th-24th.
Hour for Hour as attendance.

Clinical Electrocardiography.
Humber College.
Halifax April 10th and 11th.
Toronto April 14th and 15th.
Vancouver April 21st and 22nd.
Approved 14 hrs. each location.

Interphase 1980.
Montreal.
April 21st-April 24th.
Approved Total of 20 hrs.

Emergency Care 80. CAEP.
Vancouver B.C.
Approved 18 hrs.
April 16th-18th.

Course on Emergency Management.
Toronto Western Hospital.
April 25th and 26th.
Approved 12 hrs.

Annual Orangeville Emergency Day.
Orangeville.
May 3rd.
Approved 5 hrs.

OMA Emergency Section Meeting.
Scientific Presentations.
June 10th 1980.
Approved 3 hrs.

Auto Extrication for Physicians.
Ottawa.
August 28th and 29th.
Approved 6 hrs.

Practical Procedures Day.
Hamilton, Ontario,
September 15th.
Approved 4 hrs.

Day in Emergency Medicine.
London, Ontario,
October 1st.
Approved 7 hrs.

Ontario Assembly of Emergency Care.
Toronto.
October 6th-8th.
Approved 18 hrs.

Post-graduate Course on Emergency Medicine.
Victoria, B.C.
Oct. 6th-10th.
Approved 30 hrs.

Injuries to the Head and Neck.
Winnipeg. October 23rd-25th.
Approved 12 hrs.

All ACLS Providers and Instructor Courses approved for 14 hrs Category 1.
All BCLS Instructor/Courses approved for 12 hrs.
All ACEP Category 1 Courses approved.

E.M. Training Programmes

Calgary, Alta.

Hospitals Holy Cross Hospital, Foothills Hospital, Calgary General Hospital.
University Calgary.
Programme Director Dr. G. Powell, Chief, Division of Emergency Services, Foothills Hospital, Calgary, Alta., T2N 2T9.
Type of Programme Pre-requisite 2 yrs broadly based clinical exposure, (not necessarily Family Medicine) with a minimum of one further year of Emergency Medicine.
Size 3 residents per year.
Accreditation none.
Certificate hope to be able soon to give a U of C diploma.

Ottawa, Ontario

Hospitals Ottawa General Hospital, Ottawa Civic Hospital, Children's Hospital of Eastern Ontario.
University Ottawa.
Programme Director Dr. A. F. Henry, Chief, Emergency Dept., Ottawa Civic Hospital, Ottawa, Ontario, K1Y 4E9.
Type of Programme three (3) yr post-M.D. programme, two (2) yr of which meet the requirements of the Dept. of Family Medicine Programme.
Size four residents per year.
Accreditation none per se, although it is hoped that residents will be eligible to sit the exams of the CFPC.
Certificate none.

Montreal, P.Q.

Hospitals Royal Victoria Hospital, Montreal Neurological Institute, Montreal Children's Hospital, Queen Elizabeth Hospital, St. Mary's Hospital, Jacksonville Memorial Hospital.
University McGill.
Programme Director Dr. Wayne Smith, Royal Victoria Hospital, Emergency Dept., 687 Pine Ave., W., Montreal, P.Q., H3A 1A1.
Type of Programme two yr post-internship; broad based training, elective in Jacksonville, Fla.
Size six (6) residents per year.
Accreditation LREC/ABEM (nothing Canadian as yet).
Certificate eligible to write ABEM exams in U.S.A., certifiable from McGill and Royal Victoria Hospital.

London, Ontario

Hospitals Victoria Hospital, St. Joseph's Hospital, University Hospital.
University Western Ontario.
Programme Director Dr. K. Ferguson, Director, Dept. Emergency Medicine, Victoria Hospital, 391 South St., London, Ontario, N6A 4G5.
Type of Programme two (2) yr programme after internship; broadly based training with emphasis on internal medicine.
Accreditation accepted by RCPS(C) as two yrs of internal medicine training.
Certification none.

Kingston, Ontario

Hospitals Kingston General Hospital, Hotel Dieu Hospital.
University Queen's.
Programme Director Dr. L. E. Dagnone, Emergency Dept., Hotel Dieu Hospital, Kingston, Ontario, K7L 3H6.
Type of Programme 3 yr post-M.D. or 2 yr post internship, broadly based training, research exposure in final year.
Size maximum of four (4) residents per year.
Accreditation none.
Certification none at present.

Hamilton, Ontario

Hospitals Chedoke-McMaster Hospital, St. Joseph's Hospital, Hamilton Civic Hospitals.
University McMaster.
Programme Director Dr. David Maxwell, McMaster Hospital Emergency Department, 1200 Main Street West, Hamilton, Ontario, L8N 3Z5.
Type of Programme three (3) yr post-M.D., two (2) yrs of which meet the requirements of the Dept. of Family Medicine Programme.
Size up to three residents per year starting in 1982. Currently one resident.
Accreditation structured to be eligible for accreditation by the College of Family Physicians when this is finalized.
Certification structured to be eligible to sit the certification exam of the College of Family Physicians when this is finalized.
Accreditation residents will be eligible to sit the exams of the CFPC.
Certificate none.

Meetings to note

Upcoming Meetings to Note

1. "Hawaii 1981

Current Concepts in Emergency Care." Kona Surf Resort December 6-12, 1981. Sponsors, Washington ACEP and The Institute for Emergency Medical Education. Contact Clay Hall, Cardillo/Travel Services, 2150 Shattuck Avenue, Berkeley, CA 94704 (415) 848-0300.

2. "Clinical Aspects of Poisonings – 1981"

Nov. 4, 1981
Sponsor – Ontario Hospital Association Poison Information Coordinating Committee – Lectures and Seminars on all Aspects of Poisonings and Overdoses.
Contact
Mrs. Muriel Hale
Director, Pharmacy Services
Ontario Hospital Association
150 Ferrand Dr.
Don Mills, Ont. M3C 1H6

Noticeboard

Positions Available

Florida

Dynamic group of career oriented Emergency Department Professionals has limited openings for Florida licensed Emergency physicians. EMS and ACLS involvement preferred. Attractive compensation and fringes. Respond with C.V. to:

Susan Masterson
Emergency Medical Services Associates
8200 West Sunrise Blvd.
Building "C"
Plantation, Florida 33322 (305) 472-6922

Emergency Physicians Wanted

2 full time positions available to expand well established emergency group in Waterloo Region. Approximately 40 hours per week. Income, $50,000 minimum in 1st year. Applicants must have Ontario licence, ACLS, BCLS. Preference given to those with 2 years emergency service experience or more and to those with career orientation.

3 summer locum tenens positions available with well established emergency group in Waterloo Region. Positions to run from approximately mid-June to mid-September/1981. Excellent pay schedule available. Reasonable working hours and conditions. Applicants must have Ontario licence, CMPA, ACLS, BCLS. Preference will be given to those with 2 years emergency experience or more.

To apply for the above positions, apply in writing with curriculum vitae and 3 references to:
Dr. James H. Swann
105 Thorndale Place
WATERLOO, Ontario N2L 5Y8
For further information call 1-519-886-8686.

General Hospital, Casualty Officer

The General Hospital, St. John's requires a full time Casualty Officer.

Salary commensurate with qualifications and experience in Emergency Medicine and/or post-graduate training.

Apply with resume
Chairman
Family Practice
General Hospital
Health Sciences Centre
Prince Philip Drive, St. John's, Nfld. A1B 3V6

Replies to CAEP Review Boxes should be addressed:
c/o The Editor
CAEP Review
Dept. Emergency Services
Sunnybrook Medical Centre
Toronto, Ont. M4N 3M5

Emergency Physician

Full time position available in established career Emergency Group in Victoria, B.C. This is a progressive group involved in all facets of Emergency Medicine including intern and nurse education, pre-hospital care and paramedic training, C.P.R. and Emergency conferences.

Applicants must have Emergency Medicine residency training or have extensive job experience. B.C. licence must be obtained and C.M.P.A. and A.C.L.S. also required.

Please forward applications with curriculum vitae and names of three referees to:

Dr. P. A. Teal
Parkside Emergency Physicians
928 Pandora Ave. Victoria, B.C. V8V 3P3

Information for Authors

Guidelines for submission of manuscripts for publication

The CAEP Review invites authors to contribute appropriate manuscripts for publication on topics relevant to the practice of Emergency Medicine and the organization of Emergency Medical Services. Manuscripts and other communications should be addressed to the Editor, CAEP Review, care of Department of Emergency Services, Sunnybrook Medical Centre, 2075 Bayview Avenue, Toronto, Ontario; M4N 3M5.

A covering letter should accompany submissions indicating the principal author with whom the negotiations can be undertaken regarding any revisions that are seen to be necessary prior to publication. The letter should also specify whether or not the material has been submitted to any other periodicals for consideration for publication.

Guidelines for the presentation of manuscripts

The CAEP Review adheres to the requirements for manuscripts submitted to biomedical journals as contained in the Declaration of Vancouver of January 25th, 1978.*

Manuscripts should be typed, double spaced including the title page, abstract, text, acknowledgements, references, tables and legends and illustrations. Each component of the manuscript should begin on a new page. Authors should keep copies of everything submitted.

Title Page The title page should include the title of the article which ought to be concise and informative. The title should be amenable to indexing. The title page should also contain the full name, academic degrees, and affiliations of each author. The title page should include the name of any organization sponsoring an assembly or meeting in which the article may have been originally presented. If the research has been supported by grants, such financial support should be acknowledged on the title page. Finally, the title page should also contain the address for reprint requests.

Abstracts All original contributions and review articles should be preceded by an abstract, typed, double-spaced on a second page following the title page. The abstract should be no more than 150 words, stating the purpose of the study, basic procedures involved, principal findings including statistical significance, and principal conclusion drawn. Abbreviations or symbols should be avoided wherever possible.

*These requirements known as the Declaration of Vancouver were agreed upon at that city on January 25th, 1978. Members of the International Steering Committee included J. F. Murray, M.D. (Chairman), E. G. Huth, M.D., S. Lock, M.A.M.B., W. R. Barclay, M.D., S. Crawford, Ph.D., R. W. Mayo, H. R. Meiss, I. Munroe, M.D., F. H. Porcher, M.A., A. S. Relman, M.D., D. A. E. Shephard, M.B., T. Southgate, M.D. Enquiries regarding the Declaration should be sent to Dr. E. J. Huth, Annals of Internal Medicine, 4200 Pine Street, Philadelphia, PA 10904 U.S.A.

Below the abstract up to 10 key words or short phrases should be provided which will assist indexers in cross-indexing articles.

Text The text of original articles of a basic science or clinical nature should conform to acceptable standards for scientific articles. It should be divided into introduction, methods and materials, results, and discussion section.

Introduction The introduction section should clearly state the purpose of the article and should give only references pertinent to the rationale for undertaking the article. The review of the literature should not be included in the introductory section.

Methods and Materials The methods and materials sections should clearly and thoroughly outline the methodology and materials employed in the undertaking of the study. In particular, the selection of clinical or experimental subjects should be well defined, apparatus used should be specified, and references relating to the selection of materials and methods should be given, such that other investigators can reproduce the methods and evaluate the results. Any new or substantially modified methods should be described fully, giving reasons for their use and evaluating their limitations.

Results The results of experiment should be presented in a logical sequence in the text with tables, illustrations, graphs, etc. to clarify important results or observations.

Discussion The discussion of the findings should relate the observations to other relevant studies. It should emphasize new and important aspects of the study and conclusions. The discussion section should not comprise an exhaustive literature review.

Acknowledgement Persons who have made a substantial contribution to the study, yet who are not listed as authors may be acknowledged.

References References should be listed in the form as adopted by Index Medicus and the National Library of Medicine in United States. All authors should be listed in studies with three or fewer names. Otherwise, the first three names only should be listed. Journal name should be abbreviated again according to the style in the Index Medicus. The title of the article should be included.

Tables Each table should be typed separately on a piece of paper double-spaced. Tables should have a short heading. Explanations should appear in the footnote not in the heading. If data is from other sources, this should be indicated and permission should be obtained and acknowledged. Tables should not be submitted as photographs.

Illustrations Illustrations should be submitted as sharp, glossy, black and white photographs 5 x 7 or 8 x 10 (12.7 x 17.3 cm. or 20.3 x 25.4 cm.) Figures should be professionally drawn, lettered and photographed-free-hand or typewritten letters are unacceptable. Lettering should be consistent throughout and sufficient size that when photo reduced will still be legible. Illustration should be accompanied by a brief legend on a separate piece of paper indicating the purpose of the content of the illustrations. Abbreviations should be avoided or explained. Photographs of patients who are recognizable should be accompanied by a consent form.

Preparation of other material

The Review will consider material other than original experimental work. In particular, the Review will from time-to-time publish review articles from experts in the field who have conducted a thorough literature search. Papers submitted of this nature should comprise of extensive literature reviews on a narrow clinical topic, well-referenced, and of significant relevance to the clinical practice of Emergency Medicine.

Emergency case reports will also be accepted for publication. Such papers should comprise a brief factual presentation of an emergency case. Reports accepted for publication will be of cases of unusual problems or innovative therapies. Following the case presentation should be a brief discussion of the diagnosis and treatment and subsequently, a brief review of related literature.

The Review will also consider for publication, guests editorials from time to time. These should represent an authoritative opinion or comment on current problems faced by Canadian Emergency Physicians. They may relate to the educational, clinical research, administrative, political aspects of Emergency Medicine.

Letters to the Editor will be published regularly in the Review. Such letters should be addressed to the Editor and should comprise brief comments on topics recently discussed in the Review or elsewhere. In addition, brief communications of cases or other items of interest will be considered for publication in this section from time to time. In each case, the letter must be clearly signed by the author with a return address, and permission to publish should be indicated.

Approval to publish

All manuscripts submitted for publication will be reviewed by the Editor or other members of the Editorial Board. If any substantial changes are to be made in the manuscript, a copy will be forwarded to the author prior to publication for approval. Authors are responsible for all statements made in the text including changes suggested by the Editor. No changes will be accepted after final approval by the author has been made.

Deadlines

The CAEP Review is a quarterly publication with press dates the first day of each quarter. Copy deadlines are the 8th of the preceding month. Material to be considered for publication and review by the Editorial Board should be submitted at least sixty days prior to publication date.

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