

# THE NOVA SCOTIA MEDICAL BULLETIN

1972/51

## EDITORIAL BOARD

Editor-in-Chief DR. A. J. BUHR

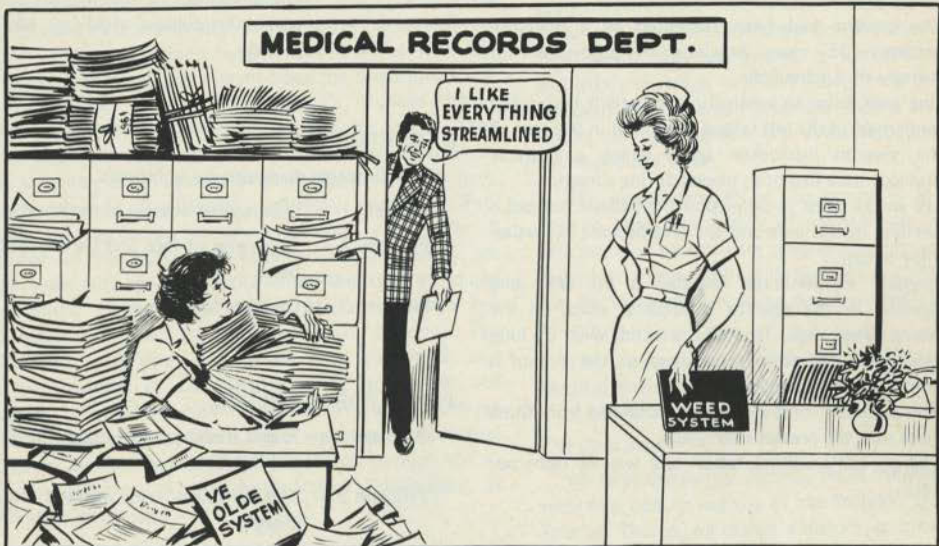
### Members

DR. I. E. PURKIS  
DR. M. E. BURNSTEIN  
DR. B. O'BRIEN  
DR. J. H. HALDANE  
DR. M. GORELICK  
DR. P. C. GORDON

DR. S.M.A. NAQVI  
DR. S.V. ANAND  
DR. J. C. VIBERT  
MR. D. JOHNSTON  
MR. J. SANSOM

Managing Editor  
MR. D. D. PEACOCKE

Editorial Assistant  
MRS. T. CLAHANE



## The Problem Oriented Medical Record

The medical profession is under close scrutiny from a health-conscious public. Those who administer health care plans are analyzing data available to them on medical practice and making judgments which could have a profound effect on future patterns of health care.

As physicians, we must record accurately what we find when we investigate a patient's complaints. We must show that our investigation has been complete, our physical examination appropriate and our treatment optimal for the problems we have diagnosed. Systematic documentation of the patient's progress is also important.

As a profession, we must have data to demonstrate that we are providing the highest quality of medical care consistent with our manpower and facilities. These data can be obtained by systematically auditing medical records which are of a high quality.

The problem-oriented medical record as described by Dr. Langley in this issue is a vital tool in improving medical care and in documenting our profession's quality control system.

D.P.C.

# Tuberculous Abscess in the Chest Wall 25 Years After Pneumonectomy

Case Report to Illustrate a Slight Modification of the  
Problem Oriented Medical Record (Weed System).

F. Whyte, L.R.C.P. (Edin.), L.R.F.P.S. (Glasgow)

A. R. Macneil, M.D., M.Sc. F.R.C.P.(C)

D. Nicholson, M.D., F.R.C.S.(C)

Halifax, N.S.

## THE PROBLEMS:

1) Tender lump in left chest wall.

### The Data:

- The patient had been subjected to a pneumonectomy 25 years previous to admission for therapy of tuberculosis.
- One year prior to admission the patient had noted tenderness in the left lateral chest wall in the area of the seventh intercostal space where a thoracic drainage tube had been placed during surgery.
- Six weeks prior to admission the patient noticed a swelling in this area and the area became excruciatingly tender.
- Physical examination revealed a 10 cm. long swelling in the seventh intercostal space on the lateral chest wall. This was oriented with its long axis along the intercostal space at the site of a previous chest tube insertion.
- The patient's chest x-ray was unchanged from those done over the previous ten years.
- The patient's sedimentation rate was 40 mms per hour.

2) Recent infections of the skin of the face and hands.

### The Data:

- Two weeks prior to admission the patient had noticed inflammation in the left maxillary area and around the lateral aspects of his nail beds.
- Physical examination revealed a 3 cm area of erysipelas in the left maxillary area and paronychia of the nail beds of his left hand.
- The Glucose Tolerance Curve was diagnostic of Diabetes Mellitus with the 2 hour p.c. sugar reaching 273 mgm%. This diagnosis of Diabetes Mellitus now constitutes problem 3.

## PROGRESS NOTES:

Problem 1 — The erysipelas of the face and paronychia of the nail beds were treated with oral penicillin G.

Problem 2 — On the 5th hospital day the lesion on the left chest wall was excised. The histological survey of the specimen revealed granulomatous inflammation consistent with tuberculosis. Acid-fast bacilli were found.

## DISCHARGE SUMMARY:

The discharge diagnoses are as follows:

Problem 1 — Tuberculous abscess of the chest wall.

Problem 2 — Erysipelas of face and paronychia of nail beds.

Problem 3 — Diabetes Mellitus.

## PLANS FOR PROBLEMS:

Problem 1 — Triple therapy with streptomycin, I.N.H. and P.A.S.

Problem 2 — This problem was resolved before discharge.

Problem 3 — The patient's diabetes is to be controlled with diet and a trial of oral hypoglycemic agents.

## DISCUSSION OF CASE:

This case illustrates the association which has long been recognized between Diabetes Mellitus and Tuberculosis. The recent episode of skin infections was probably also related to the patient's Diabetes Mellitus. Thus this case illustrates two clinical principles:

- the recurrence of Tuberculosis must always be considered possible.
- Diabetic patients are prone to recurrence of Tuberculosis; it is advisable to screen all diabetic patients for Tuberculosis and to control diabetes in the patient with a known history of Tuberculosis.

# Observations on the Problem Oriented Medical Record\*

G. R. Langley, M.D., F.R.C.P.(C)\*\*

Halifax, N.S.

Shortly after the publication of two special articles in the New England Journal of Medicine in 1968 by Lawrence L. Weed and his subsequent monograph, *MEDICAL RECORDS, MEDICAL EDUCATION AND PATIENT CARE*, in 1969 through the energies of Dr. Max Gorelick a series of seminars were held by the Department of Medicine to define the role of the Problem Oriented Medical Record in patient care programs. These discussions re-emphasized the importance of the problem oriented approach and it was decided that we should institute this system in the Department in a formal way. We elected to implement it in phases until the complete system was in effect. After the first few months of use, a team from the Department, Dr. E. Carl Abbott, Dr. David King and Dr. Duncan Murray visited the Cleveland Metropolitan Hospital where Weed had introduced his system a few years previously. Currently this approach is being used in three Teaching Units here, though that at the Halifax Infirmary under Dr. Paul Landrigan's guidance has developed most extensively. A number of inquiries have come to us concerning our experience with the Problem Oriented Medical Record and the editor of the Nova Scotia Medical Bulletin has requested a review for our provincial audience. The following paragraphs summarize the theoretical and practical aspects of this system as we understand and employ it. For additional information the reader is referred to the publications of Weed and a videotape presentation prepared by Dr. Paul Landrigan, available through Mr. A. Gibson, Director of the Audio-Visual Department of Dalhousie University.

## The Problem Oriented Medical Record:

The Problem Oriented Medical Record consists of six components:

- The data base.
- The problem list.
- Plans for each problem.
- Index and flow sheets.
- Problem oriented progress notes.
- The Discharge Report.

Part of this outline will immediately be familiar to physicians yet the system, as will be seen later, differs significantly from that which most of us have been using. The major difference is the *formalized* approach to the medical record and this strict adherence to the formal approach is necessary for its successful use. In addition the

overall approach differs significantly in a number of details from that which most physicians were taught in Medical School.

With the implementation of this system the medical record assumes an entirely different position in patient care management programs. Whereas previously the medical record was used to document changes that had occurred in patients and was therefore largely a repository of historical information, it now becomes, with the introduction of this system, a dynamic instrument in patient care programs. Now total plans are developed first and then carried out. In this respect the new record is somewhat similar to an architect's drawings in that a blueprint is prepared and on the basis of this blueprint certain actions are initiated. The results of these actions are evaluated, further plans are developed and so on.

The overall purpose of this system is threefold: to be able to assess the quality of medical care, to improve the efficiency of patient care programs and to use the medical record as an educational instrument not only for students but for the physician on an ongoing basis who is using it in his day to day practice.

The various components of the Problem Oriented Medical Record will be briefly reviewed.

## The Data Base:

We have chosen to continue the conventional method of recording data in our use of the Problem Oriented Medical Record. That is, we obtain a history, past history, personal history, family history, functional inquiry and physical examination. This together with a urinalysis and hemoglobin constitute the initial data base. It should be noted, that the patient's description of how he spends a typical day, is considered an important component of the history of the present illness as it indicates to what extent his problems interfere with his daily activities.

## Problem List:

In the construction of a Problem Oriented Medical Record the physician will see a major difference at this stage of its construction. Previously most of us were used to writing a list of impressions or a differential diagnosis after obtaining a data base. This is discarded in the Problem Oriented Medical Record. Instead one identifies the patient's problems and makes a problem list.

The problem list is a vital component of the system and it will be necessary here to consider the nature of problems

\*From the Department of Medicine, Dalhousie University.

\*\*Professor Department of Medicine, Dalhousie University, etc.

that are acceptable in a problem list and the principles we employ in resolving these problems.

Only five types of problems are acceptable, that is, 1) a patient's symptom, 2) a physical finding, 3) a laboratory abnormality, 4) a pathophysiological state, and finally 5) an etiological diagnosis. For example, a patient might complain of right-sided chest pain. If at the conclusion of the initial history and examination this was still unresolved this would be listed as a problem. If on examination a patient was found to have hepatomegaly or hypertension these could be listed as problems. An abnormality on the initial laboratory studies or one subsequently developing might also be listed, for example, hypokalemia, elevated BUN, or anemia. A pathophysiological event might be hepatic coma, epilepsy, left ventricular failure or intestinal obstruction. Lastly, etiological diagnoses such as lobar pneumonia, pernicious anemia or carcinoma of the colon with intestinal obstruction. The purpose of identifying and listing problems only of this type is to work out a plan so that this problem may be solved. It is important to note that physicians should list the problem at the level of which he has adequate information to place it. Thus it would be wrong to give a pathophysiological explanation or an etiological diagnosis for a patient's symptom if one did not have adequate evidence for this. For example, if the patient had right-sided chest pain and the physician felt it could be due to lobar pneumonia, pulmonary infarction, secondary to pulmonary embolism, or a pathological rib fracture, it would be inappropriate to choose the most likely of these and list it as the problem. That problem should be identified as chest pain so that the appropriate studies can be undertaken to substantiate which of these four possibilities is actually the cause. Conversely it is inappropriate to list a problem according to a patient's symptom, rather than an etiological diagnosis if there is adequate evidence to so classify it. For example, were a patient to give a classical history of angina pectoris it would be inappropriate to list this problem as chest pain when information is there to more appropriately classify it as ischaemic heart disease with angina pectoris. The problems that can be listed are shown in Figure 1.

It should also be noted that the physician should list each problem a patient has whether that problem is active, inactive or controlled. For example, if a patient has diabetes mellitus that problem should be listed even were his diabetes well controlled with insulin and diet. Having a complete list of all the patient's problems available continuously reminds the attending physician of the patient's total medical profile and if other physicians cover for him or participate in that patient's care it ensures they will not act on one problem without knowing of others that coexist.

#### *A plan for each problem:*

There are two objectives in developing a plan for each problem. The first is to render active problems inactive if possible, or if not, hopefully to control them. For example, the objective with acute appendicitis would be to render it

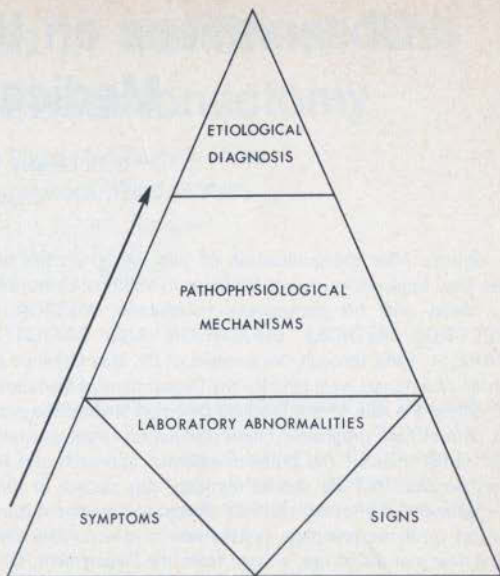


FIGURE 1

The problem triangle. The five types of acceptable problems are shown. An objective of the problem plan is to move the problem to the top of the triangle and thus to specific treatment programs.

inactive by appendectomy while that for juvenile diabetics would be to control it. Thus in following patients either on an ambulatory or in hospital basis we are continually monitoring to see that we are moving in this direction. The arrows on Figure 2 indicate this approach. The second objective in developing a plan for a problem is to move the problem from a simple, descriptive one to an etiological diagnosis. For example, if a physician lists a patient's symptom of chest pain as a problem, the plan should be to relate it to physical findings and laboratory data, to then define the pathophysiological mechanism which caused the chest pain and finally make an etiological diagnosis for that chest pain. It is only when either the etiological diagnosis or the pathophysiological mechanism has been identified that one can develop management programs directed specifically at the underlying disease process. The treatment for problems at the base of the triangle (symptoms, signs and laboratory abnormalities) are largely symptomatic.

The plan for each problem has a maximum of three components although sometimes it has less. These are: 1) additional diagnostic procedures to establish the pathophysiological or etiological diagnosis and sometimes to detect known accompanying problems. We usually abbreviate this in the medical record as Dx. 2) Treatment of the problem, which we designate as Rx. 3) Patient education. The patient's medical record will look something like this.

**PROBLEM:** Inflammatory monoarticular arthritis.

**Dx:** Aspirate knee for synovial analysis, culture, serum urate and x-ray of knees.

Rx: Analgesics. Await synovianalysis for definitive treatment.

Pt. Ed: Explained problem to patient and also the necessity for knee aspiration.

In this instance the problem is at the level of a pathophysiological mechanism and the diagnostic procedures are attempting to identify the etiological diagnosis so that appropriate treatment can be directed at the underlying cause. In the meantime analgesics are given for symptomatic relief and the patient is advised both of the nature of the problem and the procedure to be carried out. An attending physician can see how clearly the problem is delineated and will recognize how easy it is for someone who covers for him to see the level of his thinking as regards this problem and the direction of his patient management program.

*The Index and flow sheet:*

The index sheet should preface the medical record and should contain an up-to-date list of all problems. As these are modified a date indicating the time of modification should be given. The physician should then be able to turn to that date in the medical record and read how and why the problem was modified and the index sheet should contain a new listing indicating how the problem is now designated. The flow sheet should contain all the laboratory data, vital signs and medications for that patient so that leafing through the laboratory records and unnecessary repeat laboratory tests are eliminated. An example of the index and flow sheet currently in use is shown in Figures 2 and 3.

DATE/TIME	17/3	17/3	17/3	18/3	19/3	20/3
VITAL SIGNS	1 am	6 am	9 pm			
BP	140/70	112/60	115/70	120/70	150/100	150/100
JVP	2cm	2cm	2cm	1cm	0	0
HEMATOLOGY						
Hb	15.2		16.4			
Htc			47			
WBC			8.9			
ESR			40		50	
BIOCHEMISTRY						
SGOT			50	110		38
CPK						
BUN			14			
URINE						
SG			1024			
Sugar			NEG			
Protein			NEG			
Micro			NEG			
ECG		Normal	Abnormal			AMI

FIGURE 3

Flow sheet for the same patient whose index sheet is shown in Figure 2.

Mr. P. D. Browning

PROBLEM ORIENTATED MEDICAL RECORD  
PROBLEM LIST

DATE	PROBLEM NO.	ACTIVE	CONTROLLED	INACTIVE	PROBLEM CHANGE (DATE)
17/3/72	1	Chest pain ✓			18/3/72
	2	Duodenal ulcer ✓			
	3	Penicillin hypersensitivity ✓			
	1	Acute myocardial Infarction ✓			

FIGURE 2

Index Sheet for problem oriented medical record. Problem 1 on admission was active, problems 2 and 3 inactive. Problem 1 was advanced to an etiological diagnosis on 18/3/72 on the basis of information which should be found in the progress notes. The arrow indicates the direction in which the physician attempts to change the problem from an active to a controlled or inactive one. At the same time he attempts to move the problem to a higher level of understanding (Figure 1).

*Progress note:*

Whether for ambulatory or hospitalized patients, progress notes are made as the patient's problems are solved, as changes in the patient's condition occur or new problems develop. There is no specified time when a progress note should be written on hospitalized patients, rather these depend on the circumstances. Patients in Intensive Care or critically ill on a general ward may require a progress note hourly or several times a day, whereas other progress notes can be saved, the data collated and recorded later. In every circumstance, however, the progress note has a certain specified and formal format. First the problem to which reference is made is designated. Then the physician writes up the subjective and the objective features that have changed since the last note was written. The objective features should include the results of diagnostic tests or procedures. Lastly in the progress note the additional plans for that problem are given under the three components previously noted.

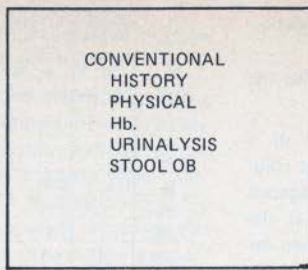
An example of how this would apply in a specified instance is given below.

PROBLEM: Acute inflammatory monoarticular arthritis (gouty arthritis).

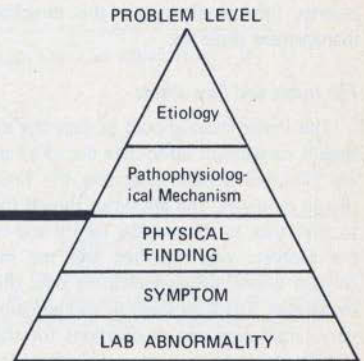
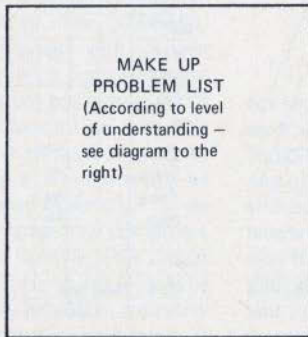
Subj: No change.

Obj: Knee aspirated and synovianalysis revealed WBC 80,000 with 90% neutrophils. Urate

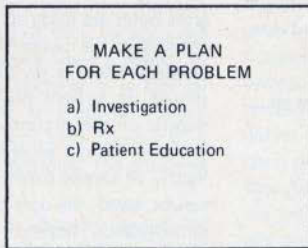
STEP I



STEP II



STEP III



STEP IV

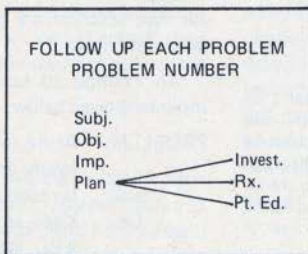


FIGURE 4 Schematic outline to be used in constructing problem oriented medical record.

crystals were identified by shape and birefringence. Serum urate 10.6 mg%.

Plan: Dx: Nil  
Rx: Colchicine as per order sheet.  
Allopurinol 400 mgms per day.  
Pt. Ed: Patient told he has acute gouty arthritis and about the likelihood of diarrhea with Colchicine.

In the fully developed problem oriented medical record all Allied Health Professionals record their observations in the identical format on the progress sheets. This includes nurses, physiotherapists, dietitians and social workers. Independent nurses notes for example are dispensed with in favor of this single record.

*Discharge Report:*

The Discharge Report should be constructed in a manner similar to the progress note. That is, at the time of discharge all significant problems still present, whether active, controlled or inactive, and of significance are listed. A summary of the subjective and objective features of each are succinctly given. Finally a continuing plan for each significant problem is outlined.

The above description is a brief outline of the various components of the Problem Oriented Medical Record. Its

use changes the medical record from the recording of past events to a blueprint for a patient's management. There are certain practical problems that will be encountered by anyone choosing to employ this approach. The major problem will be the time required for implementation. This will be due to the difficulties in getting acquainted with the system. In addition it will be found that with the initial writeup of either an ambulatory or hospitalized patient there is a slight increase in time over that with the conventional medical record. However, subsequently time is saved as it is rarely necessary to leaf through assorted, composite notes trying to identify the chronology of a particular problem as these are clearly stated. Our feeling is that, once understood, the Problem Oriented Medical Record saves overall physician time, improves the quality of medical care, brings the health team together and improves intrateam communication in the provision of care and permits more accurate assessment of the quality of care delivered to patients through review of their medical records.

For those interested in introducing this system a didactic outline is given in Figure 4.

ACKNOWLEDGEMENT. This review represents a summary of a team effort in three of the teaching units of Dalhousie University. Particular appreciation must go however to Dr. David King, Medical Resident, for his leadership in developing this program.

**INVEST \$500 or more**  
**in ROYAL TRUST'S**  
**4 FUNDS**

FOR GROWTH OR INCOME  
NO LOADING/WITHDRAWAL FEES

 **Royal Trust**

Call 429-2700  
Mr. Fox or Mr. Moriarty

1648 Hollis Street, Halifax  
Bayers Road Shopping Centre, Halifax  
Holiday Inn, Dartmouth

**Your European Headquarters**

**For Charters, Bus Tours, Individual Vacations**



**Lord Nelson Arcade**  
**429-7970**

**Scotia Square**  
**429-7974**

# HELP SAIL THE BLUENOSE!



In that so much has been written and said about the Bluenose, it would perhaps be redundant for us to go into detail. We, however, have embarked on a campaign to raise \$175,000.00 which will restore the Vessel to first-class sailing conditions.

You will be pleased to know that there has at this early date been encouraging response to the campaign and we have now received close to \$85,000.00 in donations and pledges, from all across Canada.

**ALL DONATIONS ARE TAX DEDUCTIBLE**

Sail the Bluenose Fund,  
P.O. Box 456, Halifax, Nova Scotia



# The J. Earle Hiltz Memorial Lecture

R. C. Dickson, M.D., F.R.C.P., F.A.C.P., F.R.C.P.(C)\*

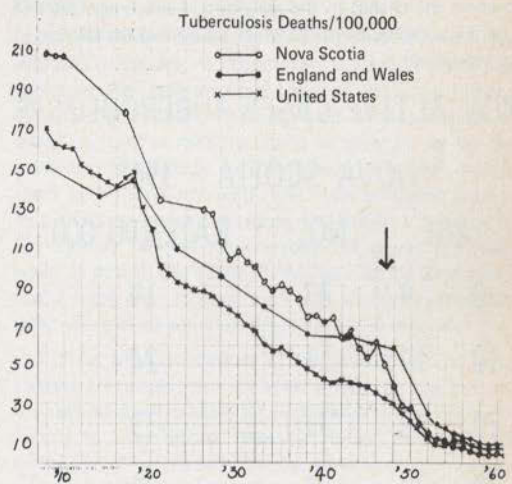
Halifax, N.S.

Mr. Chairman, Members of the Canadian Thoracic Society, Ladies & Gentlemen:

You have done me a great honor as well as giving me a great privilege by asking me to give this J. Earle Hiltz Memorial Lecture. During the twelve years that I was privileged to know him, I came to regard Earle Hiltz with affection, respect and admiration. During his professional lifetime he contributed not only to his profession but to his community, to his Province and to Canada.

Joseph Earle Hiltz was born in Truro on March 15th, 1909 and received his early education in his home town and then entered Dalhousie University, at which institution he obtained his Science Degree in 1930, and graduated in Medicine in 1934. Although, after training in internal medicine at the Victoria General Hospital, he intended entering general practice, he went to the Nova Scotia Sanatorium for a period of three weeks' training in tuberculosis — he remained for thirty-four years. During this period tuberculosis, its recognition, treatment and control was to be the foremost interest of his life. He was active naturally in the Nova Scotia Tuberculosis Association. He was also active in the Canadian Tuberculosis Association and acted as its president at one time. He participated in the formation of both the Nova Scotia Thoracic Society and the Canadian Thoracic Society. He was also active on committees of the Medical Society of Nova Scotia and was a past director of the American Thoracic Society. He was certificated by the Royal College of Physicians and Surgeons of Canada and was a Fellow of the American College of Chest Physicians. His interests were broad. He lectured to both student nurses and medical students at Dalhousie University. He contributed liberally to the medical literature.

Earle Hiltz represents one of the older chest physicians of our era who were primarily concerned with the treatment and control of tuberculosis. Yet, as I hope I will show you as this lecture progresses, he moved forward with the times and would have become one of the newer breed of chest physicians who must of necessity be aware of the exciting new discoveries in the research laboratories and carry the knowledge derived therefrom forward into the active care of patients suffering diseases of the chest. In the field of tuberculosis Earle Hiltz saw many changes occur during his lifetime. In the first place, he saw the decline of the death-rate in tuberculosis which began before the period of recording vital statistics and has progressed steadily ever since. He observed the slight acceleration in this decline which was produced by the introduction of the tuberculostatic drugs, the first of which, streptomycin, was introduced in 1947.<sup>2,2</sup>



## TUBERCULOSIS MORTALITY NOVA SCOTIA - 1962

AGE	NO.	% OF DEATHS
0 - 9	0	0
10 - 19	0	0
20 - 29	1	3.6
30 - 39	2	7.1
40 - 49	4	14.3
50 - 59	6	21.4
60 - 69	8	28.6
70+	7	25
		75

He noted also during his lifetime a change in the age group which provided the deaths from tuberculosis. It is a well-known fact that when tuberculosis was the first cause

\*Professor and Head of Department, Medicine, Dalhousie University.

of death it took its toll largely among children and young adults and that old people were relatively safe. The situation today is reversed, and now the fatal cases are largely drawn from the age group 50 and over.

As an accompaniment of these changes, Dr. Hiltz observed the change in the age group in which new cases of tuberculosis were identified which paralleled the changes in the mortality.

## NEW ACTIVE CASES TUBERCULOSIS

### NOVA SCOTIA - 1962

AGE	NO.	RATE/100,000
0 - 9	33	19
10 - 19	17	24
20 - 29	31	33
30 - 39	34	39
40 - 49	31	36
50 - 59	29	46
60 - 69	28	62
70 - 79	19	63
80+	6	48

Dr. Hiltz would also have noted the change in the incidence of positive tuberculin reactors. When tuberculosis was the first cause of death, nearly all adults were tuberculin positive. This has changed. Whereas in the early 1900's ninety per cent of the population in Canada were tuberculin positive at age 10, in 1962 only four per cent were positive at school-leaving age and only seven per cent of Royal Canadian Navy recruits drawn from all points in Canada at age 18 to 25 were positive reactors. Thus the diagnostic importance of the test has been reversed and whereas in the early 1900's only a negative test was of any real value, today the positive test raises the question of whether or not the individual has active tuberculous disease.

In the light of experimental and clinical knowledge a positive test seems to indicate that the patient harbors living tubercle bacilli within his body whether he is suffering from such infection or not. More will be said of this later.

As tuberculosis declined, it was natural that Earle Hiltz' interest should focus on other fields of chest diseases. He

was interested particularly in the three major diseases, lung cancer, bronchitis and the pneumoconioses.

In the field of lung cancer, Earle Hiltz was well aware of the importance of its recognition through periodic chest x-rays and the aggressive approach to solitary nodules showing in such x-rays. He introduced the newer methods of diagnosis to the Nova Scotia Sanitorium as such methods became available and was well aware of the importance of the campaign to reduce cigarette smoking in an effort to prevent lung cancer.

While newer diagnostic methods such as mediastinoscopy have made possible the more accurate identification of those cases of lung cancer where there is the best chance of a curative operation being performed, it still remains true that most cases of lung cancer have spread beyond the point where a curative operation can be undertaken before the disease is recognized. In this speaker's opinion, it is unlikely that the defeat of lung cancer will ever be accomplished by early diagnosis. Rather, the problem is one of prevention at this point in history, with the elimination of cigarette smoking by far the most important method. In the future, it is to be hoped that new methods of dealing effectively with disseminated cancer will be available to treat the very many cases which at present are beyond the scope of curative surgical therapy.

Earle Hiltz was well aware of the massive problems of obstructive lung disease. From the asthmatic at one end of this scale whose airway obstruction is episodic and who, while he may develop temporary ballooning of the lungs, a form of emphysema, will not have chronic pulmonary emphysema such as results from long continued bronchitis and from other causes, unless, to asthma is added, some type of infection will cause damage to the bronchial wall. Here again, prevention should be the main objective. The identification and removal of the cause of asthmatic attacks and the desensitization of patients where such is possible are of course the most effective preventive measures which can be employed. However, even where such measures prove impossible, the prevention of damage to the bronchial walls by the early and effective treatment of infection will do much to delay, if not entirely prevent, the development of the sequelae of such bronchial wall damage.

More commonly, emphysema is the result of recurrent attacks of bronchitis. The exact etiology of this disease is obscure. Some people develop wheezing due to bronchial obstruction when they acquire a respiratory infection which in another evokes no such reaction. The natural history of the disease is one of recurring episodes of acute bronchitis which in some unfortunates become more frequent and prolonged. Some of these attacks are precipitated by bacterial infection — more often it is likely viral. The course of the disease is aggravated by the inhalation of noxious fumes of which much the most common is cigarette smoke.

The most dreaded sequel of recurrent or chronic bronchitis is pulmonary emphysema. Despite the new sophisticated instruments which have been developed, the

correlation between the clinical diagnosis of emphysema and the post-mortem findings remains unsatisfactory. The important thing is for the physician to be aware of the danger and to do all that he can to prevent or delay progression.

It would appear from the work of Hertzog<sup>1,2</sup> Fraser<sup>3</sup> and of Rainier<sup>4,5</sup> that weakening of the walls of the large airways is present in some patients with emphysema. They have drawn attention to the collapse of these weakened tubes on forced expiration and the consequent severe obstruction to expiration. More recently Macklem, Fraser and Bates<sup>6</sup> have demonstrated the same phenomenon in the smaller airways — lobar bronchi and their main branches, in emphysematous patients. While more difficult to demonstrate it appears not unlikely that similar lesions develop in the smaller ramifications of the bronchial tree and produce severe airway obstruction with air trapping. It seems probable then that damage to bronchi with consequent flap valve collapse of their walls on forced expiration is an essential factor in the production of emphysema associated with bronchitis.

The cause of chronic bronchitis, this highly disabling and common disease has been the subject of much study both on this continent and in the United Kingdom. A number of predisposing factors have been identified by epidemiological studies largely conducted in the U.K. Cigarette smoking is considered by most to be the greatest single contributing factor and its prevalence makes difficult assessment of the effect of various occupations and of atmospheric pollution. Nevertheless there is some evidence that air pollution, dusty occupations, poorer social and economic circumstances and increasing age do have an influence. For example the Standard Mortality Rate from bronchitis for males was six times greater in a heavily air polluted area in the industrial northwest of England than in a resort area in the Southwest. The Standard Mortality Rate was five times greater in the lowest social class (V) compared to Class I. Similarly the Standard Mortality Rate was ten times greater in coal-miners and labourers compared with clergymen, teachers and doctors.

One must be careful in drawing conclusions from such evidence. As an example of the pitfalls, a study initiated by the British Ministry of Health and Social Welfare of the incidence of chronic bronchitis in Welsh Coal-miners indicated that it was indeed high — but it was found to be almost as high in their wives.

Whatever the disposing factors be they socio-economic, environmental, genetic or other it still must be conceded that only a minority of those at risk develop chronic bronchitis. Although I know of no evidence to support the suspicion I cannot help but wonder if those who develop the progressive disease do so on the basis of auto-immunity — with the crucial weakening of the bronchial wall being caused by an antigen-antibody reaction with some substance in the bronchial wall being sufficiently altered by irritants of one kind or another as to become antigenic. Similarly those cases of emphysema not associated with

chronic bronchitis might result from an auto-immune reaction destroying alveolar walls. Anti-lung antibodies have in fact been demonstrated in the blood of bronchitics but this in itself provides no proof that they are causing harm. Surely this would be an interesting field for further research.

At the time of his death Earle Hiltz was Chairman of a Special Committee on Pneumoconiosis and Silicosis established by the Department of Labor of the Government of Nova Scotia to look into the matter of dust diseases and advise as to what measures could be taken to reduce their incidence, particularly in coal-miners. This work was cut short by his untimely death, and I was privileged with the help of his two able colleagues, Dr. Robert L. Aikens and Dr. Lyle A. Skinner, to complete the survey and report which is now in the hands of the Nova Scotia Government and I hope may at some time lead to the improvements which Earle Hiltz would so much have desired to see.

This is another evidence of the breadth of Dr. Hiltz's interests. I would like to refer briefly to the pneumoconioses to again indicate the importance of immunological factors in lung disease. Massive fibrosis in people with silicosis or other pneumoconioses is more common in those who have rheumatoid arthritis or at least rheumatoid factor in their blood and in those who have tuberculosis. One cannot help but conjecture regarding the role of rheumatoid factor in the one and tuberculin hypersensitivity in the other.

This leads inevitably to the consideration of the recent exciting studies in the field of immunology as it relates to lung disease. Physicians interested in the respiratory field, together with dermatologists were the first to become interested in the field of allergy — now considered one facet of the broader field of immunology. Considerable progress has been made in the development of tests to identify individuals in whom pollens and other air born allergens are causing hay fever or asthma. For many years these were the only respiratory diseases identified as being allergic in origin.

Following a long interval, new investigative tools led to a rapid advance in knowledge in this exciting field. The classification of Allergic Reactions Responsible for Clinical Hypersensitivity and Disease proposed by Coombs & Gell<sup>7</sup> in 1968 provides a suitable basis for further consideration of the immunological aspects of lung disease.

#### TYPES OF IMMUNE REACTION\*

TYPE I	ANAPHYLACTIC
TYPE II	CYTOTOXIC
TYPE III	TOXIC COMPLEXES
TYPE IV	DELAYED HYPERSENSITIVITY

\*Coombs, R. R. A. & Gell, P. G. H.

These four types will be considered now in more detail, their mechanisms will be discussed and clinical examples given. An effort will be made to separate factual knowledge from hypotheses based on such.

## TYPE I IMMUNE REACTION

### ANAPHYLACTIC

### REAGIN (IGE) DEPENDENT

ANTIGEN REACTS WITH TISSUE CELLS PASSIVELY SENSITIZED BY ANTIBODY PRODUCED ELSEWHERE

RELEASE PHARMACOLOGICALLY ACTIVE SUBSTANCES

LOCAL OEDEMA AND CONTRACTION OF SMOOTH MUSCLE

This is the basic immunological reaction underlying the common allergic diseases. In the lungs the tissue mast cells underlying the respiratory epithelium are passively sensitized by circulating antibody (IgE) produced by immunologically competent plasma cells of the reticuloendothelial system. Within minutes of contact of inhaled or circulating antigens with the sensitized mast cells pharmacologically active substances including histamine producing vasodilatation and oedema, and other vasoactive substances such as described by Brockelhurst<sup>8</sup> as S.R.S. - A (Slow Reacting Substance of Anaphylaxis), and possibly Kinins which cause increased activity of mucus glands and prolonged bronchoconstriction. There is no cell destruction and complement is not involved.

The circulating skin sensitizing antibody now known to be characteristic of extrinsic asthma, eczema, seasonal rhinitis, severe food sensitivity, parasitic infestations, allergic aspergillosis was first demonstrated by the classic passive transfer studies of Prausnitz and Kustner<sup>9</sup> in 1921. It has also been designated as reagin and has been more recently shown to be carried by a distinct immunoglobulin IgE.

The studies of Salvaggio et al<sup>10,11,12</sup> provides an explanation for the difference between atopic and non-atopic individuals. The former when repeatedly exposed to inhaled protein antigens developed skin sensitizing antibodies to these antigens more readily than the latter whereas the response to injected antigens was the same in both groups. This suggests greater permeability of the respiratory mucosa to inhaled antigens in the atopic than the non-atopic.

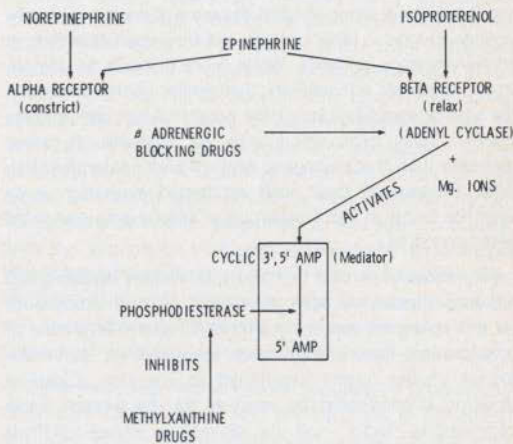
The most important respiratory disease caused by Type I Immune Reaction is extrinsic or atopic asthma. Of the mediators of this reaction histamine is less important than other substances such as S.R.S. - A and possibly Kinins and prostoglandins and other substances yet unidentified.

The nature of intrinsic (non-atopic) asthma is still obscure. In an attempt to unify many of the puzzling features of bronchial asthma Szentivanyi<sup>13</sup> formulated the beta adrenergic theory. This postulates that asthma is due to a state of bronchial hyperactivity in which antigen-

antibody interaction is only one of a number of stimuli which can trigger the reaction.

The theory is based on the knowledge that the catecholamines influence the bronchial system through their action on the adrenergic receptors. Norepinephrine acts on the alpha receptors which produce bronchoconstriction; isoproterenol acts on the beta receptors which produce bronchodilatation and epinephrine acts on both.

### Catecholamine



The beta receptor appears to be an enzyme adenylyl cyclase whose activation in the presence of magnesium ions catalyzes the formation of cyclic 3'5' A.M.P. the intracellular mediator of catecholamine action. Cyclic 3'5' A.M.P. is rapidly broken down to inactive 5' A.M.P. by the enzyme phosphodiesterase and this action is blocked by the methylxanthine drugs.<sup>14</sup>

With this background of knowledge Szentivanyi *postulated* that asthmatic patients have an inherited or acquired deficiency in adenylyl cyclase and as a result have a preponderantly alpha receptor effect - bronchoconstriction - in response to catecholamine stimulation. Adenylyl cyclase action may be reduced by lowered synthesis, production of defective enzyme molecules, or blockade.

There are further human and animal studies which lend support to this hypothesis but suffice it to say that it is still a hypothesis<sup>15</sup> though an attractive one. It offers an explanation for the adverse effect of beta adrenergic blocking agents and the increased tolerance to epinephrine and isoproterenol characteristic of severe asthma. The beneficial effect of aminophylline is explained by its blocking action on phosphodiesterase thus increasing the cellular level of cyclic 3'5' A.M.P. The corticosteroids may exert some of their beneficial effects through sensitizing the adrenergic target cells to catecholamines.

The theory also may explain the triggering of asthmatic attacks not only by specific antigens in patients with extrinsic asthma but also by infection, inhaled irritants and

emotional factors. Further by assuming that adenylyl cyclase may be deficient in different tissues it explains why some allergic persons have eczema, some hay fever, some asthma and others drug sensitivity.

### TYPE II IMMUNE REACTION

#### CYTOTOXIC

#### ANTIBODY REACTS WITH

- a) ANTIGEN COMPONENT OF A CELL OR TISSUE ELEMENT  
or
- b) ANTIGEN OR HAPTEN INTIMATELY ASSOCIATED WITH THESE

#### COMPLEMENT USUALLY NECESSARY TO EFFECT CELLULAR DAMAGE

In this reaction a circulating antibody reacts with antigenic substance forming a component of a cell or tissue element or with an antigen or hapten intimately associated with such cell or tissue element. Complement is usually involved and tissue damage such as cellular death or swelling and fragmentation of basement membrane results.

Hemolytic anaemia and thrombocytopenic purpura are representative of this form of immune reaction. It is believed that certain forms of nephritis, Hashimoto's thyroiditis, pernicious anaemia and some forms of Addison's Disease are caused in this way.

In the lung the outstanding example is Goodpasture's Syndrome where circulating antibodies against alveolar basement membrane also cause damage to the glomerular basement membrane of the kidney. Evidence exists to indicate antigenic similarity between alveolar and glomerular basement membranes.<sup>16,17,18</sup>

Serum sickness familiar to all of us occurs when sufficient antibody has been formed in response to the injected antigenic serum which is still in excess. The antibody/antigen complexes then settle out producing exudative polymorphonuclear leucocytosis and proliferative endothelial lesions — vasculitis and necrosis.

Lower levels of these complexes can persist for long periods — weeks or months and cause chronic forms of vasculitis. In the lung periarteritis nodosa provides a good example of this type of reaction.

When antigen/antibody complexes form in the circulation when there is an excess of antibody the complexes are insoluble and rapidly removed by the reticuloendothelial system.

Farmers' lung provides a good example of the Arthus type reaction when antibody comes in contact with high concentration of antibody in lung alveoli. Lacey and Lacey<sup>19</sup> based on spore counts estimated that a farmer working in mouldy hay would inhale as many as 750,000 spores per minute — most of them actinomycetes 0.5 to 1.3  $\mu$  in diameter and hence small enough to reach the alveoli. The antibodies here seem to belong to IgA, IgG and IgM immunoglobulins.

These diseases of the Type III Immune Reaction group are all characterized by vasculitis and may or may not have a granulomatous component e.g. Wegeners Granuloma. The reaction under suitable conditions may occur from any one of a number of antigens. The lungs are particularly vulnerable since the antigen can reach them either through inhaled air or blood. The immune complexes once formed have a rich supply of vaso-active cells and extensive capillary network highly vulnerable to damage by their action.

### TYPE III IMMUNE REACTION

#### ARTHUS TYPE REACTION

#### DAMAGE BY TOXIC COMPLEXES

ANTIGEN/ANTIBODY REACTION IN TISSUE SPACES

MICROPRECIPITATES IN AND AROUND SMALL VESSELS

CELLULAR DAMAGE (ARTHUS)

OR

ANTIGEN IN EXCESS REACTS WITH ANTIBODY

(Serum Sickness)

SOLUBLE CIRCULATING COMPLEXES

DEPOSITION WALLS OR BLOOD VESSELS OR BASEMENT MEMBRANES

### TYPE IV IMMUNE REACTION

#### DELAYED HYPERSENSITIVITY

#### TUBERCULIN TYPE

#### CELL MEDIATED

SENSITIZED IMMUNOLOGICALLY COMPETENT MONONUCLEAR CELLS REACT WITH ANTIGEN DEPOSITED AT LOCAL SITE

#### EXACT MECHANISM UNCERTAIN

INFILTRATION OF CELLS AT SITE OF ANTIGEN

PARTICIPATION OF FREE ANTIGEN NOT NECESSARY

The exact mechanism by which cellular damage is produced is not known but complement is necessary and polymorphonuclear leucocytes seem to be involved. In this reaction an excess of antigen reacts with antibody either in circulating blood as in serum sickness or at the site of a high concentration of antibody in a tissue — the Arthus reaction.

It is hard to choose a better example of a disease in which the Type IV IMMUNE response plays a more positive part than tuberculosis and it is fitting that we do so in this Earle Hiltz Memorial Lecture.

The very important tuberculin test was the first test to identify delayed or cellular hypersensitivity and has great

value today in the diagnosis of tuberculosis since the evidence suggests that the test remains positive only so long as the host harbors living tubercle bacilli. It is interesting to consider the relationship between tuberculin hypersensitivity and immunity.

In the first quarter of this century Arnold Rich demonstrated the independence of immunity from hypersensitivity in several acute infections and suggested that the same might apply to tuberculosis. In 1933 Rothschild, Friedenwald and Bernstein<sup>20</sup> working in Rich's laboratory at Johns Hopkins showed that rabbits infected by tubercle bacilli and so rendered hypersensitive to tuberculin could be desensitized by the very careful administration of increasing daily doses of tuberculin till the rabbits could tolerate doses much larger than would have killed a hypersensitive rabbit not so desensitized. Challenge of these rabbits with further subcutaneous inoculation of live tubercle bacilli showed that they had retained their immunity as judged by the course and severity of local lesions, by the spread and severity of their visceral lesions and by the mortality from tuberculosis. They were spared the necrotizing reaction at the site of injection (Koch Phenomenon) evident in the immune but hypersensitive controls.

This very important observation seems to clearly indicate that in guinea pigs immunity and hypersensitivity are separate entities and that the latter is a disadvantage to the host.

Earle Hiltz in common with many others did not accept the separation of hypersensitivity from immunity. There are reasons why doubt should exist. No circulating antibodies have been demonstrated, so if immunity is a separate entity from hypersensitivity — on what does it depend? This to my knowledge has not yet been answered and while I am among those who believe that immunity is a separate entity, I will not be happy in this belief until the mechanism of the immunity is delineated. That hypersensitivity is part of the pathogenesis of tuberculosis is unquestioned. Whether it is of benefit to the patient or not must remain sub judice.

This would be a reasonable point at which to conclude this lecture but I must make brief reference to Earle Hiltz's interest in teaching. In addition to the activities I have mentioned he was persistent in his efforts to persuade me to rotate students through the Kentville Sanatorium. It was a source of regret that distance made this impracticable.

Dr. Hiltz must have known that the introduction of students would be disturbing to some of the patients in his peaceful hospital. Yet he was anxious to do so and remained so till his death — and this in spite of the example of history throughout the years. I cannot refrain from

quoting from R. W. Davies<sup>21</sup> article *Medicine in Ancient Rome* written in the periodical *History Today* 1971. He quotes Martial (AD 40-102) ruefully commenting on the practice of the physician bringing students to the patient's bedside.

"I was lying ill; but you immediately came to me, Symmachus, accompanied by a hundred students. A hundred hands frozen by the north wind, examined me. I did not have a fever, Symmachus, but I've got one now."

In conclusion, I may say that I think Earle Hiltz would have been deeply interested in the exciting new advances in chest disease. May I ask you to stand and observe a moment of silence in memory of Dr. Earle Hiltz — a great physician, a teacher and a great Canadian citizen. □

#### References

1. Hertzog, H.: *Schweiz. Med. Wchnschr.* 84:217: 1954.
2. Hertzog, H.: *Deutsch Med. Wchnschr.* 84:1766: 1959.
3. Fraser, R.G.: *J. Can. Assoc. Radiol.* 12:70: 1961.
4. Rainier, W.G.: *J. of Thor. & Cardiovasc. Surgery* 46:559: 1963.
5. Rainier, W.G.: *Forum* 12:70: 1961.
6. Macklem, P.T., Fraser, R.G., and Bates, D.V.: *J. Applied Physiol.* 18:707: 1963.
7. Coombs, R.R.A. and Gell, P.G.H.: *Clinical Aspects of Immunology*, 2nd Edition. Blackwell Scientific Publication p. 575: 1968.
8. Brockelhurst, W.E.: *Clinical Aspects of Immunology*, 2nd Edition. Blackwell Scientific Publication p. 611: 1968.
9. Prausnitz, C. & Kustner, H.: *Centralbl. f. Bakteriologie* 86:160: 1921.
10. Salvaggio, J.E., Cavanagh, J.J.A. and Lowell, F.C.: *J. Allergy* 35:62: 1964.
11. Salvaggio, J.E., Kayman, H. and Leskowitz, S.: *J. Allergy* 38:31: 1966.
12. Salvaggio, J.E. and Leskowitz, S.: *Int. Arch. Allergy Appl. Immunol.* 26:264: 1965.
13. Szentivanyi, A.: *J. Allergy* 42:203: 1968.
14. Sutherland, E.W. and Rall, T.W.: *Pharmacol Review* 12:265: 1960.
15. McCoombs, R.P.: *N.E.M.J.* 286:1186: 1972.
16. Hagadorn, J.E., Vasquez, J.J. and Kenney, T.R.: *Amer. J. Path.* 57:17: 1969.
17. Vasquez, J.J.: *Arch. Int. Med.* 126:471: 1970.
18. Steblay, R.W. and Rudofsky, U.: *Science* 160:204: 1968.
19. Lacey, J. and Lacey, M.E.: *Trans. Br. Mycol. Soc.* 47:547: 1964.
20. Rothschild, H., Friedenwald, J.S. and Bernstein, C.: *Bull. Hopkins Hosp.*, 54:232: 1934.
21. Davies, R.W.: *History Today*, 21:770: 1971.
22. Dickson, R.C.: *C.M.A.J.*, 92:25: 1965.

# Mediastinoscopy

Donald M. Nicholson, M.D., F.R.C.S.(C), F.A.C.S.\*

Halifax, N.S.

Mediastinoscopy as a method of biopsy of the superior mediastinum was first devised by Carlens of Stockholm in 1955. He subsequently reported his experience in over a hundred patients in 1959<sup>1</sup> and established the technique as being a safe and useful one.

The scalene node biopsy was originally reported by Daniels in 1949<sup>2</sup>. It was introduced as an aid in the determination of operability of intrathoracic lesions; however, it was subsequently established that nearly fifty percent of patients with bronchogenic carcinoma are unresectable in spite of having had a negative scalene node fat pad biopsy.

A modification of this technique called cervical mediastinal exploration was introduced by Harkin, Black, Closs, and Ferand. They dissected into the upper mediastinum through this cervical incision and utilized a laryngoscope to provide exposure to the paratracheal tissue in this area.

The Carlen's technique enables one to visualize and obtain specimens for biopsy of mediastinal lymph nodes as well as subcarinal lymph nodes. With the need for increasing accuracy in the diagnosis and management of thoracic lesions, mediastinoscopy has become an accepted and wide-spread technique throughout major centres dealing with thoracic diseases.

## Technique

The procedure is performed under general anesthesia usually preceded by a bronchoscopy. With the neck extended, a transverse suprasternal incision is made and dissection is carried out in the midline down to the trachea. The pretracheal fascia is incised. Blunt dissection with the finger is then used to clear the pretracheal fascia in front of and lateral to the trachea, and entry is made into the superior mediastinum. (Figure 1). The tunnel thus formed, permits the introduction of the mediastinoscope (Figure 2) and further dissection is carried out under direct vision. The dissection is carried out along the right and left main stem bronchus and the subcarinal area as shown in Figure 3.

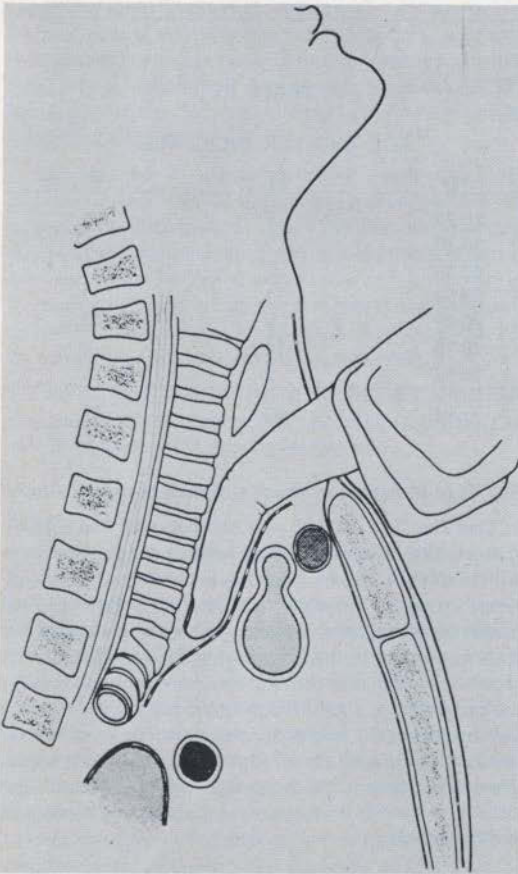


FIGURE 1

Lateral view of anatomical dissection

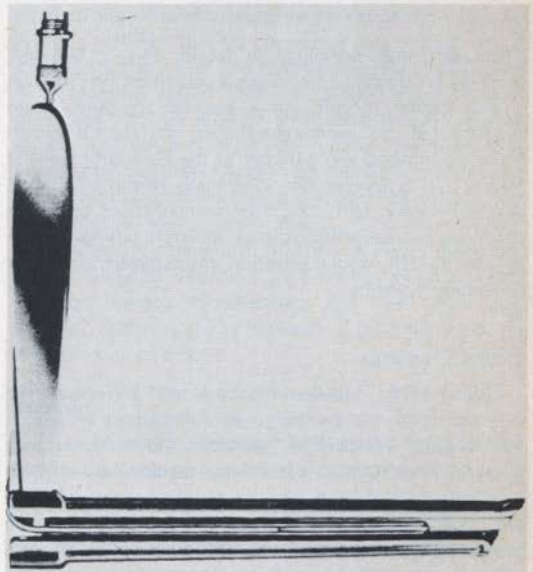
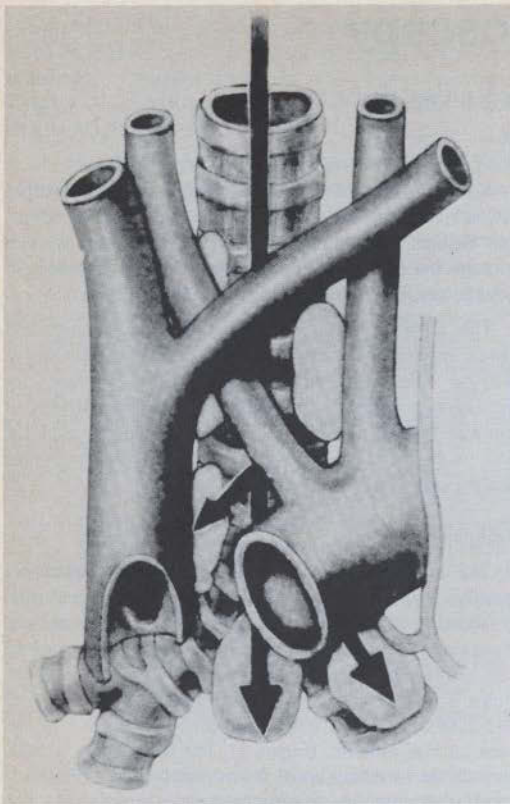


FIGURE 2

Carlens Mediastinoscope

\*Assistant Professor, Department of Surgery, Dalhousie University.



**FIGURE 3**  
Accessible node areas

When abnormal pathology is found, this is biopsied; however, an aspiration technique is performed first through a long needle to rule out a vascular structure. If no abnormalities are encountered, then the normal lymph nodes are biopsied and a biopsy of the fibro fatty tissue at carinal level is done as this occasionally reveals infiltration with the tumor cells. The main complications using this technique include pneumothorax, recurrent laryngeal paralysis on the left, wound infection, mediastinitis, and, most commonly, bleeding.<sup>3</sup>

#### Clinical Experience

During 1970, 75 mediastinoscopies were performed. The indications for this procedure are summarized in Table I and include: Preoperative assessment for patients with primary bronchogenic carcinoma, mediastinal or hilar lymphadenopathy, and obscure pulmonary lesions. The preliminary diagnosis is illustrated in Table II. There was a predominance of male patients, 63 in all, in keeping with the male sex predominance in bronchogenic carcinoma. The patients ranged in age from 20 to 89 with the majority being between 50 and 79 years of age. (Table III).

TABLE I	
INDICATIONS	
Lung Tumors	
Hilar Adenopathy	
Miscellaneous Lung Disorders	

TABLE II	
PRELIMINARY DIAGNOSIS	
Suspected Bronchogenic Carcinoma	43
Proven Bronchogenic Carcinoma	20
Suspected Sarcoidosis	6
Mediastinal Tumor	3
Carcinoma of Esophagus	—
Systemic Disease With Lung Involvement	3

TABLE III			
AGE AND SEX INCIDENCE			
Age	M	F	
20-29	5	1	
30-39	2	0	
40-49	9	1	
50-59	11	2	
60-69	20	4	
70-79	14	4	
80-89	2	—	
Total	63	12	

#### The Type of Patient in Which a Mediastinoscopy is Useful

*Case No. 1* J. H. a 60 year old male who had a yearly routine chest X-ray was found to have a right hilar mass with a definite change from the previous year. Investigations including bronchial washings, bronchoscopy and mediastinoscopy were negative. Tomography revealed the mass to be close to the hilum but probably in the superior segment of the right lower lobe. In view of a negative mediastinoscopy, a right thoracotomy was performed and a lower and middle lobectomy was done for bronchogenic carcinoma. The mediastinal lymph nodes were not involved. The lymph nodes in the sump area were not involved. The patient recovered from surgery and continues to do well postoperatively.

*Case No. 2* I. P. age 21 — This young male had a routine pre-employment chest x-ray which revealed a rounded mass in the right posterior lung field as well as bilateral hilar adenopathy. He was referred for further investigation of the lung lesion.



A mediastinoscopy was first performed and a right paratracheal lymph node was removed. The pathological report described noncaseating granuloma consistent with sarcoidosis. It was felt that the lesion in the right posterior chest was unrelated and he subsequently underwent a right thoracotomy and removal of a benign Schwannoma. His early post-operative course and clinical course to date has been uncomplicated and he has remained asymptomatic.

*Case No. 3* Mrs. I. D. age 56 — The patient was first admitted to the Victoria General Hospital on March 2, 1971 with a chief complaint of shortness of breath. Since September 1970 she had had recurrent pleural effusions and had repeated pleural taps. Initially she was thought to have had a Meigs syndrome and a laparotomy for an abdominal mass revealed this to be a fibroid of the uterus. She was treated in another hospital and was admitted to the Victoria General Hospital when the fluid on the right side was found to be chylous. Treatment consisted of bilateral closed tube thoracotomy drainage for the pleural effusions. Class four cells suspicious of lymphoma were found in one specimen. Chest X-ray was non-contributory except for bilateral pleural effusions more marked on the right side. Subsequently, she underwent a mediastinoscopy at which time a large paratracheal lymph node was biopsied. The histological report described a Hodgkin's lymphoma of the lymphocytic variety.

She received a course of cobalt treatment to the mediastinal area. Pleural effusions regressed and she was subsequently discharged to return three months later. She was clinically well and there was marked improvement in her chest x-ray. At this time she underwent a laparotomy for staging of Hodgkin's disease and had an uncomplicated stay with no evidence of Hodgkin's disease being found in the spleen, liver, or retroperitoneal lymph nodes.

Pleural biopsy was performed on the right side during this admission and there was no evidence of disease. She continued to do well following her last visit.

## Results

A positive tissue diagnosis was obtained in 33 patients. The results obtained are noted in Table IV. Twenty-five patients had a pathological diagnosis of bronchogenic carcinoma in lymph nodes. In eleven the pathology was of oat cell variety and eight others were of the squamous cell type. Other rare tumors comprised the remainder. In six patients suspected of having sarcoidosis this diagnosis was confirmed. In the lymphoma group both patients had Hodgkin's Disease and one of these interesting cases has been discussed in the case reports. In other reported series, a positive tissue diagnosis is obtained in twenty to forty percent of cases. In this respect, our series compares quite favorably with others. In Jepson's series of 556 cases, 31 percent had a positive diagnosis.<sup>4</sup>

In patients who were subsequently fit for a thoracotomy having previously had a negative mediastinoscopy the resectability rate was 80 percent. If left upper lobe lesions

were excluded then the resectability rate was 90 percent. The reason for this of course is quite obvious as lymphatic drainage from the left upper lobe drains primarily under the aortic arch area and areas which are inaccessible for biopsy by this technique.

TABLE IV

### TISSUE DIAGNOSIS

Bronchogenic Carcinoma	25
Sarcoidosis	6
Lymphoma	2
Total	33

## Complications

In this series there were no major complications. There were two cases of brisk hemorrhage following biopsy; this was dealt with by local packing without any recurrence of bleeding. The pack was used only temporarily. One patient developed respiratory insufficiency postoperatively and required a tracheostomy, but he eventually recovered.

## Discussion

With routine use of mediastinoscopy in evaluation of bronchogenic carcinoma and nonoperative treatment of those patients with a positive biopsy in the superior mediastinum the resectability rate will increase. This has been illustrated in Pearson's Series,<sup>5</sup> whereas, prior to the standard use of mediastinoscopy the resectability rate was in the vicinity of fifty percent, the routine use of mediastinoscopy raised the resectability rate to 92 percent. It is generally agreed that the spread of bronchogenic carcinoma into the superior mediastinal lymph nodes will usually rule out further radical surgical treatment. Mediastinoscopy has been found to be helpful in establishing a tissue diagnosis in sarcoidosis and in assessing some patients with obscure intrathoracic lesions. It is generally contraindicated in mediastinal tumors, as most mediastinal tumors should be dealt with by a direct surgical approach. Although serious complications and death have been reported following the procedure it is generally a safe one with a low morbidity.

## Summary

*The indications, technique and results in 75 patients undergoing mediastinoscopy have been reviewed — A negative mediastinoscopy is considered to be as important as a positive one in further management of the patient with bronchogenic carcinoma. Positive tissue diagnosis was obtained in 44 per cent of the cases. No major complications were encountered.* □

References next page.

References

1. **Carlens, E.:** Mediastinoscopy: Method for Inspection and Tissue Biopsy of the Superior Mediastinum. *36:* 343, 1959; *Diseases of the Chest.*
2. **Daniels, A. C.:** *Method of Biopsy Useful in Diagnosing Certain Intrathoracic Diseases of the Chest,* **16:** 360, 1949.
3. **Foster, Eric D.; Munroe, Daryle D.; Hirsch, Anthony:** Mediastinoscopy. Volume 13, No. 3, March 1972, p.p. 273-286; *Annals of Thoracic Surgery.*
4. **Jebson, O.:** Mediastinoscopy, Copenhagen, Munksgard, 1966.
5. **Pearson, F. G.:** An Evaluation of Mediastinoscopy in the Management of Presumably Operable Bronchial Carcinoma, *Journal of Thoracic Cardiovascular Surgery,* 55-617, 1968.

TAXATION TIDBITS

Where a taxpayer borrows the money with which to make contributions in respect of past services under a superannuation or pension plan or to pay premiums under a registered retirement savings plan, it is considered that the interest on the loan is paid on money borrowed for the purpose of earning income from property and that it is deductible pursuant to Section 11 (1) (c).

**the hub  
of hospitality**

**Hotel Nova Scotian**



Where everybody goes! Meet in the fully-licensed Eager Beaver Lounge for quiet conversation and cool refreshment. Have a quick delightful meal at the Chowder Bowl — spacious, air-conditioned, open from morning to evening. At dinnertime, come to the elegant L'Evangeline Room. There's smiling service as well as a wide choice of excellent foods. Then, Sunday evening, dine with your family at the delicious family buffet in the beautiful Commonwealth Room. The kiddies will love it. You'll love it. Have fun at Hotel Nova Scotian, Halifax, N. S.

# CAMERALAND

DIVISION OF WAMBOLDT-WATERFIELD PHOTO LTD.  
2856 Gottingen St.  
Halifax, N.S.  
(opposite Stadacona)  
423-7532 (area code 902)

Complete line of photographic supplies for both amateur and professional users

- Nikon
    - Minolta
    - Pentax
      - Mamiya
      - Yashica
        - Graflex
        - Hasselblad
- Professionals to Guarantee  
Selection • Services • Satisfaction

The gentle reminder "You've done enough, enjoy your rest," didn't set well with the active old Victoria Co., C.B. woman who went to live with a daughter in Halifax. Nor did the modern family ritual of a yearly medical checkup appeal to this woman who had weathered 79 years by doctoring herself with home remedies. But she returned from her checkup in good spirits, handing her daughter a prescription slip on which the doctor had written: "Let your mother have a garden."

— from Health Rays

INSURANCE PROGRAM

- \*Term Life Insurance
- \*Long-term Disability Insurance
- \*Professional Business Expense Disability Insurance
- \*Accidental Death and Dismemberment Insurance

For information concerning these plans please call or write to:

Murray G. Bulger and Associates Limited  
Group Insurance Consultants and Actuaries  
6009 Quinpool Road (Gulf Building)  
Halifax, Nova Scotia  
Phone: (902) 425-3741

# Hepatitis - Associated Antigen

H. M. MacSween, M.D.\*

Halifax, N.S.

In 1963, Blumberg and his co-workers were studying human serum lipoprotein allotypes with gel diffusion techniques when they noted that the sera of two hemophilic patients who had received numerous transfusions, formed a precipitin line when tested against serum from an Australian aborigine. The factor in the aboriginal serum was not the usual lipoprotein they had been detecting and was tentatively called "Australia antigen". Pursuing this chance observation, Blumberg found the antigen in a varying percentage of apparently healthy subjects from oceanic, Oriental and Mediterranean populations but in none of seven hundred healthy Americans; thus initial attention was focussed on the antigen as a marker in studies of population genetics. Blumberg also noted a relatively high incidence of Australia antigen in leukemic patients and also in patients with Down's syndrome or mongolism. Since both diseases are associated with chromosomal abnormalities, there was initially a great deal of interest on a possible relationship of Australia antigen to leukemia.

In 1967, a major discovery was made again by Blumberg and his co-workers when they recognized the close association of Australia antigen with viral hepatitis. In 1968 another major advance was provided by Bayer and his co-workers in the isolation of virus-like particles from Australia antigen positive sera. Confirmation of these discoveries were soon obtained from all over the world. In 1968 and in 1969 Okochi from Japan and Gocke and Kavey from the United States, reported a high incidence of hepatitis following transfusion of antigen positive blood.

Subsequent to these earlier important findings numerous articles and editorials have appeared in the immunologic, virologic, pathologic, hematologic and clinical literature. I will attempt to present the pertinent observations and concepts, with current modification.

Before proceeding it is worth noting with reference to terminology, that the Australia or Au<sup>1</sup> antigen of Blumberg, the SH antigen of Prince, the hepatitis antigen of Gocke and Kavey and the MS-2 antigen of Krugmen are in all likelihood identical. Participants at a 1969 conference suggested the terms, hepatitis associated antigen or HAA. The latter has found increasing favour in the literature and will be used in the present paper.

It should also be noted that HAA positive hepatitis is synonymous with serum hepatitis and HAA negative hepatitis, with infectious hepatitis.

## The Nature of Hepatitis Associated Antigen

In 1966 Alter and Blumberg found that HAA was a

macro-molecule which travelled as an alpha globulin in gel electrophoresis, appeared to contain a small amount of lipid on the basis of a weak reaction with Sudan black, and differed from other lipoproteins in its immunoreactions and density. The antigen at that time was considered to possibly be an altered, partially delipidized lipoprotein until precipitates of HAA formed with specific antiserum revealed, under electron microscopy, their virus-like nature.

Bayer and his co-workers were the first to allude to the particulate nature of HAA found in HAA positive sera. Three specific types of HAA particles can be identified. Figure 1 is an electron micrograph demonstrating the smaller rather homogenous particles with an average model diameter of 200 Å, elongated tubular forms measuring up to 2,300 Å in length and of particular note, the larger spherical particles with the dense central cores. Antisera to HAA will agglutinate all three types of particles in HAA positive sera. Dane suggested that these larger particles with the central core are the virion of serum hepatitis and that the rest of the HAA particles (the smaller spherical forms and the elongated tubular forms) represent excess virus coat material not incorporated into intact virus. This view receives support from findings of Almeida and co-workers who had previously described similar particles in liver homogenates from fatal cases of hepatitis. Others found similar particles in the phagosomes of the cytoplasm of liver cells. Other workers showed that these Dane particles bore a close resemblance to rhinoviruses. Conceivably, the virus of serum hepatitis is an enveloped virus (rather like the herpes virus) the inner capsid being assembled in the nucleus and an outer envelope added in the cytoplasm to form the Dane particle, which is virion.

Several reports analyzing *HAA surface antigens* have so far revealed one specificity "A" common to all HAA positive sera and three additional determinants D, X and Y which are not shared by all particles. HAA positive sera have therefore been divided into three subgroups according to the possession of D, Y or neither.

The inner core of the Dane particle was identified recently by Almeida as *another distinct antigen*. It was agglutinated by convalescent serum from patients who had had serum or HAA positive hepatitis but not by their acute sera. Moreover the internal components were clearly agglutinated by sera that failed to agglutinate HAA. However a preparation of anti-HAA from a patient with hemophilia, contained antibodies both to the HAA and to the inner component. The suggestion from these findings is that the antibodies to the inner component may be of value in diagnosis, since in this small series, they were present after infection, when anti-HAA had disappeared.

\*3rd Year Medical Resident, Department of Medicine, Dalhousie University.

The HAA particles are very stable. Morphological characteristics of HAA and its antigenicity by immunodiffusion and complement fixation remain unchanged after heating at 60° Centigrade for one hour, after storage at room temperature for at least six months or at -20° Centigrade for more than 20 years. This observation on the physical and chemical stability of HAA are consistent with the known stability of the infectious agent of hepatitis, for contaminated plasma transmits the disease after similar treatment with heat or solvents and after similar periods of storage.

By titrating infectious plasma in experimental subjects, Murray estimated the concentration of *infectious particles* in serum from patients with serum hepatitis in the acute phase to be  $10^6$  per ml. The concentration of HAA particles counted by electron microscopy in similar acute phase serum is usually greater than  $10^{10}$  per ml. In view of this disparity it seems likely that the material identified as HAA is chiefly non-infectious empty virus coat.

There is strong evidence for the association of HAA with a virus. Firstly, there is a high incidence of HAA in acute viral hepatitis. Secondly, there is an increased incidence of HAA in chronic hepatitis. It has long been considered reasonable that viral infections were responsible for some cases of chronic hepatitis. Thirdly, there is evidence of the *virus like particulate* nature of HAA in HAA positive sera as demonstrated Figure 1, and fourthly, fluorescence of liver cells when stained with fluorescein-conjugated anti-HAA. All 26 patients in a study by Coyne who had HAA in their serum had specific fluorescence in their liver cells. Nuclear fluorescence appeared in three forms: 1) discrete fluorescent particles within the nucleus. 2) diffuse fluorescence of the entire nucleus and 3) fluorescence of the nuclear rim. Cytoplasmic fluorescence was also clearly demonstrated. The conclusion was that the presence of these fluorescent particles in the liver cells is strongly associated with the presence of HAA in the serum and the diagnosis of HAA positive hepatitis. Similarly in electron microscopic studies by Huang on liver tissues from six renal transplant recipients who developed HAA positive hepatitis, the characteristic virus-like particles similar to those seen in the serum were seen in massive numbers in the nucleus and occasionally in the cytoplasm of liver cells. The finding of such virus-like particles is believed to be diagnostic for HAA positive hepatitis. Fifthly, there is strong evidence of man to man transmission of hepatitis by HAA positive blood. Sixthly, HAA has been successfully transmitted to non-human primates. Following inoculation of purified HAA into two new born vervets that did not have the antigen in their blood before inoculation, HAA not only appeared in the serum but increased in amount. This suggested that the animals were infected with the agent and that HAA reproduced within them. Finally, epidemiological observations can be interpreted as showing that HAA acts as an infectious agent. HAA is very common in patients with

Down's syndrome maintained in large institutions but significantly less common in patients in small institutions and absent in all those residing at home. This would be so if HAA were an infectious agent more readily disseminated in large institutions where contagious spread is more likely to occur and where good sanitary conditions are difficult to maintain. In smaller institutions and in home residents the spread of infection is less likely. Also there are large numbers of observations on the distribution of HAA in various populations. In general, it occurs relatively often in many areas of the tropics and in South East Asia, particularly in locations where sanitation is poor and under conditions which are compatible with the easy spread of infectious agents by the fecal-oral route.



FIGURE 1

The two most telling arguments against HAA being a virus or located on a virus are that it has not been propagated by tissue culture and that ribonucleic acid has not been detected in the antigen. However, Jozwiak recently detected small amounts of RNA in HAA and Hirschman found RNA-dependent DNA polymerase in concentrated preparations of the antigen. These important observations presently await confirmation.

The relation of HAA particles to the infective agent itself, is still unresolved but present evidence suggests that they are fragments of viral lipoprotein envelope — similar in structure and antigenicity to the outer shell of the rare larger Dane particles seen in certain HAA positive sera, which may themselves represent the actual viruses.

#### HAA DETECTION METHODS

There are five major techniques for detecting HAA in serum — the Ouchterlony gel diffusion, complement fixation, counterelectrophoresis, radioimmunoassay and hemagglutination. Most figures quoted in the literature with reference to the incidences of HAA are derived from studies with the insensitive gel diffusion technique. Recently, the U.S. National Academy of Scientists — National Research Council had published a statement on the use of HAA tests

**Amended By-Laws**  
**of**  
**The Medical Society of Nova Scotia**  
**1972**



# CONSTITUTION OF THE MEDICAL SOCIETY OF NOVA SCOTIA

(Chapter 69 of the Acts of 1861 as amended by Chapter 115 of the Acts of 1962)

Be it enacted by the Governor, Council and Assembly, as follows:

1. Rufus S. Black, M.D., James C. Hume, M.D., Edward Jennings, M.D., Daniel McNeil Parker, M.D., William B. Webster, M.D., and such other persons as now are or hereafter may become members of the Society hereby established, their successors and assigns, are created a body corporate by the name of "The Medical Society of Nova Scotia".

2. All By-Laws and Rules of the Society already made or

hereafter to be made shall be valid and binding upon the members of the Society, provided the same are not repugnant to this Act or to the Laws of this Province and provided the same shall have been confirmed by an order of the Governor in Council and filed in the Provincial Secretary's office.

3. The Company may purchase, take, hold, mortgage and sell real estate.

## BY-LAWS of THE MEDICAL SOCIETY OF NOVA SCOTIA

### CHAPTER I TITLE

This society shall be known as The Medical Society of Nova Scotia which is the Nova Scotia Division of the Canadian Medical Association, hereinafter referred to as "the Society" in these By-Laws.

### CHAPTER II OBJECTS

1. The promotion of health and the prevention of disease.
2. The improvement of medical services however rendered.
3. The maintenance of the integrity and honour of the medical profession.
4. The performance of such other lawful things as are incidental or conducive to the welfare of the public and of the medical and allied professions.
5. The promotion of harmony and unity of purpose between the medical profession and the various bodies assuming economic responsibility for the care of sick or injured persons.
6. Collective negotiations.
7. That no Physician be denied membership in the Society on the basis of race, religion, or place of origin.

### CHAPTER III ETHICS

The Code of Ethics of the Society shall be the most recently revised Code of Ethics of The Canadian Medical Association.

### CHAPTER IV BRANCH SOCIETIES

#### Article 1. *Designation and Privileges.*

- (a) The designation "Branch" shall mean and include an organized Medical Society representing the legally qualified practitioners of medicine as designated in Chapter IV, Article 4(a). Each branch so recognized shall have control within its jurisdiction and have such other privileges as are herein set forth.

- (b) All members in good standing in such Branch Societies are eligible for membership in the Society provided that they are vouched for by the Branch Society concerned. Eligibility for election to office in a Branch Society shall include membership in the Medical Society of Nova Scotia.
- (c) Each Branch shall be entitled to nominate for the Executive Committee of the Society the number of members to which it may be entitled under Chapter XII of these By-Laws and shall enjoy such other privileges as are herein provided or which may hereafter be provided.

#### Article 2. *Duties and Responsibilities*

- (a) Each Branch must agree to assume the duties and responsibilities of this affiliation which are or which may from time to time be provided by these By-Laws.
- (b) Each Branch shall provide and submit to the Secretary of the Society on or before December 1st in each year, a list of its members in good standing at that date and, before May 31st following, the name or names of its nominee or nominees to the Executive Committee and to Council together with the names of the alternate or alternates as may be required for the following year, and as soon as possible thereafter shall forward any changes or correctives which may have become necessary by change of circumstances.
- (c) The Society shall have no control over nor any claim against the assets of any Branch nor shall the Society be in any manner or degree liable or responsible for the liabilities of any Branch.

#### Article 3. *New Branches.*

- (a) Any organized Medical Society may, with the authority of the Executive Committee, become recognized as a Branch on an interim basis until the next Annual Meeting of the Society at which time the affiliation shall be confirmed or the interim recognition be voided, provided always that no such Society shall be admitted to provincial affiliation if it is within the territorial limit of an existing Branch, unless and until

written permission of such Branch shall have been received by the Executive Committee of the Society, or unless the group applying for such affiliation has not for geographical reasons been actively associated with the existing Branch.

- (b) Branches approved by the Society shall receive a Certificate of recognition as a Branch Society.

**Article 4. Existing Branches.**

- (a) Branches recognized as of the date of the adoption of these By-Laws are:
  - (i) Western Counties Medical Society (said to include the county of Yarmouth and Clare District of Digby County)
  - (ii) Lunenburg-Queens Medical Society (said to include the Counties of Lunenburg and Queens)
  - (iii) Halifax Medical Society (said to include the City of Halifax, and the County of Halifax)
  - (iv) Valley Medical Society (said to include West Hants, Kings and Annapolis Counties)
  - (v) Cumberland Medical Society (said to include the County of Cumberland)
  - (vi) Colchester-East Hants Medical Society (said to include East Hants and the County of Colchester)
  - (vii) Pictou County Medical Society (said to include the County of Pictou)
  - (viii) Antigonish-Guysborough Medical Society (said to include the Counties of Antigonish and Guysborough)
  - (ix) Cape Breton Medical Society (said to include the Island of Cape Breton or those Counties from which the Branch draws its membership)
  - (x) Inverness-Victoria Medical Society (said to include Counties of Inverness and Victoria)
  - (xi) Eastern Shore Medical Society (said to include the area commonly known as the "Eastern Shore")
  - (xii) Shelburne Medical Society
  - (xiii) Dartmouth Medical Society
- (b) Nothing contained in this Section shall be construed as denying to any qualified physician the right to apply for membership in any organized Branch of this Society, nor the right of any such Branch to elect him to membership or to reject him for membership if unqualified, nor does anything herein contained prevent a physician from applying to the Executive Committee for membership in the Society if geographical considerations make membership in a Branch impracticable.

**CHAPTER V  
SECTIONS**

**Article 1. Recognition.**

Any group of members of the Society who are primarily interested in any particular aspect of the science and/or practice of medicine may be recognized as a Section of the Society by making formal application, providing such application is endorsed by the Executive Committee of the Society.

**Article 2. Application.**

Such formal application for recognition of a Section shall be sponsored by not less than ten members of the Society and the application, together with such information as may be required, shall be presented to the Executive Committee not less than three months before the Annual Meeting.

**Article 3. Membership in Section.**

- (a) Members of the Section shall be members of the Society.
- (b) The members making application shall, after the approval of the application by the Executive Committee, be known as members of the Section.
- (c) At any later date, others may be listed as members of the Section, according to the regulations presented by the Section and approved by the Executive Committee of the Society.

**Article 4. Responsibilities and Privileges.**

- (a) The affairs of the Section shall be governed by the rules and regulations prepared by the Section and approved by the Executive Committee of the Society.
- (b) At the Annual Meeting the Section shall assume the responsibility of any portion of the programme, relating to its specialty, which may be assigned to it by the Executive Committee of the Society.
- (c) The Section may, through its Officers, make recommendation relative to its interests to the Executive Committee of the Society for consideration, but shall have the approval of the said Executive Committee before any action is taken.
- (d) The Section may appoint such Committees as it deems necessary to cover the work of the Section. Such Committee reports shall be dealt with by the Section prior to their transmission to the Executive Committee of the Society for consideration.
- (e) It shall act in co-operation with the committee on programme and any other committee under the direction of the Executive Committee of the Society.
- (f) The Section may be called upon to name representatives to Standing Committees of the Society.
- (g) It shall be the duty of a Section to deal with matters referred to it by the Annual Meeting or the Executive Committee of the Society.

**Article 5. Officers and Executive Committee of a Section.**

- (a) Members of the Section shall select by annual vote a chairman, vice chairman, secretary-treasurer or a secretary and a treasurer and such other officers as may be deemed by the Section as necessary.
- (b) The Executive Committee of the Section shall consist of the officers outlined in Article 5 (a) plus the immediate past chairman and at least two members-at-large from the Section.
- (c) The Secretary of the Section shall keep a correct record of the transactions of the Section and shall transmit it to the office of the Society for insertion in the minute book provided for the purpose.
- (d) The Executive Committee of the Section shall:
  - (i) Conduct the affairs of the Section between meetings;
  - (ii) Study and act upon applications for membership which are subject to confirmation by the annual meeting of the Section;
  - (iii) Appoint a Nominating Committee from the membership-at-large at least a month before the Annual Meeting of the Section;In addition to nominations for officers and the Executive Committee of the Section, it shall nominate two auditors from the membership. It may also nominate one or more members emeriti.

**Article 6. Meetings of Sections.**

- (a) In addition to the Annual and Regular Meetings, special meetings may be called by the chairman on behalf of the Executive, or at any time following the written request of any five members of the Section.
- (b) The Secretary shall notify all members in writing not

less than seven days in advance of all meetings.

- (c) With the approval of the Executive Committee of the Society the annual meeting of each Section may be held as part of the Annual Meeting of The Medical Society of Nova Scotia.

**Article 7. Quorum.**

A quorum for a general meeting shall be constituted by five members; for an Executive Committee meeting by four members.

**Article 8. Amendments.**

Amendments to the Rules and Regulations of a Section must be approved by the Executive Committee of the Society.

**Article 9. Dissolution of Section.**

A Section may be dissolved by resolution of the Annual Meeting on report from the Executive Committee of the Society, indicating lack of interest in a Section or on other sufficient cause and the Section so dissolved shall not be revived except upon a new application for recognition.

**CHAPTER VI  
MEMBERSHIP AND DISCIPLINE**

The Society shall be composed of ordinary members, senior members, honorary members, special members, and student members.

**Article 1. Ordinary Members.**

- (a) Every member in good standing in a Branch shall automatically be an ordinary member of the Society on payment of the annual fee as levied by the Society and entitled to vote and to have all the rights of the Society.
- (b) Members at large:
- (i) Regularly qualified practitioners of medicine who reside in a district in which no Branch exists;
  - (ii) Regularly qualified practitioners of medicine who reside in a district may elect to join the Society for a period not exceeding one year without joining a Branch, but in the second year must join a Branch or lose the privilege of belonging to the Society. These members shall not have the right to vote or hold office. These members shall be subject to payment of the annual fee as levied by the Society. Such a practitioner shall be sponsored by a member in good standing of the Society who shall forward the practitioner's name to the Secretary for consideration by the Executive Committee;
  - (iii) All applications for membership at large shall be endorsed by two members in good standing of the Society.
- (c) All applications for membership shall be accompanied by the annual fee of the Society. In the event of rejection by the Executive Committee or the Committee on Credentials and Ethics this fee shall be returned to the applicant.

**Article 2. Senior Members.**

Any member of the Society in good standing for the immediately preceding ten year period and who has attained the age of seventy years is eligible to be nominated for Senior Membership by an ordinary member or by any Branch of the Society. He may be elected only by unanimous approval of the members of the Executive Committee in session present and voting. Not more than two may be elected in any one year. Senior Members shall enjoy all the rights and privileges of the Society but shall not be required to pay any fee. Senior Membership so approved shall be conferred by the President of the Society at the time of the Annual Meeting or at any Special Meeting, subject always to the rules affecting Special Meetings.

**Article 3. Honorary Members.**

Honorary members shall be members of the profession, or others, who have distinguished themselves by their attainments in medical or allied sciences or who have rendered signal service to this Society. Recommendations for election to Honorary Membership shall come solely from the Executive Committee.

**Article 4. Special Members.**

It shall be the prerogative and the privilege of the Executive Committee or its Chairman, or of the President of the Society acting on its behalf, to receive on invitation as members, medical doctors or distinguished scientists non-resident in Nova Scotia, and non-medical teachers of ancillary sciences in our medical schools, who may or may not be residents of Nova Scotia, and to accord to them full privileges of membership in the Society. They shall hold their connection until the close of the meeting at which they are introduced and may participate in all the affairs of the meeting except voting.

**Article 5. Medical Student Members.**

All medical students and interns enrolled in the Faculty of Medicine, Dalhousie University may be accepted as medical student members on application to the Medical Society. Medical students may enjoy the rights and privileges of the Medical Society but may not hold office or vote except as set out in Chapters IX and XII. Medical student members shall pay such annual dues as are levied by the Executive Committee. They may become members of the Canadian Medical Association.

**Article 6. Discipline of Members.**

- (a) Any member whose annual fee is not paid within the first six months of the membership year, may without prejudice to his liability to the Society, be suspended from all privileges of membership.
- (b) Where, after due enquiry, a member of the Society is found by the Discipline Committee to be guilty of unprofessional conduct or of conduct unbecoming a member of the medical profession, the Executive Committee and only the Executive Committee may resolve to reprimand in such manner as the Executive Committee sees fit, suspend or expel the offending member from membership in the Society.
- (c) Should any member of the Society be convicted of any criminal offence, or have his name removed from the Register of the Medical Council of Canada, or the licensing body of any Province of Canada because of felonious or criminal act or disgraceful conduct in any professional respect, the Executive Committee may resolve to suspend or expel such person from membership in the Society.
- (d) Any member suspended or expelled by resolution as aforesaid, shall thereby forfeit all his rights and privileges as a member of the Society.
- (e) Any member suspended or expelled by resolution as aforesaid shall, subject to conditions imposed by the Executive Committee, be restored to membership upon resolution of the Executive Committee.
- (f) By accepting membership in this Society, under the By-Laws and Code of Ethics of the Society every member attorns to these By-Laws and agrees to such rights of discipline as aforesaid and thereby specifically waives any right or claims to damages in the event of his being so disciplined.
- (g) No member shall take part in the proceedings of the Society or attend any part of the meeting until he has properly registered. Only members and specifically invited guests are eligible to register and to attend an Annual Meeting.

**Article 7. Resignation from Membership.**

Membership in the Society shall automatically cease only on suspension, expulsion, non-payment of dues for more than one year or death. Resignation may be effective by giving notice to the Executive Secretary of the Society not less than one month before the beginning of the calendar year.



CHAPTER VII  
GUESTS AND VISITORS

**Article 1. Visitors from outside the Society.**

Medical practitioners and men of science residing beyond the boundaries of this Society may attend the Annual Meeting as guests of the President or of the Executive or as visitors when vouched for by the Executive Secretary of the Society. They shall register with the Executive Secretary without payment of fee and after proper introduction shall be allowed to participate in discussion.

**Article 2. Medical students attending Meetings.**

Any hospital interne or medical student when properly vouched for may be admitted as a guest to the scientific meetings but shall not take part in any of the proceedings unless invited by the Committee on Programme to present a communication.

CHAPTER VIII  
MEETINGS

**Article 1. Time and place of Meetings.**

- (a) The time and place of meetings shall be decided by the Executive Committee and shall be announced as early as possible.
- (b) When the Canadian Medical Association meets in any of the Atlantic Provinces the Society meeting for that year shall be for business purposes only.
- (c) In years in which the Canadian Medical Association does not hold its Annual Meeting in the Atlantic Provinces the Annual Meeting of the Society may consist of Meeting of Council, Business Sessions, General and Sectional Sessions and any other sessions which may be decided upon by the Executive Committee.
- (d) All arrangements for meetings shall be the responsibility of the Executive Committee, which assumes all control of the proceedings of such meetings, and no expenditure may be undertaken nor cost assumed by any person or group in the name of or on behalf of the Society without the same having been duly authorized by resolution of the Executive Committee.
- (e) Nothing in this section shall in any way conflict with the expenditure for hospitality purposes of funds raised by a local committee, in its own name, specifically for such purposes as hospitality or entertainment.

**Article 2. Presiding Officers.**

The President shall preside at all general, scientific, business and social meetings of the Society. In his absence, the President-elect shall be the presiding officer.

**Article 3. Quorum.**

Twenty-five members shall constitute a quorum at all meetings of the Society or of the Council. Seven members shall constitute a quorum at meetings of the Executive Committee of the Society.

**Article 4. Rules of order.**

The rules which govern the proceedings of the House of Commons of Canada shall be the guide for conducting all meetings of the Society.

CHAPTER IX  
COUNCIL

**Article 1. Duties and Powers of Council.**

The Council shall be the governing body of the Society with its action subject to the final approval of the Society at its Annual Meeting. It shall report to the membership at the Annual Meeting of the Society and, as warranted, through the pages of the Nova Scotia Medical Bulletin.

**Article 2. Composition of Council.**

- (a) Council shall be restricted to members in good standing of the Society and, if eligible by such membership, they shall be:
  - (i) The members of the Executive Committee;
  - (ii) The Chairman of all Standing and Special Committees;
  - (iii) All living Past-presidents preceding the immediate Past-president;
  - (iv) The Chairman of each Section;
  - (v) The representative of the Society to any paramedical or voluntary association;
  - (vi) The members of the Nominating Committee;
  - (vii) The representative and his designated alternate to the Executive Committee of the Canadian Medical Association;
  - (viii) The representatives of the Society to the General Council of the Canadian Medical Association;
  - (ix) The Deputy Minister of Public Health.
  - (x) The President and Medical Director of the Maritime Medical Care, or his Associate;
  - (xi) The President and Secretary of each Branch Society;
  - (xii) The President and the Registrar of the Provincial Medical Board;
  - (xiii) To increase General Practitioner representation on Council that there be:
    - 3 General Practitioners from the Halifax Medical Society;
    - 2 General Practitioners from the Cape Breton Medical Society;
    - 1 General Practitioner from each of the other Branch Societies;
  - (xiv) The immediate Past Chairman of the Executive Committee;
  - (xv) Dean of Medicine;
  - (xvi) Nova Scotia Division Representative to each of the five C.M.A. Councils;
  - (xvii) One student member from each of the five medical student classes who is not a member of Council for any other reason.
  - (xviii) Chairman of C.M.A. Council when they are ordinary members of the Medical Society of Nova Scotia.
  - (xix) Chairman of the Provincial Health Council if a regular member of the Medical Society of Nova Scotia.
  - (xx) Dalhousie University Vice-President for Health Sciences if a regular member of the Medical Society of Nova Scotia.

(b) (i), (ii), (iv), (v), (vi), (xi), (xiii), (xv), (xvii), (xix) may have alternates appointed by the body he represents.

(c) (iii), (vii), (viii), (ix), (x), (xii), (xiv), (xvi), (xviii), (xx) shall not have alternates.

(d) Terms of Office:

The members of Council, as stated in Article 2 (a), shall continue as members until their successors have been named by their respective governing bodies. The members of the first Council hereby constituted shall hold office from the date these By-Laws are confirmed by any order of the Governor in Council and filed in the Provincial Secretary's Office.

**Article 3. Meetings of Council.**

- (a) The Council shall convene on the first day of the Annual Meeting of the Society. Immediately following each Session of Council at the Annual Meeting it shall meet with and report to a plenary session of the Annual Meeting of the Society.
- (b) A special meeting of the Council for a specific purpose shall be called by the Executive Committee if requested to do so by a petition signed by at least 25 members of the Society in good standing no more than 20 of whom are members of the same Branch.

Notice of a special meeting of Council stating its purpose should be sent in writing to all members of the Society at least ten days prior to such special meeting and

any member who is not a representative to Council may attend and be heard at such meeting.

- (c) Attendance. Only duly qualified members of Council shall be entitled to vote at its meetings. Any member of the Society in good standing may and speak at any Council Meeting. Guests also may be invited by the President to attend and to speak.

Members of Council shall be identified by a roll call at the beginning of any meeting of Council and attendance of members shall be duly recorded in the minutes.

Members of Council shall be provided with special badges at the time of registration at the Annual Meeting and shall be required to wear such badges at meetings of Council for the benefit of the Presiding Officer in order that he may determine those permitted to take part in the proceedings.

- (d) Presiding Officer. The Chairman at all meetings of Council shall be the Chairman of the Executive Committee. In his absence, the Vice-Chairman shall preside.

#### Article 4. Reports.

The proceedings of Annual or Special Meetings of Council shall be reported in the Bulletin but not in Hansard form.

### CHAPTER X OFFICERS AND OFFICIALS

#### Article 1. *The Officers and Officials of the Society shall be*

- (a) The elective Officers who shall be the:  
President  
President-elect  
Chairman of the Executive Committee  
Vice-Chairman of the Executive Committee  
Immediate Past President  
Honorary Treasurer  
Honorary Secretary, if office is required to be filled.
- (b) The appointive Officials who may be:  
Editor-in-Chief of the Bulletin  
Executive Secretary  
Others who may be appointed by the Executive Committee.
- (c) Eligibility for election to office in The Medical Society of Nova Scotia shall include Membership in the Canadian Medical Association.

No full time appointive official shall have a vote by virtue of his appointment at any meetings of the Society or of its Committees. This shall not prevent such an official from exercising his right to vote as a paid up member of the Society.

### CHAPTER XI DUTIES OF ELECTIVE OFFICERS AND APPOINTIVE OFFICIALS

#### Article 1. *Duties of the President*

The President shall be concerned with the broad principles of the Society and shall perform such duties as custom and parliamentary usage requires. He shall preside at all general sessions of the Society and at the scientific sessions and social functions of the Society, and represent the Society at outside functions. He shall present an address to the annual meeting of the Society. He shall be a member ex-officio of all Committees of the Society. In his absence, the President-elect shall preside in his place, followed by the past-president, chairman and vice-chairman of the Executive Committee in that order.

#### Article 2. *Duties of the President-Elect.*

The President-elect shall be installed and shall assume the office of President at the time of the Annual Meeting next following that at which he was elected. He shall be a member ex-officio of all Committees of the Society excepting the Nominating Committee. In the event that the office of the President shall become vacant during the term of office of the said President-elect he shall serve also as Acting President and in that capacity shall assume all the powers

and duties of the President during the unfinished portion of that presidential term. He may be called upon by either the President or by the Executive Committee to substitute for the President in any presidential duty.

#### Article 3. *Duties of the Immediate Past-President.*

He shall be ex-officio a member of the Executive Committee for the year immediately succeeding the termination of his Presidency.

#### Article 4. *Duties of the Chairman of the Executive Committee.*

- (a) The Chairman of the Executive Committee, who shall be nominated from the members in good standing in the Society and in the Canadian Medical Association, shall be elected annually. He shall not serve for more than a maximum tenure of three consecutive years. After one year's absence from office, he shall again become eligible for re-election as Chairman of the Executive.
- (b) He shall conduct the meetings of the Executive Committee and shall present the reports of the Executive Committee to the Council in its various meetings and, in particular, at the first business session of the Annual Meeting. He shall preside over all meetings of Council. He shall assist the President in facilitating the business of the Society and especially in facilitating the business of the Annual Meeting. He shall be a member ex-officio of all committees.

#### Article 5. *Duties of the Vice-Chairman of the Executive Committee.*

- (a) The Vice-Chairman of the Executive Committee shall be nominated by the Nominating Committee and shall be elected for one year only. After a one year absence from this office, he may be re-elected to this position and also may be elected to the office of Chairman at any time.
- (b) He shall be a member of the Executive Committee and a member ex-officio of all committees of the Society except the Nominating Committee. In the absence of the Chairman of the Executive Committee he shall assume all duties pertaining to the office of chairman.

#### Article 6. *Duties of the Honorary Treasurer.*

- (a) The Honorary Treasurer shall be the custodian of all moneys, securities, and deeds which are the property of the Society. He shall pay by cheque only; such cheques shall be signed by two persons authorized by the Executive Committee. All such cheques are to be covered by voucher. He shall provide an annual financial statement, audited by a chartered accountant. He shall furnish a suitable bond for the faithful discharge of his duties; the cost of such bond to be borne by the Society. He shall be responsible for the annual review of all salaries of the secretariat and bring recommendations to the Executive Committee.
- (b) He shall, with the approval of the Executive Committee, appoint three advisers to form a Finance Committee, which Committee shall also act as a Budget Committee. He shall, at every Annual Meeting, or oftener if required by the President, present his accounts with the vouchers duly audited and signed by the auditors. At the end of his term of office he shall hand his accounts to his successor or the President of the Society, together with the money, books, and other property belonging to the Society.

#### Article 7. *Duties of the Executive Secretary.*

The Executive Secretary shall be appointed by the Executive Committee of which body he shall also be the Secretary. He shall be a member ex-officio of all Committees of the Division except during the discussion in Executive Committee of matters related to

staffing. He shall give notice of the time and place of all annual and special general meetings by publishing same in the official Journal of the Society or, if directed by the Executive Committee, by notice to each member. He shall keep in separate books the Minutes of the Annual and Special Meetings of the Society, the Council and Executive Committee and shall notify the officers and members of Council, Committees and others of their appointments or nominations and of their duties in connection therewith. He shall be responsible to the Executive Committee for the advertising and other accounts of the Bulletin and shall collaborate with the Editor in the production of that Journal. He shall publish the official programme for each meeting and shall perform such other duties as may be required of him by the President or by the Executive Committee. His legitimate travelling expenses shall be paid for him out of the funds of the Society and he shall receive for his services a salary to be determined by the Executive Committee.

**Article 8. Duties of the Honorary Secretary.**

Should it be decided by the Executive Committee that this office is to be filled, it shall so inform the Nominating Committee. It shall then designate the duties and privileges for that office.

**Article 9. The Official Journals.**

- (a) The official Journals of the Society are "The Bulletin" of the Society and "The Canadian Medical Association Journal". The "Bulletin" shall be published under the direction of a Board of Editors, which Board is recognized hereby and the Chairman of such Board as Editor-in-Chief for purposes of this Chapter be the Editor.
- (b) The Editor shall be appointed by the Executive Committee. He shall be responsible to the Executive for the regular production of "The Bulletin", and, to the usual degree, for its scientific and literary standards of quality. Having regard to the general policy of the Society he shall publish such information and editorial comment as the time and circumstances may require and as may be in the interest of Canadian Medicine in general and of the Society in particular.
- (c) He shall be expected to attend the meetings of the Executive Committee and of the Society and to perform such duties as may reasonably be expected of his office and as may reasonably be required by the Society or by its Executive Committee. He may receive such honorarium as may be determined by the Executive Committee.

**CHAPTER XII  
COMMITTEES**

**Article 1. The Committees of the Society shall be:**

- Statutory Committees
- Standing Committees
- Special Committees

**Article 2. Appointment of Statutory Committees.**

- Statutory Committees shall be:
- The Nominating Committee
- The Executive Committee

The Nominating Committee and the Executive Committee shall be elected at the Annual Meeting of the Society.

**Article 3. The Nominating Committee.**

- (a) Appointment of a Nominating Committee:
  - (i) The Society shall at its Annual Meeting elect from among its members present a Nominating Committee for the ensuing year which shall consist of eleven members not including the President of the Society who, if present, shall be the chairman thereof;
  - (ii) Each Branch in the Society is entitled to appoint from among its members who are in good standing in the Society one member to

the Nominating committee and/or an alternate. Provided that this nomination be made in writing to the Executive Secretary prior to the date of the Annual Meeting, and provided that the person so nominated be present at the Annual Meeting, he shall be declared elected to membership on the Nominating Committee;

- (iii) Upon completion of the election of Branch representation as herein provided, any vacancies which remain shall be filled by nomination from the floor without necessarily having further regard to Branch representation. Election shall be by majority vote on a single ballot and the presiding officer shall if necessary give the casting vote.

(b) Duties and Powers of the Nominating Committee:

- (i) The Nominating Committee shall not present its report until the Annual Meeting following its election. In the meantime its members shall serve as members of Council;

- (ii) At the next Annual Meeting following its appointment, it shall present:

- (a) A slate of officers as follows:
  - A President
  - A President-elect
  - An immediate Past President
  - A Chairman of the Executive Committee
  - A Vice-Chairman of the Executive Committee
  - An Honorary Treasurer
  - An Honorary Secretary (if so desired)

- (b) Nomination of an Executive Committee which in addition to the elective officers named in Chapter X, Article 1 (a) hereof shall consist of the elected representatives of the Branch Societies to be determined in the following manner. At its session the Nominating Committee may receive in writing:

- (1) Each Branch's official nomination of the candidate or candidates for representation on the Executive Committee in the following manner: — From each Branch having fifty members or less in good standing in the Society, one member, and for each fifty over the first or fraction thereof one additional member provided that no Branch shall have the right to nominate more than three members;
- (2) Each Branch's official nomination or nominations of the alternate or alternates who will act in the absence by reason of death or illness or from cause acceptable to the Chairman of the Executive Committee of the member or one of the members of the Executive Committee nominated by the Branch. In the event of an official nomination by a Branch being rejected by the Nominating Committee the reasons for such action shall be incorporated in its report to the Annual Meeting.

(iii) Rules of procedure in Nominating Committee:

- (a) The Nominating Committee shall be called to order by the President as Chairman of the Committee. In the absence of the President, the Executive

Secretary shall convene the Committee and request the Committee to select a Chairman by open vote. The Committee shall then proceed to carry out its duties by open vote. In case of a tie vote, the Chairman shall have the casting vote in addition to the vote to which he is entitled as a member of the Committee;

- (b) The Nominating Committee shall adopt the principle that members of the Executive Committee shall be elected annually, but shall not hold office for more than three consecutive years. Following a three-year consecutive term, no member shall be eligible for nomination until at least one year has elapsed;
- (iv) Election of Officers and Executive Committee:
  - (a) When the report of the Nominating Committee has been received by the Annual Meeting other nominations may also be received from the floor. A ballot shall then be taken for each of the officers in turn and also for the elective membership of the Executive Committee;
  - (b) Because of the importance of a fully integrated organization in Canadian medicine it shall be a prerequisite that all voting members of the Executive Committee of this Society shall be members in good standing of the Canadian Medical Association.

#### **Article 4. Duties and Powers of the Executive Committee.**

The voting members shall be:

President  
President-elect  
Immediate Past President  
Honorary Treasurer  
Honorary Secretary (if such post should be filled)  
Chairman of the Executive Committee  
Vice-Chairman of the Executive Committee and all elected representatives of the Executive Committee from the Branch Societies;  
One voting student member, recommended by the Dalhousie Medical Students Society, appointed to the Executive for from 50 to 100 student members with one additional voting appointee for from 101 to 200 student members with one additional voting appointee from 201 to 300 student members, for a maximum representation of three. Should the student membership number less than 50, a non-voting observer only may be recommended by Dalhousie Medical Students Society for appointment to the Executive.

The Non-voting members shall be:

The Executive Secretary  
Editor  
All Observers

The Executive Committee shall hold one or more sessions before the close of the Annual Meeting at which it is elected. At its first meeting it shall appoint the Chairman of the Standing Committees for the ensuing year. Such Chairman shall, within one month, report to the Executive Secretary of the Society the names of the persons on their respective committees.

In order that the business of the Society may be facilitated during the interval between meetings of the Society, the Executive Committee shall meet from time to time at the call of its Chairman and shall have all the rights and powers of the Society except those specially or generally reserved. It shall conduct all necessary business. In case of a vacancy in any office however caused, it shall have power to appoint a successor from the Branch where the vacancy occurs. In case of a vacancy occurring in the Executive Committee itself by death or otherwise, it shall have power to

appoint a successor to act until the next Annual Meeting of the Society.

In addition to the setting up of the Committees of the Society as herein provided the Executive shall also appoint the representatives to those bodies to which representation from the Society has been approved. Each representative shall have the right or may be required to report to the Executive Committee and to the Annual Meeting of the Council. As soon as possible the Executive Committee shall publish in the Bulletin a list of all Committees and representatives so named, prior to which the Executive Secretary shall have informed all persons concerned of their appointment or nomination.

The Executive Committee may meet when and where it may determine. It shall report to the Council at the Annual Meeting of the Society and to any special meeting called for that purpose; or at such occasions as may be required by Council. At any meeting of the Executive Committee seven shall constitute a quorum for the transaction of business.

Special Meetings. On the request in writing of any five members (with voting power) of the Executive Committee the Chairman shall call a special meeting.

Vote by Mail Ballot. The Chairman of the Executive Committee instead of calling a meeting thereof may and if required to do so by any three voting members of the Committee shall take mail ballot of the elective members of the Executive Committee on any urgent matter and an affirmative vote by two thirds of such members shall have the same force and effect as a resolution duly passed at a regular meeting of the Executive Committee, provided that such mail ballot is taken in the following manner:

The question submitted shall be in a form to which an affirmative or negative answer may be given. The ballot shall be sent by prepaid post to all elective members of the Executive Committee not less than ten days before the last return date, accompanied by a letter signed by the Chairman of the Executive Committee setting out the circumstances of the emergency and giving the last date on which ballots will be received and requesting that ballots be signed and returned to the Executive Secretary of the Society by such elective members by the date named. Simultaneously with the sending out of the ballots to the elective members of the committee, a copy of the aforesaid letter shall be mailed to those members of the Executive Committee who are not entitled to vote, together with a copy of the question which is being submitted to the elective members. No ballot shall be counted unless it is signed by an elective member of the Executive Committee and is in the hands of the Executive Secretary of the Society not later than the return date named. Each elective member may cast one ballot only.

The Executive Committee shall be responsible for the appointment of the appointive officials, shall designate their responsibilities and fix their salaries.

Each member of the Executive Committee shall be reimbursed on a basis to be determined by the Committee for his legitimate travelling expenses incurred in attending meetings of the Executive Committee other than those held in conjunction with the Annual Meeting of the Society.

#### **Article 5. Discipline Committee.**

Terms of Reference. The Discipline Committee members are the Medical Society President (Chairman), immediate Past-President, and President-Elect. The Committee is charged with the responsibility of investigating charges of unprofessional conduct or of conduct unbecoming to a member of the Medical profession. In conducting the proceedings of the Discipline Committee, the principles of natural justice shall be observed. Proceedings of the Discipline Committee may only be instituted by written complaint following which a hearing or due inquiry shall ensue; full and reasonable notice of any such inquiry shall be communicated to the member, or his counsel, to permit him the opportunity to question the complainant and any other witnesses and to argue as to the merits of the complaint. The proceedings shall be recorded by a

competent and duly-sworn stenographer. The decision shall be reserved, then rendered in writing with reasons, a copy being forwarded to the accused, but not to the complainant. The Executive Committee is required to review all decisions of hearings of the Discipline Committee.

**Article 6. Mediation Committee.**

Terms of Reference. The Mediation Committee members are the Medical Society President and such other Society members as the President may deem fit to co-opt for this purpose. The Committee is struck for the purpose of providing means of investigating and resolving private disputes as separate from complaints against the conduct of a physician. The activities of the Mediation Committee shall be conducted informally and no member can expect chastisement, reprimand, suspension, or fine in a mediation matter.

**Article 7. Standing Committees.**

The Executive Committee shall have power to establish Standing Committees, to vary their number from time to time and to discontinue their activities. The Chairmen of Committees designated by the Executive Committee as Standing Committees shall be appointed by the Executive Committee, which in addition to the duties provided in Article 8 of this chapter, shall also provide or vary their terms of reference. The Standing Committees shall report to the Annual Meeting of the Council after submitting copies of their reports to the Executive Committee at such time as the Executive may require. The Chairman of any Standing or Special Committee shall not serve for more than a maximum tenure of three (3) years. After one year's absence from office, he shall become eligible for re-election.

Subject to the reservations contained in this section the Standing Committees accepted as such at the time of the adoption of these By-Laws shall be as follows, which list may be varied by the Executive Committee as it may determine.

Committees on:	Mediation
Anaesthesia Standards	Medical Education
Annual Meeting	Medical Religious Liaison
Archives	Mental Health
By-Laws	Membership
Cancer	Nutrition
Child Health	Occupational Medicine
Editorial Board	Pharmacy
Discipline	Presidents' Liaison
Finance	Public Health
Hospital	Public Relations
Insurance	Rehabilitation
Legislation and Ethics	Resolutions
MMC/Medical Society Joint	Traffic Accidents
Maternal and Perinatal Health	W.C.B. Liaison

**Article 8. Special Committees.**

Special Committees may be appointed by:  
The Annual Meeting of the Council of the Society  
The President of the Society  
The Executive Committee  
The Chairman of the Executive Committee

A special committee shall in general be a short term Committee and shall assume by direction such duties as are allotted to it. It shall make progress reports to the Executive Committee at each of the meetings of that body and shall report at such other times as may be required. If its work is likely to be continued it may become a standing committee on being so designated by the Executive Committee.

**Article 9. Reports of Committees.**

The proceedings of Annual or Special Meetings shall be reported in "The Bulletin" but not in Hansard form. The proceedings of the Executive Committee shall be mimeographed and circulated to its members. Publications of reports of Committees in

full or as a synopsis shall be by direction of the Executive Committee.

**Article 10. Limitations of Committees re Finances.**

No committee shall expend any moneys or incur any indebtedness or obligation on behalf of the Society except by resolution of the Society obtained at an Annual or Special meeting, or at a meeting of the Executive Committee.

**CHAPTER XIII  
AFFILIATED SOCIETIES**

All Societies or Associations devoted to medicine or its allied sciences, including their constituent branches, at present existing or which may hereafter be formed within the Province of Nova Scotia, may, subject to the approval of the Executive Committee, become affiliated with The Medical Society of Nova Scotia. Affiliation shall be understood to imply the establishment of a friendly relationship with the affiliated organization. There shall be no obligation on the part of either party to the affiliation to sponsor policies or movements on the part of the other.

The term "affiliate society" shall specifically apply to the paramedical groups, that is, those organizations which have medical interests, but are primarily made up of lay membership.

**CHAPTER XIV  
ADDRESSES AND PAPERS**

All addresses at an annual meeting shall immediately become the property of the Society to be published or not, in whole or in part, as deemed advisable, in "The Bulletin" of the Society. Any other arrangement for their publication must have the consent of the author or of the reader of the same and of the Editor of "The Bulletin".

All papers, essays, photographs, diagrams, etc., presented in any Section shall become the property of the Society to be published in "The Bulletin" of the Society or not, as determined by the Editor, and they shall not otherwise be published except with the consent of the author and of the Editor of the Bulletin.

The author of any paper read at an Annual Meeting shall, as soon as it has been read, hand it with any accompanying diagrams, photographs, etc., to the Executive Secretary of the Society or Section before which it has been presented. The Executive Secretary shall endorse thereon the fact that it has been read in that meeting and shall then transmit it to the Editor of the Bulletin.

**CHAPTER XV  
THE OFFICE**

Until changed by resolution at an Annual Meeting of the Society the office of the Society shall be at Halifax.

**CHAPTER XVI  
AMENDMENTS**

Notice of motion by one or more members to amend these By-Laws must be placed in the hands of the Executive Secretary two months before the date of the Annual Meeting.

Amendments may be proposed at an Annual Meeting of the Society by the Executive Committee or by the Committee on By-Laws without notice of motion but the proposed amendments shall be published in "The Bulletin" at least one month preceding the Annual Meeting.

Subject to the conditions provided by paragraphs 1 and 2 hereof, these By-Laws may be amended by a majority vote of a duly advertised general meeting of the members of the Society.

following a comparison of HAA testing methods. They recommend counter-electrophoresis for routine donor screening though gel diffusion remains acceptable if prompt results are not needed. Use of the more sensitive complement fixation, hemagglutination and radioimmunoassay techniques was encouraged but they are considered too impractical at present for general use by blood banks. Locally we are using counter-electrophoresis and complement fixation techniques. Obviously, most figures quoted in the literature will be significantly higher with these more sensitive techniques.

### Clinical Associations of HAA

The association of HAA with HAA hepatitis has previously been alluded to. Several factors are important in this regard. In diagnostic detection of HAA, the number and timing of samples is important. Antigenemia is usually transient during acute hepatitis, sometimes being detectable for a brief period of time of two days; frequent testing, therefore, yields greater returns. The temporal relationships between exposure to hepatitis, appearance of HAA in blood and development of symptoms and abnormal liver function tests were well documented in studies involving preserved serum specimens collected from 60 subjects who had been

inoculated with icterogenic plasma in hepatitis transmission experiments carried out between 1951 and 1954. Figure 2 is the result of such studies and three points are made. Firstly, the incubation period from the zero point on the horizontal axis to the appearance of jaundice is 41 to 130 days in contrast to the incubation period of HAA negative hepatitis which varies between 35 and 47 days following inoculation. Secondly, HAA was detected by the less sensitive gel diffusion technique about two weeks after the complement fixation technique at about the same time as the SGPT could be measured. Therefore, with the more sensitive complement fixation technique HAA can be detected on the average four weeks before clinical or laboratory evidence of liver dysfunction (range - 2 weeks to 2 months). Thirdly, HAA that appeared during the incubation period persisted in all cases at least until the onset of symptoms. Figure 3 demonstrates the duration of HAA positivity. (The zero point along the horizontal axis corresponds with the onset of symptoms.) Again, three points are made. Firstly, serum from approximately 50% of patients had become negative after about three weeks of illness. Secondly, by seven weeks less than 10% remained HAA positive. Thirdly, approximately 7% of patients continued to have positivity well beyond sixteen weeks. Ordinarily, when HAA is detectable at sixteen weeks after the onset of acute hepatitis, it remains present indefinitely. Although persistence of antigen may occur after hepatitis of all degrees of severity, it appears to occur more commonly after very mild subclinical hepatitis than with overt clinical disease. Hence many carriers of HAA may be unaware of an antecedent episode of acute hepatitis. This is in keeping with recent observations that asymptomatic subjects who have HAA in their blood will also have histological evidence of chronic liver disease, even though their liver function tests are normal and they have no history of antecedent hepatitis. The frequency of subclinical chronic hepatitis as judged by the incidence of HAA in apparently healthy populations would be about 0.1% in the U.S.A., 2.5% in many tropical regions and as high as 20% in certain endemic areas.

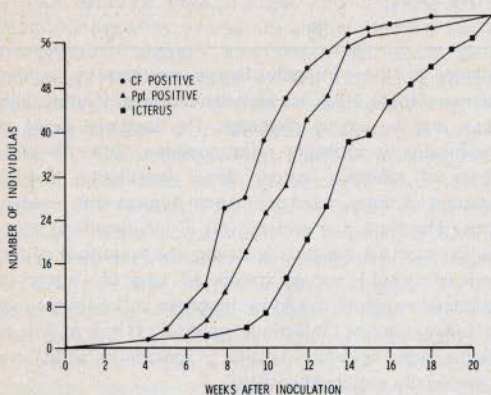


FIGURE 2

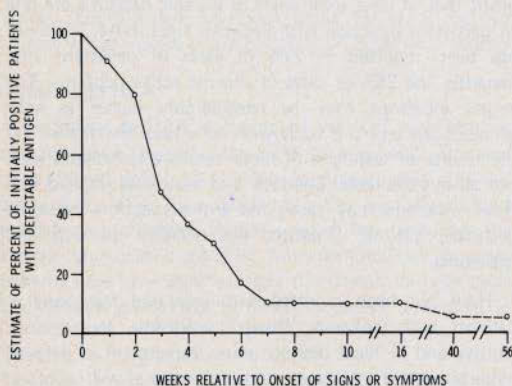


FIGURE 3

Again, of extreme importance in diagnosis is the sensitivity of the HAA detection technique. This is of considerable importance when one considers the work of Barker and his associates who diluted serum positive 1 in 10 to 1 in 10,000. This same diluted serum was capable of producing hepatitis and producing antigenemia. At present, no available test can detect HAA in 1 to 10,000 dilution but we know for a fact that this diluted material can transmit hepatitis.

The discovery of HAA has led to a major revision of the standard concepts of hepatitis particularly with regard to mode of transmission and difference between epidemic and sporadic diseases. Both classical serum hepatitis and sporadic hepatitis are associated with HAA but epidemic hepatitis is not. Table I shows the results of several studies confirming the HAA negativity in an epidemic of childhood

**TABLE I**  
**FREQUENCY OF DETECTION OF SH ANTIGEN**

CATEGORY OF DISEASE	NO. TESTED	NO. POSITIVE	% POSITIVE
<b>EPIDEMIC HEPATITIS:</b>			
HOONAH, ALAS (1961)	6	0	0
HABLONEC, CZECH (1963)	10	0	0
N.Y. FOUNDLING HOSP (1969)	17	0	0
WASSAIC STATE SCHOOL: 1969	41	1	2.4
<b>CHILDHOOD HEPATITIS:</b>	19	0	0
<b>WILLOWBROOK HEPATITIS</b>			
SHORT INCUBATION (MS-1)	4	0	0
LONG INCUBATION (MS-2)	8	8	100.0
<b>ADULT HEPATITIS:</b>			
CONTAMINATED NEEDLE	116	76	66.0
POST-TRANSFUSION	43	25	58.0
UNKNOWN EXPOSURE	129	71	55.0
<b>OTHER ACUTE LIVER DISEASE:</b>			
HALOTHANE HEPATITIS	22	0	0
INFECTIOUS MONONUCLEOSIS	26	0	0
FATTY LIVER (ALCOHOLISM)	9	0	0
<b>VOLUNTEER BLOOD DONORS</b>	<b>55,956</b>	<b>58</b>	<b>0.1</b>

hepatitis. Of particular importance was the detection of HAA in about 60% of adult patients with hepatitis. In this group, patients with known parenteral exposure to blood or blood products *did not reveal* an appreciably different frequency of detectable antigen from those lacking such a history. The importance of these observations is the implication of the important concept of non-parenteral transmission of HAA positive hepatitis. Evidence for such non-parenteral transmission was strongly suggested by earlier epidemiological studies. Epidemiologists clearly recognized a highly contagious short-incubation disease occurring in epidemic fashion and predominantly in younger age groups as distinct from that of a less contagious longer-incubation disease occurring in sporadic fashion and predominantly in adult populations. It was recognized that the latter group had no exposure to blood or blood products. However, it was only in 1967 that a non-parenteral (oral) mode of transmission was conclusively demonstrated experimentally by Krugmen and Giles. These studies involved children in whom the infection was clinically almost inapparent and had to be monitored by lab tests. The presence of HAA in the serum of their type B hepatitis but not type A patients, clearly distinguished these two infections and permitted documentation of the oral transmission experiment. Again, further evidence of a non-parenteral mode of transmission was presented by Sutnick in 1968 in institutionalized patients with Down's syndrome in whom antigenemia frequently developed in contrast to the low to absent levels observed in those living at home. Finally, in 1971, Hersh and co-workers presented six instances of transmission of HAA hepatitis from male

patients to their intimate female contacts by a non-parenteral route. HAA has been demonstrated in urine, bile, stools and in vaginal discharge. The fecal-oral mode of transmission is probably most common. Other possible modes of infection include direct inoculation through abrasions of the skin and poor dental hygiene with bleeding gums. Therefore, the evidence for a non-parenteral transmission of HAA hepatitis is strong, the magnitude of this mode of spread is not yet considered. Lack of a history of parenteral exposure should no longer be sufficient grounds for calling the case "infectious hepatitis". It may be wise to use the term "epidemic hepatitis", "sporadic hepatitis" and "parenterally acquired hepatitis".

Another important contribution of HAA detection is proof that at least some cases of chronic hepatitis are due to persistent infection with hepatitis virus. HAA positivity has been reported in 27% of cases of persistent viral hepatitis and 25% of cases of chronic active hepatitis. The actual incidence may be considerably higher as antigenemia can wax and wane with activity of the disease and the results of testing with more sensitive techniques were not always available. Sherlock and associates implied that HAA infection may cause the entire spectrum of acute hepatitis, chronic hepatitis, post-necrotic cirrhosis and hepatoma.

HAA has been reported with increased frequency in patients with leukemia, Down's syndrome, lepromatous leprosy and in renal dialysis units. Impairment of delayed hypersensitivity in leprosy and leukemias as well as blood transfusions were considered the etiological factors. The

high incidence in Down's syndrome was related mainly to non-parenteral transmission. Outbreaks of hepatitis are now recognized to be major problems facing renal dialysis units. Studies have indicated a high incidence of HAA among both the staff and patients involved in such outbreaks. Of interest is the finding that staff members usually get clinically typical acute hepatitis associated with transient antigenemia while the patients tend to develop prolonged and often anicteric hepatitis accompanied by persistent HAA. Preliminary findings indicate progressive hepatic damage associated with persistent HAA infection presumably acquired via blood transfusions and/or antecedent hemodialysis. Huang studied liver tissues from six renal transplant recipients who developed HAA positive hepatitis. While under immunosuppressive therapy, these patients showed rapid progression of acute hepatitis to chronic active hepatitis and postnecrotic cirrhosis resulting in liver failure. If these findings are substantiated, presence of antigenemia may influence the selection of patients for transplantation. Although it is emphasized that most renal dialysis units do not have a problem with hepatitis in patients or staff, monthly HAA and SGPT determinations as practiced for example in Blumberg's personal lab, appears to be advisable.

HAA detection plays a major role in prevention of transfusion hepatitis. Prospective and retrospective studies of transfusion hepatitis have shown that donor blood containing HAA carries a 40-70% risk of producing hepatitis in the recipient. Gocke indicates that hepatitis following infusion of HAA positive blood was usually icteric and often severe whereas infection following HAA negative blood tends to be anicteric and mild. Routine screening for HAA is also of obvious value in excluding undesirable donor populations. The incidence of HAA in volunteer donors is 0.1% but the prevalence in paid donors particularly in large cities is considerably higher. 14% of a group attending a Methadone Clinic in New York were HAA positive. The combined data of four studies of post-transfusion hepatitis suggest that if HAA positive blood had not been transfused and HAA negative blood substituted, 37% of post-transfusion hepatitis could have been prevented. Most authorities now agree that blood banks should screen all donor blood for HAA and not release antigen-positive blood except in acute emergencies.

#### Antibody to HAA

Antibody to HAA is mainly of the IGG type but has recently been found in the IGM class as well. This and observations previously alluded to suggest that different antisera to HAA have overlapping but partially distinct antigenic specificities. Antisera used for detecting the antigen are usually obtained from hemophiliacs or other patients who have been multiply transfused. Initially there was little evidence that antibody regularly developed in

HAA positive patients. This was probably due to technical factors. However, by the more sensitive, passive hemagglutination and/or radioimmunoassay techniques it seems likely that antibody to HAA can be detected in nearly all patients who have HAA positive hepatitis.

Anti-HAA can circulate in the form of immune complexes which may manifest themselves as anticomplementary activity in the affected area. Immune complexes have been demonstrated in serum, glomeruli and peripheral vessels. In HAA positive hepatitis this may account for the dermal manifestations (urticarial lesions and purpuric rashes), arthritis, abdominal pain and microscopic hematuria seen in some patients with HAA positive hepatitis. With regard to chronic active hepatitis and polyarteritis nodosa, Prince feels that although their pathogenesis most probably involves immune mechanisms, they are not mediated by pathogenic immune complexes.

#### Summary

HAA is an antigenically complex macromolecule that appears to be closely related to virus-like particulate matter. The relationship of the HAA particles to the infective agent itself is still somewhat unresolved but present evidence suggests that they are fragments of viral lipoprotein envelope similar in structure and antigenicity to the outer shell of the rare larger Dane particles seen in certain HAA positive sera which may themselves represent the actual viruses.

Detection of circulating HAA effected a complete revision of standard hepatitis concepts. Parenterally acquired and sporadic hepatitis are mainly HAA positive. Point-source epidemics are HAA negative. Non-parenteral transmission is emphasized, particularly with respect to sporadic hepatitis.

Detection of HAA in chronic hepatitis largely confirms the viral etiology in a significant proportion of cases.

Detection of HAA positive donors can prevent at least 37% of post-transfusion hepatitis cases.

Monitoring high risk groups for HAA and SGPT is probably advisable. Identified carriers should be closely followed both to reduce the opportunities for parenteral and non-parenteral spread of the virus and to obtain much needed epidemiological information.

The most immediate practical aspect of work on HAA is the prospect it offers for the prevention of HAA positive hepatitis. This can be done by exclusion of carriers from blood donor panels, by perfection of high titre specific gamma globulin hopefully containing antibody against HAA surface antigens and the new inner core antigen of Almeida and by the possible development of a vaccine against HAA positive hepatitis as proposed by Krugman's group. □



# Physician Self-Assessment

Lea C. Steeves, M.D.

Halifax, N.S.

The Division of Continuing Medical Education, Dalhousie University, on behalf of The Medical Society of Nova Scotia has sought permission from a number of major specialty societies to introduce members of The Medical Society of Nova Scotia to the techniques of physician self-assessment. This is being done through the presentation in each issue of the **Bulletin** of a few questions selected from a self-assessment programme. The same issue of the **Bulletin** contains the correct answer. Try each question; check your answer.

It is our hope that stimulated by these small samplings of self-assessment presented monthly you will wish to purchase a full programme. An inquiry to the specialty society concerned and purchase of their programme will make possible for you a most valuable experience — a complete physician self-assessment.

The following questions are reprinted from the American College of Physicians **Medical Knowledge Self-Assessment Program\*** with the permission of Dr. E. Rosenow, Executive Vice-President, A.C.P.

**DIRECTIONS:** Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the **one** that is **BEST** in each case.

552. Carcinoma of the lung may be accompanied by hypertension, hypokalemia and muscular weakness due to excessive secretion of:

- (A) aldosterone
- (B) an ADH-like peptide by the tumor
- (C) ADH by the pituitary
- (D) an ACTH-like peptide by the tumor
- (E) ACTH by the pituitary

629. Postprandial serum lactescence, poorly responsive to heparin, with normal serum cholesterol is commonly found in patients who have

- (A) myxedema
- (B) diabetes mellitus
- (C) dyslipoproteinemia, Type I (Frederickson)
- (D) nephrotic syndrome
- (E) Weber-Christian disease

242. A 32-year-old pregnant woman is admitted to hospital because of severe dyspnea and cyanosis. The patient has had a skin rash for the past five days. Here two children had a febrile exanthem 14 days and 9 days respectively prior to the patient's illness.

Which of the following is the most likely diagnosis?

- (A) Lupus erythematosus
- (B) Varicella pneumonia
- (C) Amniotic fluid emboli
- (D) Staphylococcal pneumonia
- (E) Mycoplasma pneumoniae pneumonia

321. A child found to have hypogammaglobulinemia and lymphopenia develops marked lymphedema.

Which of the following is the most likely diagnosis?

- (A) Swiss type agammaglobulinemia
- (B) Variant of thymic aplasia
- (C) Whooping cough
- (D) Intestinal lymphangiectasia
- (E) Acute lymphatic leukemia

402. While it is generally agreed that portacaval shunt will sharply decrease the incidence of variceal hemorrhage, this procedure is not without adverse side effects.

Which of the following is the most common long-term complication of shunting?

- (A) Increased incidence of ulcer disease
- (B) Development of hemochromatosis
- (C) Production of a malabsorptive defect

\*The complete Self-Assessment Test is still available and may be purchased upon application to the American College of Physicians.

- (D) Increased incidence of hepatic encephalopathy
- (E) Increased incidence of diabetes

474. Following complete evaluation and study of a 50-year-old man who had elevated blood pressure, a diagnosis of essential hypertension was made. Treatment with a thiazide and a monamine oxidase inhibitor was initiated and produced good results.

Six weeks later the patient was seen in the Emergency Room because of headache and diplopia. He stated that he had felt well until that evening when he had eaten a heavy meal with cheese and port wine. The patient's blood pressure was 262/174 mm Hg.

Which of the following should be done?

- (A) Intravenous administration of guanethidine (Ismelin)
- (B) Intramuscular administration of reserpine
- (C) Intravenous administration of phentolamine (Regitine)
- (D) Oral administration of methyl dopa (Aldomet)
- (E) Surgical exploration of the abdomen

554. During therapy with thyroid to restore a patient from a myxedematous state to a normal metabolic state, which one of the following changes might be anticipated?

- (A) Decreasing cardiac output
- (B) Negative nitrogen balance
- (C) Positive water balance
- (D) Decreasing blood volume
- (E) Increasing muscle contraction time

630. A patient has a painful ulcer on the lateral aspect of the leg that has failed to heal for over six months. An ulcer in this location is most characteristic of

- (A) malignant melanoma
- (B) hypertensive ischemic ulcer
- (C) stasis ulcer
- (D) ischemic ulcer secondary to arteriosclerosis obliterans
- (E) ischemic ulcer secondary to thromboangiitis obliterans

□

(please turn to page 125 for answers)



# Autopsies in Nova Scotia: A Legal Memorandum

Lorne Elkin Rozovsky, B.A., LL.D.\*

Halifax, N.S.

Owing to the concern of many medical practitioners over the law of autopsies, this memorandum attempts to briefly outline those statutes which govern such procedure in this Province.

It must be remembered that autopsies in Nova Scotia can only be performed under one of three Provincial statutes. Autopsies not authorized by one of these are illegal and can lead to civil suit against the person doing the autopsy and the institution employing him by the family of the deceased. While such suits are rare and even when successful result in only minor awards, the possibility of such suits must be taken into consideration.

1. Under the Human Tissue Act, R.S.N.S. 1967, c. 132, an autopsy may be performed if the deceased had requested that his body or a specified part or parts thereof be used after his death for therapeutic purposes or for the purposes of medical education or research. In such a case the administrative head of the hospital in which he died may authorize the autopsy. (s. 2).

If the deceased had not requested an autopsy, one may be authorized by the spouse of the deceased or, if none, any of his children of 19 years of age or over or if none, either of his parents or, if none, any of his brothers or sisters or, if none, the person lawfully in possession of the body, that is the administrator of the hospital acting as an agent for the hospital board which is in possession of the body. (s. 4).

These provisions of the Human Tissue Act do not apply if (a) the person empowered to authorize the autopsy has reason to believe that either (i) the deceased who requested an autopsy subsequently withdrew that request or that (ii) the deceased would, if living, have objected to an autopsy; or (b) the person empowered to authorize an autopsy under this Act has reason to believe that an inquiry by a medical examiner respecting the death may be required to be held under the Fatality Inquiries Act. (s. 6).

2. Whereas an autopsy under the Human Tissue Act is a private affair which requires the consent or authorization of an individual, the Fatality Inquiries Act, R.S.N.S. 1967, c. 101, governs autopsies in which the state has an interest. If the Fatality Inquiries Act applies, it overrules all private interests and must be followed over and above any provisions in the Human Tissue Act or the Anatomy Act (discussed below).

It is a matter of law as to whether an autopsy is governed under the Human Tissue Act or the Fatality Inquiries Act and is not based on the convenience or desires of the hospital or any other party. Therefore the hospital cannot bring about an autopsy under the Fatality Inquiries Act on the grounds that the person who has power to authorize it under the Human Tissue Act refused to do so. If there are grounds for the autopsy coming within the ambit of the Fatality Inquiries Act, then the Human Tissue Act would not apply at all and consent should not even have been asked for.

From a public relations point of view however, it might be advisable to advise the family of the deceased as to what is happening and why. (On the other hand, if there are not sufficient factors to bring a proposed autopsy within the Fatality Inquiries Act, consent must be obtained and one cannot force an autopsy under the Fatality Inquiries Act.) It should also be remembered that consent obtained by duress or misrepresentation, such as warning that if the person does not authorize an autopsy the medical examiner will be called in under the Fatality Inquiries Act, is not valid consent at all.

The Fatality Inquiries Act comes into play where it appears that (a) there is reasonable cause to suspect that a person died by violence, undue means, or culpable negligence; or (b) the person died in a place or under circumstances requiring an inquest under any statute; or (c) the cause of death is undetermined; or (d) the person died in jail or prison. If it appears that any of these factors are in evidence the chief medical examiner or his designee *shall* take charge of the body.

The medical examiner must abide by the following procedure under this Act.

- i. He "shall make diligent inquiry respecting the cause and manner of the death of the person".
- ii. Immediately upon completing this inquiry he shall report in writing every circumstance respecting the condition of the body and tending to show the cause and manner of death and his opinion as to the cause of death and file the signed report with the clerk of the Crown for the county in which he found the body. He may then release the body to the person from whose custody he received it or to the person who is entitled to it.
- iii. If as a result of the inquiry, he is of the opinion that "a post-mortem examination is necessary

\*Departmental Solicitor, Nova Scotia Hospital Insurance Commission; President, Nova Scotia Medical-Legal Society; and Legal Consultant, Canadian Hospital Journal.

- to determine the cause of death" he may perform it. However, where he performs a post-mortem examination (which would include an autopsy) he must file as part of his report a statement that the examination was necessary and the reasons for this opinion.
- iv. If upon examination, personal inquiry or post-mortem examination the examiner is of the opinion that the death was caused by violence, undue means or culpable negligence or that there is reasonable grounds for suspecting that the death may have been so caused (and in all cases of deaths in a jail or a prison), he shall send a copy of his report to a Provincial magistrate.
  - v. At this point the procedure ceases to be a strictly medical one and becomes a judicial one at which a Provincial magistrate may hold an inquest. The Fatality Inquiries Act outlines the various procedures to be followed in such event.
3. The third statute under which inquests in Nova Scotia may take place is the Anatomy Act, R.S.N.S. 1967, c. 8. This Act only applies to dead bodies of persons who previous to death were being maintained at the public expense. Unfortunately there is no definition of "maintained at the public expense". This may cause certain difficulties in that under the health insurance schemes almost all persons are to a certain extent maintained at public expense. Bodies claimed by relatives within 48 hours and travellers dying suddenly are exempted from the Act.
- In such cases the bodies are to be delivered to the Inspector of Anatomy by every superintendent, manager, keeper or officer in charge of any municipal home, prison, morgue, hospital or other public institution. The Inspector turns over the body to a medical school and the Act outlines the various controls on the use of the body. This Act therefore would not apply to autopsies done by the hospital and is therefore not relevant to the question and problems at hand.

## We want you to get your money's worth.

At the Bank of Montreal, we wish to be unique among banks. Unique in that we wish to serve not only as a place where you can deposit and borrow money. But we also want to show you how to get the most for your money.

After all, we've become one of the largest banks in the world, and who should know more about money? That's why all our efforts are dedicated to giving you advice that will help you in your depositing and borrowing. **We want you to get your money's worth.**



**Bank of Montreal**

The First Canadian Bank

Collecting agents for the  
Canadian Medical Retirement Savings Plan.

## TRAVELLING

DO IT THE

**MARITIME  
TRAVEL  
SERVICE**

— WAY

**Call 422-4441**

American Express Representative

**Richards Surgical Limited**

Representative  
Donald V. McGrath  
P.O. Box 3244 South Postal Station  
Halifax, Nova Scotia  
Phone (902) 423-0894

Orthopedic & Otolaryngology  
Instruments & Implants  
Soft Goods  
Microscopes and Light Systems (Fiber-Optic)  
Catalogs on Request

**AIR-PAGE ANSWERING SERVICE LTD.**

2979 Oxford St., Halifax  
Ph. 453-2640



HAVE YOU  
EVER SEEN  
A DOCTOR'S  
BEEPER?

DO YOU WANT  
TO EXAMINE  
ONE?

For details contact Rick Norman anytime – No obligation

NEW MINI PAGER NOW AVAILABLE: 4 1/2" x 1 1/3" x 4/5";  
4.8 cubic inches Weight 3.9 ounces  
City wide radio paging frees up your "on call" time.

**NOTICE**

We are looking for class pictures of Dalhousie Medical School for the following years: 1905: 1906: 1909: 1911: 1912: 1913: 1919, 20: 1934, 35: 1941: 1944: 1946. If you have one of these and would be kind enough to loan or donate it for publication in MeDal, please send it to Dr. C.J.W. Beckwith, % Mr. H. Farquharson, Receiving office, Sir Charles Tupper Medical Bldg., Dalhousie University.

**SAVE**

TAX  
DOLLARS

CAPITAL  
EXPENDITURES

THROUGH  
LEASING PLANS  
FOR  
AUTOMOBILES  
AND  
EQUIPMENT

**HILLCREST GENERAL LEASING LTD.**

OFFICES COAST TO COAST

2816 Windsor St. Halifax

455-4786



Office Supplies and Printing  
Social Stationery

5476 Spring Garden Road  
Halifax Shopping Center  
Scotia Square  
Halifax, Nova Scotia

**FOR ALL YOUR OFFICE NEEDS**

# Citizen Advocacy

## Canadian Experience with a New Programme for the Habilitation of Adult Retardates

Charles W. Smiley, M.S.W.\*

Kingston, Ontario.

In May of 1971 the social work staff of the Rockwood Mental Retardation Unit of Kingston Psychiatric Hospital, Kingston, Ontario, decided to initiate a Citizen Advocacy Programme, a programme designed to provide the mentally retarded in the community of a hospital with a non-professional community person who is a combination of friend, big-brother, social worker and legal counsellor. By November of the same year the programme was fully operational. The social work staff has now located and screened 106 citizen advocates and has matched 61 advocate-retardate teams. The city of Kingston has shown remarkable acceptance and enthusiasm for the project. At this point the Kingston Citizen Advocacy Programme, the first of its kind in Canada, is running smoothly.

The advocate may be involved in solving practical and material problems; representing the retardate's interests with the law and other agencies; provide advice and assistance with the practical problems of transportation, clothing, voting, shopping, housing, church attendance, personal growth and development; insuring the retardate's access to appropriate education, training and job opportunities; helping the retardate with the problems of recreation, social experiences and group membership; providing emotional support during crisis; bringing fellowship and friendship to the retardate, etc.

The principal beneficiaries of the programme are the retarded individuals living in Kingston and the Rockwood Mental Retardation Unit. In this article we will present the facts and the procedures concerning the programme, but we would also like to tell of the effect on Keith Stewart, a thirty-one year old Rockwood resident who has spent the majority of his life in government institutions. He has never been taught the alphabet, how to count or how to make change. Keith was the first retardate we matched with a citizen advocate.

### The Life and Times of Keith Stewart, Rockwood Resident

It's fall and there's nothing strange about a man raking leaves in a back yard.

But if he's extremely energetic and proud of his work and the garden it might be Keith Stewart.

Keith has become sort of a member of Dr. H. Garfield Kelly's household at 77 Alwington Street, in Kingston, though he spends most of his nights at the Rockwood Mental Retardation Unit at Kingston Psychiatric Hospital.

\*Rockwood Mental Retardation Unit, Kingston Psychiatric Hospital.

This 31-year-old is not leading a protected, institutionalized life. He spends most of his week days working in various homes, at a car-wash and finds time for some entertainment in his 40-hour "work week."

The work schedule is getting heavier for him as his fame as a gardener, butler and floor polisher spreads. But then he has had considerable experience at these jobs.

The independence which Keith now values almost fiercely traces back to his introduction to his citizen advocate, Mrs. Kelly. Mrs. Kelly arranged for him to come to her home to help her with the gardening. This was the first time Keith had been outside the institution without an attendant. (He had spent his earlier years at Orillia Hospital before coming to Kingston Psychiatric in 1960.)

If you ask Keith too many questions about his past he replies: "I don't keep my memory going back. There's lots in the future."

But he does recall his first job at the Kellys' — raking leaves for a compost pile. "The leaves turn into earth for gardening," he explains. The garden is his favorite spot, and he prefers working in it over inside jobs. When he talks about gardening, his brown eyes, always expressive, reflect pride and responsibility.

"I gradually worked up to running a lawnmower and weeding flower beds."

"Gradually" is the right word, too; the petite, energetic Mrs. Kelly spent some long but pleasurable hours working with Keith, showing him the difference between weeds and flowers.

The standing arrangement between them was that he'd call her if he wasn't sure whether a plant was a bona fide weed or a small flower. He does some of the planting himself now.

The garden is showing some of the ravages of cold weather, and few blooms remain except for the roses which seem to suit him because they are his favorite flower.

But with his mastery of the world of leaves, seedlings and lawns, Keith found other territory to cover. This included setting a table for formal dinners, serving food correctly, helping in its preparation and washing the dishes.

The first holiday after he knew the Kellys, Keith spent the evening with the family. It was the first time since he was a child that Keith had spent a holiday outside the institution.

When he had subsequent dinners with the family, he would practise serving them. Some guests at parties and formal dinners thought he was a butler, which has given Keith no end of satisfaction. He has even cultivated a carefully-styled moustache and side-burns.

Keith is about Dr. Kelly's size, and the tuxedo which had been stored for months was brought out, altered and is a perfect fit for the 'butler'. Only one more lesson in etiquette was required for Keith to be truly professional: Mrs. Kelly suggested he not smile so much, explaining that professors and doctors are serious folk.

This was probably a lesson in self-control for Keith whose laugh contains real delight, but he saves these frequent outbursts of good humor for the family, or a particularly warming compliment.

Keith says "he's not working so hard for the money" — he doesn't know how much has accumulated in his bank account. "I like getting out. People at the hospital said I'm going to be getting out of Rockwood" he explains. He expects to enter a half-way house, which will become his home base.

In the meantime, Keith has about as much independence as any resident of the unit has ever had. For his last birthday Dr. and Mrs. Kelly bought him a new bike. Tantalized by the gift, he was determined to master it and Mrs. Kelly was able to teach him in one night. It occasioned several hard falls, a bumped bicycle guard and some badly-twisted spokes.

"If you're going to learn how to ride a bike, it doesn't matter if you fall. You have to just keep at it," says Keith.

He is extremely proud of the bicycle, which means more self-sufficiency in going from Rockwood to his various jobs. He also has his own television, radio, tape recorder and watch — all gifts from the Kellys. But, perhaps a matter of more satisfaction is that he earns his own money and can use it for clothes.

"My favorite color is blue and I buy blue clothes," he states forcefully when he is asked whether Rockwood supplies clothes for its residents. Mrs. Kelly often selects his clothes.

Mrs. Kelly taught Keith to swim. The first time in the water, "he went down like a brick", she recalls. With repeated lessons at the Kelly's Wolfe Island summer residence, Keith now can make his way through the water with a "very nice crawl", says Mrs. Kelly.

He has also learned to row a boat, catch and clean fish, paint walls and handle a saw. It takes patience, selection of reasonably-simple tasks and some admiration after the work is done to expand his skills, and Mrs. Kelly supplies them all.

"It's a two-way street," she says. "I don't know what I'd do without him."

Both the Kelly family — Dr. and Mrs. Kelly and their two daughters now married — and Keith have benefited from the close ties that have developed. Keith expresses his

opinions now, "sticks up for himself more than he did", and is more independent, said Mrs. Kelly.

He is aware of his tremendous progress.

"I'm the only guy on the ward that has gone this far," he states. "Quite a few got out of the hospital and in a halfway house, but they "got sick" and had to come back to the hospital, he says.

Keith thinks most of them would benefit from the opportunity to have close friends in the community.

Mrs. Kelly, who views Keith as a family member by now, doesn't know if it would work as well for everyone else. But she too is amazed at the gains he has made in living skills.

Keith doesn't consider anything is missing from his life. His skills are in demand and are earning him money. He has his own transportation to and from jobs, a girlfriend (he doesn't want to marry though — one resident of his ward says he's sorry he married with all the pretty single girls around, Keith explains laughing, half-embarrassed). He is also preparing for the day that Rockwood is no longer his home and he is in the world full-time, whether it is a halfway house or some other residence.

#### Initiation of the Kingston Project

The social work staff at Rockwood was able to develop the programme and locate the advocates through hard work, long hours and, in effect, relentless publicity. We saturated Kingston with information concerning the programme and its value and with requests for citizen advocates. Members of the staff were on the local television stations, they had spot announcements on the local radio stations and a series of articles concerning the advocacy programme appeared in the Kingston paper and in the papers of the surrounding towns.

We also developed a programme for presentation to the different social clubs, churches and business groups in the Kingston area. In this one hour and fifteen minute presentation we would have one social worker talk for fifteen minutes on the general topic of mental retardation. Then another worker would talk for fifteen minutes on the principals of "normalization" and on the value and reasons for moving large numbers of the retarded out of the government institutions and back into the community.

After this we would bring in the Rockwood Peacemakers. This is a rock and roll group composed of mentally retarded residents of Rockwood. In this group we have a lead, bass and rhythm guitar player, a drummer and a lead singer. They play in the Joe Cocker style and during the presentations they would come out and do a thirty minute set of Joe Cocker.

The Peacemakers had been developed slowly and painfully over the months, and by May of 1971 were skilled enough to play before a live audience. We were able to obtain considerable electronic equipment for them and they have the full rock compliment of electric guitars,

speakers and amplifiers. They were taught to play by volunteers who gave them guitar, drum and singing lessons. They would practice by listening to records of famous rock groups and then trying to duplicate the sounds with their own instruments.

The value of having the Peacemakers play is that we were able to present some of the retarded residents of Rockwood to the community without having it appear to be a freak show. People living in the community tend to have a distorted view of what mental retardation is and what mentally retarded people look like. The rock and roll group gave us an excellent opportunity to do some real community education. The boys in the group love to perform and in virtually every instance they received a standing ovation when they finished playing.

During the process of developing the Advocacy Programme we presented our show to 37 different groups in the Kingston area. After the rock group did their 30 minutes we would have a social worker finish up by making specific and direct requests to the group involved. This would usually be a request for volunteers to be citizen advocates, but sometimes we asked for money or equipment for other projects and at times for volunteers to provide foster homes for the retarded. We received an amazing number of offers of help. Out of this came the 106 citizen-advocates and the number is growing every day.

Incidentally, after we had talked to our first two or three groups our fame as an "entertainment package" grew to the point that different groups in Kingston were calling and asking us to appear at their next meeting. We also received requests from some clubs to come back for an encore and eventually had difficulty in keeping up with the bookings.

### The Current Program

We based the Kingston advocacy programme on the original plan developed in Omaha, Nebraska by Dr. Wolf Wolfensburger and the Omaha organization was very helpful in providing written and filmed material.

In the Kingston programme we have developed four basic advocacy areas. They are:

- a. *The Individual Friend.* This is a person who would give guidance in the problems of everyday living. The main emphasis here is on helping the retardate with specific problems,
- b. *The Group Friend.* This is the same concept as above except that a group, a family or a club will be the advocate.
- c. *The Family Friend.* This is for an individual who would like to be a parent-like figure to the retardate. The advocate helps with specific problems, but also develops a strong personal relationship with the retardate.
- d. *The Nuclear Family Friend.* This is the same concept as No. (c), but a club, a family or a group is involved with the retardate.

We have provided advocates for the mentally retarded in the following categories:

- a. Residents in Rockwood who may be living in the community in six months.
- b. Residents in Rockwood who are living in halfway houses, family-care homes or continuing treatment homes, (The Hospital Approved Homes Programme).
- c. Former residents of Rockwood who have been discharged.
- d. The mentally retarded who have been seen in our out-patient clinics.
- e. The mentally retarded referred by the Ontario Association Mentally Retarded - Parent Groups. They would be people who have never been involved with Rockwood either as an in or outpatient.
- f. The mentally retarded who are now in prisons.

The rewards to the advocate have been primarily personal, however the programme offers additional advantages, for example:

- a. The advocate learns about societal processes and tends to move toward more advanced citizenship.
- b. Society gains a citizen activist which is necessary for its progressive growth.
- c. The advocate gains an increased understanding of the mentally retarded and of handicapped people:
- d. The whole community becomes more educated to the nature and problems of mental retardation.

During the process of planning, organizing and developing the Kingston Advocacy Programme to its present operational state we went through the following steps:

- a. We defined and developed a community advocacy committee.
- b. We defined the desirable advocate characteristics.
- c. We developed procedures for recruiting advocates.
- d. We developed procedures for screening advocates.
- e. We developed procedures for recruiting and screening retardates who would benefit from having an advocate.
- f. We developed rules of conduct for citizen-advocates.
- g. We developed procedures for matching the retardate and the citizen-advocate.
- h. We developed procedures for supervising the citizen-advocate and the retardate.
- i. We developed procedures for crises intervention and relief.
- j. We provided other types of back-up counselling and education so as to enable the advocates to initiate, maintain and improve their advocacy functions.
- k. We conducted appropriate public education programs to disseminate information and popularize the concept of citizen advocacy.



In conclusion we would state that the Citizen Advocacy Programme is alive and doing well in Kingston. We found it entailed considerable hard work and long hours in setting it up, but that the community of Kingston was very responsive and enthusiastic. The programme seems to be invaluable in terms of reducing the return rate of patients to the hospital once they are placed in the community. The isolation of the retarded person in both the hospital and community is greatly reduced and there has been a tremendous increase in the amount of time and interest

being spent with each individual retarded person. Another value to the programme is that the hospital social workers have been able to make more effective use of their time and skill.

From our experiences in Kingston we would both hope and recommend that other groups would make an effort to develop an advocacy programme for the retarded in their community. □

# 5 minutes

with our VACATION HOMES  
catalogue may change your way of living

It's happening . . . perhaps even in your own circle of friends . . . there's a growing upsurge in the popularity of Vacation Homes! And do you know why? It's because there's nothing quite like having your own retreat for "getting away from it all" — and relaxing in the great outdoors! And the beauty of it is, today's Vacation Homes are meant for year 'round enjoyment — in Summer and Winter, too! Colonial/Sunnibuilt can make it happen for you.



#### ONE OF OUR MANY PLANS

6 Great Series — 50 Different Plans — Cabin, Contemporary — Chalet Designs — Ranch — Expandable Variations — Conventional, Panoramic, Modern & Traditional Stylings — Attractively Illustrated 4-Color Exterior & Interior Views.



THE  
*Colonial Homes*  
LIMITED

835-2606

## VISIT OUR BEDFORD DISPLAY

Inspect our MODEL HOME and COTTAGE in Bedford near the Sunnyside Shopping Mall, where our full color catalogue and detailed price list is available.

BEDFORD DISPLAY COURT AND SALES OFFICE

Open 9:30 a.m.-4:30 p.m. Mon. to Sat.

Evenings 7:30 p.m.-9:00 p.m. Mon. to Fri.

**FOR COMPLETE PROTECTION**

**LOSS OF INCOME**

**OFFICE EXPENSE**

**PREMATURE DEATH**

**RETIREMENT INCOME**



For Service or Information  
Write or Phone:

C. H. Stuart & Co. Limited  
315 Roy Building  
Halifax, Nova Scotia  
429-6340

MUTUAL OF OMAHA INSURANCE COMPANY ■ HEAD OFFICE FOR CANADA, TORONTO, ONTARIO

# PRODUCTS FOR RESEARCH PURPOSES

In the course of research activities and the development of new preparations in the Connaught Medical Research Laboratories, it sometimes happens that materials of scientific interest for research purposes become available. Some materials at present available, in some instances in only very small amounts, are the following:

Normal Serum Albumin—Human (Dry powder or solution)

Immune Serum Globulin—Human (Gamma globulin)

Fibrinogen—Human

Caeruloplasmin—Human

Antihaemophilic Globulin—Human

Fractions of Plasma—Human (Various fractions produced by Cohn cold ethanol process)

Insulin—Human (Carefully standardised ampoules containing 0.69 int. units)

Insulin—of Monkey or Horse origin

Tubercle Bacillus—Killed (For the preparation of complete Freund's adjuvant)

Complete Freund Adjuvant

Incomplete Freund Adjuvant

None of the above preparations is suitable for human use. The Laboratories would welcome inquiries from qualified research personnel or laboratories and will be glad to supply prices for specified items on request.



## CONNAUGHT MEDICAL RESEARCH LABORATORIES UNIVERSITY OF TORONTO

1755 Steeles Avenue West, Willowdale, Ontario

*Established in 1914 for Public Service through Medical Research and the development of Products for Prevention or Treatment of Disease.*

A booklet entitled "Products in the Service of Medicine" (1972 ed.) is available on request from Connaught Laboratories.

[To Members of the Medical Society of Nova Scotia : In view of the advantages of a strong professional organization, kindly make this page available to a non-member associate.]

**THE MEDICAL SOCIETY OF NOVA SCOTIA  
APPLICATION FOR MEMBERSHIP**

NAME .....  
Surname Given names

ADDRESS .....

TELEPHONE NUMBER ..... DATE OF BIRTH .....

MEDICAL SCHOOL ..... DATE OF GRADUATION .....

LICENSURE PROVINCE ..... DATE ISSUED .....

OTHER DEGREES .....

POST GRADUATE TRAINING .....

PRESENT TYPE OF PRACTICE .....

**SECTIONS:** Membership in the Society entitles you to make application for membership in the Section(s) of your choice. Please mark Section(s) you may be interested in.

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Anaesthesia                         | <input type="checkbox"/> Paediatrics           | <input type="checkbox"/> Radiology           |
| <input type="checkbox"/> General Practice                    | <input type="checkbox"/> Pathology             | <input type="checkbox"/> Salaried physicians |
| <input type="checkbox"/> Internal Medicine                   | <input type="checkbox"/> Psychiatry            | <input type="checkbox"/> Surgery             |
| <input type="checkbox"/> Ophthalmology and<br>Otolaryngology | <input type="checkbox"/> Residents in Training | <input type="checkbox"/> Urology             |
|  |  | <input type="checkbox"/> Obs and Gyn.        |

ARE YOU A MEMBER OF  
A BRANCH SOCIETY? ..... WHICH BRANCH SOCIETY? .....

NAMES OF TWO SPONSORING MEMBERS OF  
THE MEDICAL SOCIETY OF NOVA SCOTIA .....

DATE ..... SIGNATURE .....

*P.T.O.*

# Adult Respiratory Distress Syndrome

Arthur R. Macneil, M.D., M.Sc., F.R.C.P.(C)\*

Halifax, N.S.

## Adult Respiratory Distress Syndrome —

What is it?

Recent years have seen an increasing interest in the early recognition and treatment of a group of disorders which have come to be known as the Adult Respiratory Distress Syndrome. Various other names have been attached to this disorder such as "Stiff Lung Syndrome", "Shock Lung Syndrome", "Post Perfusion Lung Syndrome", "Da Nang Lung". In brief the disorder is best described by the current name of "Adult Respiratory Distress Syndrome", because this calls the attention of the physician to the fact that this disorder bears striking similarity to the Respiratory Distress Syndrome of the Newborn or Hyaline Membrane Disease.

Gross Pathology is characterized by solidified lungs showing hemorrhagic inflammation and wide-spread areas of atelectasis and inflammation of the tracheal-bronchial tree. In brief, the lungs tend to look more like liver. The microscopic pathology shows inflammatory exudate and edema in the interstitium with fibroblast proliferation. The alveoli show hemorrhagic exudate with hyaline membrane formation and proliferation of alveolar Type II macrophages. There are widespread areas of microscopic atelectasis in the lung fields. It is this inflammatory edema and atelectasis which explains the clinical features of the disease.

## Etiology and Pathogenesis

This paragraph is necessarily brief because nobody has yet determined the etiology of this disorder nor is it's pathogenesis as yet determined. However, it is essential to point out that this disorder may follow any massive insult to the body. It has been described following resuscitation from shock, following aspiration, cardiopulmonary bypass, in association with fat embolus, in association with septicemia, in association with fulminant viral pneumonias, and of particular interest in association with the use of high inhaled concentrations of oxygen. The practicing clinician need not worry about the cause (unless it is treatable). He must direct his efforts towards the early recognition and prompt management of this disorder.

## Clinical Course of Adult Respiratory Distress Syndrome

It is essential that the physician have available facilities for blood gas analysis. *In A.D. 1972 any hospital which*

*undertakes the care of the sick without the ability to analyse the arterial PO<sub>2</sub> and arterial PCO<sub>2</sub> should only admit to its wards second class citizens.*

Following any massive insult to the body the Adult Respiratory Distress Syndrome may be seen and will progress through the following stages:

### Phase 1

This is the stage of resuscitation following the precipitating insult to the body. It is a brief stage not always seen or recognized but is characterized by respiratory alkalosis; i.e. a high PH and a low PCO<sub>2</sub> as well as a low arterial PO<sub>2</sub> may be seen at this stage. Various other biochemical abnormalities such as lactic acidosis may be seen at this point.

### Phase 2

During this stage the patient's primary condition has stabilized and all would appear to be in order. However, if blood gas analysis is performed, alarming findings may be present. While breathing room air the patient is found to be hypoxic (that is the arterial PO<sub>2</sub> is low). Given a trial of oxygen it will be found that the arterial PO<sub>2</sub> does not rise to the expected level. In association with this there will be a respiratory alkalosis. *Do not wait until cyanosis is present before you begin to believe that your patient is hypoxic. Only blood gas analysis can diagnose hypoxia in the earlier stages.*

It is important to emphasize that at this stage the X-ray appearance may be within normal limits. Only late during Phase 2 and the earlier stages of Phase 3 does the characteristic X-ray picture occur.

### Phase 3

During Phase 3 the clinical condition of the patient obviously becomes worse. His lungs now become stiffened as the inflammatory exudate increases. As the hypoxia becomes more severe, it becomes progressively more refractory to oxygen administration. The patient is obviously dyspneic and begins to become fatigued. At this point the X-ray picture will show a diffuse alveolar infiltrate in both lung fields and the characteristic "ground glass appearance" may be seen. In addition there may be frank areas of atelectasis. Phase 3 blends into the final stage.

\*Department of Medicine, Victoria General Hospital and Dalhousie University.

#### Phase 4

This is the phase of hypoxia which worsens despite all oxygen administration. The stiffened lungs now become impossible for the patient to ventilate and he quickly succumbs.

#### Management

The prime principle in management of the Adult Respiratory Distress Syndrome is to maintain a high index of clinical suspicion and to recognize the onset of this disorder promptly. With prompt recognition aggressive management should then be instituted. The mortality rate in this disorder is extremely high and only by early recognition and treatment can one hope to increase patient survival.

##### 1. Fluid and Electrolyte Balance

Although some authors believe that overload with intravenous fluid and electrolytes may cause this disorder, their opinions are not universally accepted. However, in the management of Adult Respiratory Distress Syndrome, it is agreed that any fluid overload must be treated. Indeed, the therapeutic objective in treating this disorder is to diurese the patient rigorously. Diuresis may be done to the point where the patient is in danger of shock from dehydration. At this point colloids such as blood, plasma, or albumin may be used to protect the intravascular fluid volume. It is essential to measure serum albumin in these individuals. Hypoalbuminemia is a common finding and should be promptly corrected.

##### 2. Ventilation

Prompt placement of an endotracheal tube and ventilation at high tidal volumes with the use of positive and expiratory pressure is essential in the treatment of this disorder. It should be instituted without hesitation as soon as clinical recognition of the disease is established.

##### 3. Oxygen Therapy

As was noted above, oxygen itself may cause the Adult Respiratory Distress Syndrome. The physician is caught between the pressure of the patient's hypoxia on the one hand and his knowledge that oxygen may cause the disorder on the other. In short, hypoxia should be corrected but only to the point where the patient is in no danger from low oxygen tensions. There is little need to maintain arterial oxygen tensions greater than 70 mm of mercury. Therefore, the inspired oxygen concentrations must be monitored and regulated accordingly and kept at minimal levels.

##### 4. Cortico Steroids

The use of cortico steroids in this disorder has been well accepted; while their therapeutic efficacy has not been proved they are certainly worth trying in this rather pernicious disorder.

#### SUMMARY

In summary, the Adult Respiratory Distress Syndrome follows a wide variety of insults to the body and is characterized by stiffened lungs with wide-spread areas of hemorrhagic atelectasis and hyaline membrane formation. The clinical picture is that of progressive hypoxia refractory to oxygen administration. The prompt diagnosis is dependent on one's ability to measure arterial oxygen saturation. Prompt rigorous management is to be instituted as soon as the disorder is recognized. Immediate referral of such patients to areas where these problems can be best managed is, of course, the most desirable procedure. □

#### References

1. Post-traumatic Pulmonary Insufficiency — Moore, et al. Pub. W. B. Saunders Co.
2. "The Adult Respiratory Distress Syndrome" — Thomas L. Petty, M.D., F.C.C.P., Published in the CHEST, September, 1971, Vol. 60, Number 3.

*Compliments of*

The CAMEO RESTAURANT Ltd.

The Prestige Restaurant of Halifax

*Established 1929*

5511 Spring Garden Rd.

## The Lower Grey Street Marching and Clam Chowder Society Band

H. R. Roby, M.D.

Windsor, N.S.

This is an eight-piece Dixieland Band with rhythm section consisting of piano, bass and drums and five horns made up of clarinet, two saxophones (alto and tenor) trumpet and trombone.

I have always been interested in dance band music and jazz of all types whether it be mainstream or progressive. Jazz drumming has been one of my hobbies for years. In high school and college it was a welcome source of income. In 1940 we had a group at Dalhousie led by Don Warner. Peter Herschorn played one of the trumpets in that aggregation.



This was the original group at the Payzant Memorial Hospital, Windsor, Christmas Party. Tenor Saxes: Bob Collins and Dr. Garnet Turner, Piano: Mrs. Donald Murray.

The present group came into being entirely by chance. The hospital in Windsor had hired a small band for its annual Christmas Party and about three days before the event was to take place the band informed the party convener that they would not be able to make the date. The Windsor Hospital is small and in no time at all some one was in my office explaining that they knew I played drums with my family group at home and asked me to put together some sort of a combo for the party. This we did and it was more or less successful — thanks to an abundance of Christmas Punch.

Doctor Garnett Turner was one of the original members of this combo and when time permits and he can get away

from his Medical Society commitments we still welcome him to play his tenor saxophone with us. Two of the members of this original group decided that since we had had so much fun playing for this affair that we should get together occasionally for a little musical therapy. At this time the group consisted of six, with three in the rhythm section and three horns. This group stayed together for about a year and finally our present combination came into being.



The Six Piece Band playing at Wedding Reception in Wolfville for Dr. G. D. Denton's daughter, Nancy.

This is entirely a hobby for all of us and there have been changes in the personnel because several have moved away. We have had four trumpet players, one a Law student at Dalhousie, another a technician on the hydrofoil craft, Bras d'Or, another graduated from Acadia University. Our present trumpet player is one of the supervising engineers at Minas Basin Pulp and Power in Hantsport. I have mentioned these details about one of the horns to demonstrate that there is a very divergent background to the members of the band.

Our pianist is a fruit farmer in Falmouth, the alto saxophone and trombone players are school teachers, the clarinetist is a coal and oil dealer. The tenor saxophonist is a

bookkeeper and our string bass player is my son and since he has just graduated from Medical School we are looking for a replacement. When our group played for the Medical School Graduation Dance on June 1st my son took the night off to dance and his younger brother filled in on bass.

There is also a wide variation in ages. The oldest member of the band is about fifty years older than the youngest, but the band has the common interest of enjoying getting together "just for a blow".

We usually try to practice every second week-end during the winter months. These practices take place in my basement for several reasons: — there is a good tuned piano, the place is relatively sound-proof and there is a refrigerator handy. I might add at this point that some of these sessions are just as hard on the liver as on the lungs!



This picture is of the later group playing for a Beer Garden at Acadia University.

We call ourselves a Dixieland Band and this type of music might be all we will play at one of our informal sessions. However, during the past three years we have been engaged to play at several Beer Gardens at some of the University Functions in Halifax and also several Beer Gardens and Dances at Acadia University. Before such events as these our practices become real working sessions.

Everything is played from music using small band charts. At times like this we cool the Dixieland a bit and do some Cha Chas, Bossa Novas and Rhumbas as well as one of the newer numbers using a modified Rock beat. When we play professionally Brian Johnston, our trombonist is the leader. He has a brother, Donald, in fourth year medicine.

A word about the name, "The Lower Grey Street Marching and Clam Chowder Society Band." It is called Lower Grey Street because my basement entrance is on the Grey Street side of my home. We are a Marching Band. Several times during a practice-session and also when we are playing for parties or dances the horns will leave the bandstand and march into the crowd. This is a particularly pleasing innovation for most younger people who have been raised on Rock Groups consisting usually of three guitars and drums. The electric guitars cannot stray farther from an amplifier than the length of the lead-in cord. The Clam Chowder Society denotes that we are at our best at a party.

It is a most interesting and completely relaxing hobby and it takes me entirely out of the world of Medicine. I also find that I appraise other musicians more critically, listening not only for technique but determining whether or not they are trying to please their audiences. Since Dixieland Music is basically a happy music, we as musicians are happy playing it and we want those hearing us to be happy listening to it. □

## Seal Island Restaurant & Motel

The Seal Island Bridge spans mighty Bras d'Or waters, and leads to the Seal Island Restaurant and Motel, nestled in rolling hills nearby. A most welcome resting spot for a visitor to Cape Breton.

### Featuring

23 comfortable rooms  
every room has a scenic view  
soundproof  
the finest fresh seafood  
licensed dining room.

14 MILES FROM NORTH SYDNEY ON RTE. 105

RR. 1, Bras d'Or Ph. Boularderie 14-32

### Physician Self-Assessment — ANSWERS

Question No.	Correct Answer
552	D
629	C
242	B
321	D
402	D
474	C
554	B
630	B



# Correspondence

To the Editor:

## Re: Treatment of Warts

When there are alternative methods of treating disease, it is usually wise for a physician to employ the method of treatment with which he is most familiar, and it was therefore most appropriate that Dr. J. A. Aquino should extol the virtues of radiotherapy in the treatment of warts. (N.S. Medical Bulletin, June, 1972, page 73). Nevertheless, I am seeking your indulgence in publicizing alternative (and in my opinion more acceptable) methods of treatment.

Since condylomata acuminata, plantar warts, plane ("juvenile") warts and filiform warts usually each demand different treatment techniques, my comments should be taken to apply only to verrucae vulgares. (This distinction was not made in Dr. Aquino's article).

In order to avoid a wholly negative approach to Dr. Aquino's presentation, I will list my own order of preference for treatment of a single wart or a limited number of warts, as follows: —

1. **Electrocautery** (Local anesthetic usually possible except in exceedingly young or very apprehensive patients).
2. Surgical excision or curettage, **but only if followed by electrocautery.**
3. **Cryotherapy** (CO<sub>2</sub> "snow" or liquid nitrogen, etc.).
4. **Keratolytics** (high concentration of salicylic acid, etc.).
5. **Smallpox vaccination** (but never into the warts).
6. Radiotherapy (in adults, and in selected sites only. See below).

## COMMENTS:

1. Simple surgical excision of warts, when not followed by electrocautery or electrodesiccation, has a very high recurrence rate, since presumably the wart-infected tissue is not destroyed or removed.
2. **Cryotherapy** (not mentioned by Dr. Aquino) is usually effective, and does not normally produce scarring if carbon dioxide is used. (It is often momentarily painful).
3. **Keratolytics** are always worth trying, as a high rate of success occurs, if the treatment is persisted with for at least four weeks.
4. **Cantharides** has been notorious for centuries because of its alleged aphrodisiac properties. In my own experience, it doesn't work for warts either.
5. **Repeated smallpox vaccinations** have been employed, with occasional surprising success, in treatment of many treatment-resistant virus infections, including warts, for generations, but should only be administered to the "conventional" vaccination sites, such as the arm or leg.

I agree with Dr. Aquino that intralesional vaccination is highly undesirable or dangerous, since the risk of severe local necrosis is high, and the danger of self-inoculation into the eyes is obvious.

(Incidentally, this technique was first publicized by a radiologist, who presumably was not impressed with the results of radiation treatment of warts!).

6. "**Charming**". The Atlantic area is rich in folk-lore, including various exotic techniques for removal of warts — as by means of burying various objects at different phases of the moon. Treatment failures are not publicized, but successes are granted great credibility by the unsophisticated. (As in the treatment of many conditions by physicians, the trick seems to be to inherit the patient just before spontaneous regression occurs).

## 7. Radiotherapy.

Dr. Aquino reports an acceptable "cure" rate by means of treatment of warts by radiotherapy, but I feel he has minimized the potential disadvantages or dangers of the technique, particularly when dealing with children.

Certainly, radiodermatitis is a most unusual complication, but his description of the post-treatment progress makes it plain that he produces an inflammatory reaction. In most instances he would not have seen his young patients when they have become adults, and so cannot have examined them for long-term complications.

I agree that warts in certain locations sometimes do not respond to other methods — such as those involving nail beds, or partly under nails. In such cases X-radiation is probably the most acceptable treatment, but even then I prefer to reserve irradiation for patients who are over eighteen years of age.

The greater mobility of the population obviously increases the danger that radiotherapy may be repeated in another part of the world, if the first treatment does not result in a "cure", thus compounding the hazard.

In summary, radiotherapy for verrucae vulgares should be last on the list of alternative treatments, and should be reserved for peri-ungual or sub-ungual warts, occurring in adults.

When it is appropriate, radiotherapy should only be administered in a properly-equipped facility, such as the Department of Radiotherapy of a teaching hospital, or in a Dermatologist's office. □

Yours sincerely,

Denis R. S. Howell, M.D.

# Personal Interest Notes

Dalhousie University Medical School marked a milestone on June 2, 1972 and continues to march into its second century as one of the top medical schools in the world.

Of the 85 graduates in Medicine, 40 were residents of Nova Scotia, 17 of New Brunswick, 11 of Newfoundland, nine of Prince Edward Island and eight others, one from Ontario, two from the West Indies, two from Hong Kong, two from the United States and one from the United Kingdom. Of this group, sixty-one will be entering general practice, 12 into the Armed Forces and 12 into post-graduate training.

These latest graduates were the first to complete training in the new and modern facilities of the Sir Charles Tupper Medical Building which opened in 1968 and enables Dalhousie to maintain the excellent standards of medical education that have always been associated with the University's Medical School. Sir Charles Tupper was one of the founders of the Medical School in 1868 and was the first President of the Canadian Medical Association as well as the only physician to become Prime Minister of Canada.

An honorary Doctor of Laws degree was conferred on Dr. John R. Evans, Dean of the Faculty of Medicine, McMaster University, who delivered the Convocation Address to the graduates. Dr. Evans is President-Elect of the University of Toronto.



Dr. John Evans at Dalhousie Medical Convocation receiving his Honorary Degree.



Dr. Chester B. Stewart, former dean of the Dalhousie Medical School, received the first copy of the newly created Dr. C. B. Stewart Gold Medal to be awarded annually to the top graduate of the medical school, from President, Dr. Henry D. Hicks.

The school's 1972 convocation also marked the first time a presentation was made of the Dr. C. B. Stewart Medal in Medicine for highest class standing. The recipient was Dr. Jakob Arthur Meyerhoff of Vancouver, B.C. The new medal was created on the occasion of Dr. Stewart's retirement as Dean of the Medical School last year.

The Medical School is one of the chief reasons Dalhousie is so widely known and highly regarded. Dalhousie University Medical School can look forward to an even brighter future, based on a century of proud tradition.

---

**Dr. Bruce Morton** of Halifax is the new President of the Canadian Diabetic Association. Dr. Morton was elected during the annual national board of directors meeting held recently in Toronto.

---

**Dr. Margaret MacMurdo**, Bedford is one of the 19 Canadian doctors who have been awarded the 1972 Upjohn Postgraduate Study Award by the College of Family Physicians of Canada. The awards were announced by Dr. D. I. Rice, formerly of Halifax, executive director of the College.

---

**Dr. and Mrs. Robert Scharf** and their four children were chosen Family of the Week by the Halifax Mail Star recently. Dr. Scharf is director of the Emergency Centre at Victoria General Hospital, Halifax. Later this month the family will move to Bridgewater to make their home.

---

**Dr. & Mrs. Denis Howell** recently returned from a trip to Italy where Dr. Howell attended the International Congress of Dermatology in Venice. Before leaving for Italy he also took part in the Canadian Dermatology Meeting held in Montreal.

**Nova Scotia Anaesthetists Host National Meeting.** The 27th Annual Meeting of the Canadian Anaesthetists' Society took place in Halifax, June 18th - 22nd., 1972. It was the first time that the national organization had met in the maritimes, and it presented a considerable challenge to the local organizing committee, led by Dr. John Feindel. With customary quiet efficiency, a team of subcommittees assumed responsibility for accommodation, transportation, social events, public relations and audio-visual aids. An excellent ladies programme was organized by Mrs. K. Fairhurst, ably assisted by the wives of many Halifax anaesthetists.

Following an all day symposium on the toxicity of anaesthetic agents, the Nova Scotia Division of the C.A.S. were hosts at a welcoming reception held Sunday, June 18th in the Faculty Lounge of the Tupper Building. Dr. K.W. Fairhurst, Chairman of the Nova Scotia Division and Mrs. Fairhurst, together with Dr. John Feindel, Nova Scotia representative to the Council of the C.A.S., and Mrs. Feindel, received the more than two hundred guests at the very successful gathering. That special maritime flavour was reinforced the following evening at a Lobster Party and dance, held in the Sexton Gymnasium of the Nova Scotia Technical College.

The Annual dinner and dance took place on Wednesday evening, where outgoing president, Dr. Gordon Wyant of Saskatoon, paid tribute to all those, including the local committees, who had helped to make the meeting a success. Following his installation as president for the year 1972-73, Dr. Jean-Paul Dechene spoke of the tasks that lay ahead, and asked for the cooperation of all members in achieving these goals.

The closing session of the meeting on Thursday, June 22nd., no less well attended than the other scientific sessions, opened by sounding notes of caution concerning some of the anaesthetic agents presently in use, and closed with optimistic reports on new agents which may offer safer alternatives.

The meeting drew more than 400 registrants, many of whom were visiting the maritimes for the first time. We hope that the success of the meeting and the brief glimpse of some of the advantages that we enjoy in the maritimes, will encourage many to return for a longer visit.

**Dr. G. Graham Simms**, Halifax, has been appointed Deputy Minister of Public Health for the Province of Nova Scotia to succeed Dr. J. S. Robertson who is retiring.

Among those who received research grants from the Canadian Arthritis and Rheumatism Society were **Dr. T. Ghose** and **Dr. J. F. L. Woodbury** of Dalhousie University.

**Dr. Chester B. Stewart**, Vice-president Health Sciences, Dalhousie University, has received the Order of Canada's medal of service for his work in aviation medicine.

**Dr. E. F. Ross**, Halifax, was awarded Senior Membership in The Canadian Medical Association during the Annual Meeting held in Montreal in June.

## STOP THE PRESS

President H. D. Hicks on Wednesday, July 19th, 1972 announced the appointment of Dr. L. B. Macpherson as Dean of Medicine at Dalhousie University. Dr. Macpherson has been Dean (pro tem) for the past year and a member of the staff of the Faculty of Medicine since 1952.

## OBITUARIES

**Dr. Oscar Robert Stone**, 84, of Bridgetown died May 28, 1972. He received his pre-med education at the University of Alberta and graduated in medicine from Dalhousie University in 1922. He received Postgraduate training in New York, London, and Vienna. He practiced in Sherbrooke for six years then in Bridgetown for 46 years, retiring in 1971. Our sympathy is extended to Mrs. Stone and his son Harland, Chicago, Ill.

**Dr. Vernon Douglas Schaffner**, 68, of Kentville died June 29, 1972. Born in Lawrencetown, he received his early education there. He graduated from Acadia University with his B.A. and received his degree in medicine from McGill University. He did extensive postgraduate work in Montreal and then returned to Nova Scotia where he set up his department of Surgery at the Nova Scotia Sanatorium. Sincere sympathy from the Society to his wife and family. □

## ADVERTISERS INDEX

Air Page Answering Service .....	114
Atlas Travel Service .....	91
Bank of Montreal .....	113
Bluenose, Sail the, Fund .....	94
Cameo Restaurant .....	123
Colonial Homes Limited, The .....	118
Connaught Medical Research Laboratories .....	120
Hillcrest General Leasing Ltd. ....	114
Hotel Nova Scotian .....	104
Mahon's Stationery Ltd. ....	114
Maritime Travel Service .....	113
Mutual of Omaha .....	119
Medical Society of Nova Scotia Insurance Plans .....	104
Medical Society of Nova Scotia - Application Form ..	121
Parke Davis & Company .....	IBC
Richards Surgical Limited .....	114
Robins, A. H. Company of Canada Ltd. ....	OBC
Royal Trust .....	91
Schering Corporation Ltd. ....	92, 93
Seal Island Restaurant & Motel .....	125
Wambolt-Waterfield Photography Ltd. ....	104