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No Man is an Island

The physician of 1970, if he is to remain modern in the best sense of the word, must concern himself not merely with the health problems of his immediate geographic neighbours, but also with those people in distant lands.

Two articles in the current issue of the *Bulletin* indicate the useful knowledge to be gained by the study of people living in remote environments, and point the way towards improving the health of people in circumstances less fortunate than our own.

At first glance, the report by Haldane and Embil comparing cytomegalovirus infection in Nova Scotia and Easter Island might appear to be of interest only to anthropologists, virologists and epidemiologists. But the fascinating element of this study is the authors' evidence that the incidence of the infection may bear an important relationship to socio-economic factors. Such information may offer guidance in planning preventive programs for various types of infectious disease. The report by Steinmetz on the medical care of Eskimo

children defines some of the major health problems of this long neglected group of Canadians and shows how we, in the more favoured parts of the land, can and must give practical help.

Each of these articles reminds us that we are citizens of the world, with responsibilities far beyond the limits of our own communities. In these days of union versus management struggles, of depersonalization by technology and of proliferating government-sponsored welfare programs, there is real danger that the feeling of personal social responsibility may diminish as an inspiration to young people to enter the health professions. Thus if the young physician or nurse in training is exposed directly to the problems of the distant and the disadvantaged, then the philosophy of "my brother's keeper" may continue as a major inspirational force, and a life of service may still be looked upon as a rare privilege rather than a mere form of employment. □

R.B.G.

Alcoholism

Alcoholism is considered the fourth major health problem in North America today, with over 300,000 people in Canada afflicted with this illness. For a quarter of a century, there has been a gradually increasing acceptance of the disease concept of alcoholism but this is still far from complete among professionals and laymen alike.

The World Health Organization terminology for this disease entity is "Drug dependence—alcohol type" and has been defined in various ways. Perhaps the most descriptive definition is that of a harmful dependency on the drug alcohol, either psychological or physiological or both, which is sufficient to interfere with functioning in the physical, emotional and social spheres of life.

It has been concluded from several studies that more than three-quarters of the population over fifteen years of age use alcohol to some degree. The incidence of dependency is given as 3 per cent, but this may at best be a minimal figure because of alcoholism's nebulous nature, particularly in the early phase. The impact of the problem in society is far greater since each afflicted individual adversely affects the lives of at least five or six additional persons and hence truly creates a family illness.

Many people have a misconception of the alcoholic, whom they have stereotyped as the skid-row individual or the chronic drunkenness offender. Such cases constitute only about 5 per cent of the overall problem, and anyone using alcohol may become dependent regardless of factors such as race, creed, sex, education or affluence. The etiology is unknown but theories have been proposed claiming metabolic, psychological, genetic and socio-cultural aspects of causation. Alcohol is merely the agent and the quantity consumed is not the primary determining factor since the patient's behaviour and reasons for drinking are more significant diagnostically. On the average, the disease takes ten to fifteen years to develop, but many cases are encountered after a much shorter period of time.

There are many "unknowns" in the field of alcoholism but, if the disease concept is recognized as it rightfully should, treatment is a necessity and the earlier treatment is initiated, the better will be the results as in any other disease process.

At this point, we encounter the all-important matter of attitudes. The attitude of the afflicted individual is necessarily significant since at least a spark of motivation must be present. However, of equally paramount importance is the attitude of the therapist. Many physicians denote a feeling of hostility and futility—a feeling which will undoubtedly be transmitted to the sensitive and perceptive patient and produce pessimism for his or her own prognosis. Fear of therapeutic failure may influence the physician's attitude since recovery

from the insidious disease of alcoholism will be slow and often characterized by relapses. Perseverance is necessary, accepting the patient with neither condemnation nor condonation when "slips" occur.

Modalities of therapy are threefold, encompassing chemotherapy, psychotherapy and sociotherapy, and often a multi-disciplinary team approach is desirable, if available.

It is not the purpose here to provide a guide to diagnosis and treatment, but brief comments on these aspects may be enlightening for the physician, keeping in mind the fact that each patient requires an individually tailored therapeutic program.

The chemotherapeutic approach is primarily directed toward the manifest symptoms of a medical or psychiatric nature which are seen most frequently as malnutrition, gastritis, liver involvement, anxiety, depression and insomnia. Care must be taken in choosing medication that has a low index of addiction, since the alcoholic is a dependency-prone individual who may readily transfer his dependency from alcohol to a more highly addictive chemical.

Some measure of medical management during the phase of withdrawal is usually necessary and serves the purpose of making the patient more comfortable, establishing rapport and preventing the development of hallucinations, convulsions or delirium tremens, which may occur several days after alcohol intake has ceased.

Deterrent medication, such as disulfiram (Antabuse) is recognized as a valuable adjunct in therapy. Although this drug unjustifiably fell into disrepute for many years, it is now considered desirable in a co-operative patient and is contraindicated only in cardiovascular conditions or psychosis. The dangers of continued drinking far outweigh those of an acetaldehyde reaction.

Coupled with medication, which is usually short term management only, there is a distinct need for psychotherapeutic and sociotherapeutic support. An empathetic therapist can support the patient through regular follow-up visits and a great contribution towards successful therapy can be achieved by encouraging participation in the program of Alcoholics Anonymous. It would be most beneficial for physicians to acquire a working knowledge of that great universal Fellowship.

Sobriety is, of course, a requisite of successful treatment. Along with this, there is an equally important need for social reintegration so that the recovered alcoholic can function with desired improvement in the important spheres of life—physical, emotional and social—which have all deteriorated to some degree as a result of his or her dependent drinking. Although alcoholism is treatable, it must be considered incurable. The recovered alcoholic can never again return to social or controlled drinking, but this is a most difficult fact for the patient to accept, namely, that he can never again

THE 6th MEETING OF COUNCIL
AND
THE 117th ANNUAL MEETING
OF
THE MEDICAL SOCIETY OF NOVA SCOTIA

November 26-28, 1970

Thursday - November 26th

9:30—5:00 p.m.	Executive Committee	Sir Charles Tupper Building
5:00 p.m.	Nominating Committee	Lord Nelson Hotel
8:00—10:30 p.m.	Reunion Reception	Lord Nelson Hotel

Friday - November 27th

9:00—12:00 p.m.	Council	Lord Nelson Hotel
12:30—2:00 p.m.	Mixed Luncheon	Lord Nelson Hotel
2:00—5:00 p.m.	Council	Lord Nelson Hotel
7:00 p.m.	Presidents' Reception	Lord Nelson Hotel
8:00 p.m.	Banquet and Ball	Lord Nelson Hotel
10:00—4:00 p.m.	Ladies Hospitality Room Handcraft Attraction	Lord Nelson Hotel (Salon No. 1)

Saturday - November 28th

9:00—11:00	Council	Lord Nelson Hotel
11:00—11:30	Minister of Public Health	Lord Nelson Hotel
11:30—12:30	Annual Meeting (Final Session)	Lord Nelson Hotel
10:00—12:00	Ladies Hospitality Suite	Lord Nelson Hotel (Salon No. 1)

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REQUIRED. PLEASE INCLUDE YOUR
CHEQUE FOR PAYMENT.**

REGISTRATION

Members of the Medical Society will be required to register in order to attend the business and social functions of the Meeting of Council and the Annual Meeting. There will be no registration fee. Tickets to the social functions should be purchased when registering. The price of the tickets includes sales tax and gratuity. Advance registration, purchase of tickets and reserving accommodation can be done very conveniently by completing the form below and mailing to The Executive Secretary, The Medical Society of Nova Scotia, Sir Charles Tupper Medical Building, University Avenue, Halifax, Nova Scotia.

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MUSIC BY ARNE BENSON AND HIS ORCHESTRA

CHEQUE FOR \$ ENCLOSED

Dr. C. H. L. Baker

Charles Harold Lamont Baker was born in Plymouth, Devon, England, on August 20th, 1904. Here he began his schooling. The family moved to Canada when he was seven and he continued his education in the Halifax Schools.

In 1923 he was certified in Pharmacy by the Dalhousie College of Pharmacy.

The depression years followed but he enrolled in the course for medicine in 1928, working at night to pay for his tuition. He graduated in 1935 and took a residency at the Victoria General Hospital, being the first to occupy that appointment. While there he was also Instructor in Anaesthesia, Dalhousie University.

He married Genevieve Pettipas in 1937. There are two daughters both of whom were attracted to the medical field, one being a radio-technician, the other a nurse.

With the war approaching, there followed an interlude of indecision which included an appointment as Ship Surgeon on the "Lady Boats", and periods of practice in Glace Bay, Port Morien and Musquodoboit.

In 1940 he joined the Canadian Army Medical Corps; the subsequent period of waiting he found irritating, but he particularly enjoyed the Commando training. During the invasion of North Africa his troopship was attacked by Stukas and also torpedoed twelve miles off the coast. All were rescued.

Next came the African and the Italian campaigns. During the fighting in Italy there was one occasion when Dr. Baker gave 110 anaesthetics in 48 hours without losing a patient.

The Canadian Army moved to Northern Europe and two days after VE day Major Baker was one of six medical Majors who drove into Amsterdam, the first allied troops in that City. Their job was to take over all German medical installations and equipment, under the circumstances, no mean feat.

Following three years of private practice in anaesthesia he was invited to head a Department at the Halifax Infirmary which has become part of the teaching programme of Dalhousie University.

In his spare time he was an accomplished "ham" radio operator: All of his equipment was of his own design, and in that field his advice was widely sought.

It was his contribution to anaesthesia which gained him the respect of his colleagues and for which he will be remembered. There is no question that Harold Baker was one of the pioneers of modern anaesthesia which has so changed the scope of surgery. Those surgeons whose patients were so secure in his skill will remember his quiet mien, his obvious mastery of his work and his gentle humour. □

B.K.C.

Plan now to attend the 44th Dalhousie Refresher Course, Monday, November 23 to Thursday, November 26 inclusive. All sessions will be held at the Sir Charles Tupper Medical Building and in the affiliated teaching hospitals.

The John Stewart Memorial Lecture will be delivered at 9:00 a.m. Monday, November 23 by Dr. Julius R. Krevans, Professor, Department of Medicine (Haematology), The Johns Hopkins University School of Medicine, on the topic "Anemia—An Approach to Diagnosis and Management by Clue and Calculation".

The Special Visitor's Lecture will be given at 9:00 a.m., Wednesday, November 25 by Dr. Thomas P. Morley, Associate Professor, Department of Surgery (Neurosurgery), University of Toronto, on the subject "The Five Minute Neurological Examination".

Small Group Clinics: Ten physicians with a teacher. A choice from 54 topics.

Comprehensive Seminars: Two half-day in-depth reviews of major topics in Medicine, Surgery, Paediatrics, and Obstetrics and Gynecology.

Socratic Luncheons: These permit a follow-up to an unanswered question or an opportunity to discuss a new topic while relaxing over lunch with the teacher of your choice.

There will be a special half-day presentation given by the members of the Dalhousie Class of 1955 on Thursday morning, November 26. The class is celebrating its 15th-year reunion.

These sessions are designated as the Scientific Programme for the Annual Meeting of the Medical Society of Nova Scotia. The Medical Society will hold their Banquet and Ball on Friday, November 27 in the Lord Nelson Hotel at 8:00 p.m., with a reception at 7:00 p.m.

The Medical Alumni Banquet and Ball will be held on Wednesday November 25.

A complete programme will be circulated to all Maritime physicians early in October.

Further details may be obtained from Dr. R. L. Ozere, Chairman, Dalhousie Refresher Course Committee, Division of Continuing Medical Education, Dalhousie University, Halifax, Nova Scotia. □

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"There is ample pharmacological, therapeutic and economic justification for recommending that thyroxine be used for all thyroid replacement therapy, to the exclusion of preparations of dried thyroid..."¹

1. MacGregor, A.G. (1961) Lancet, i, 3.

Presentation

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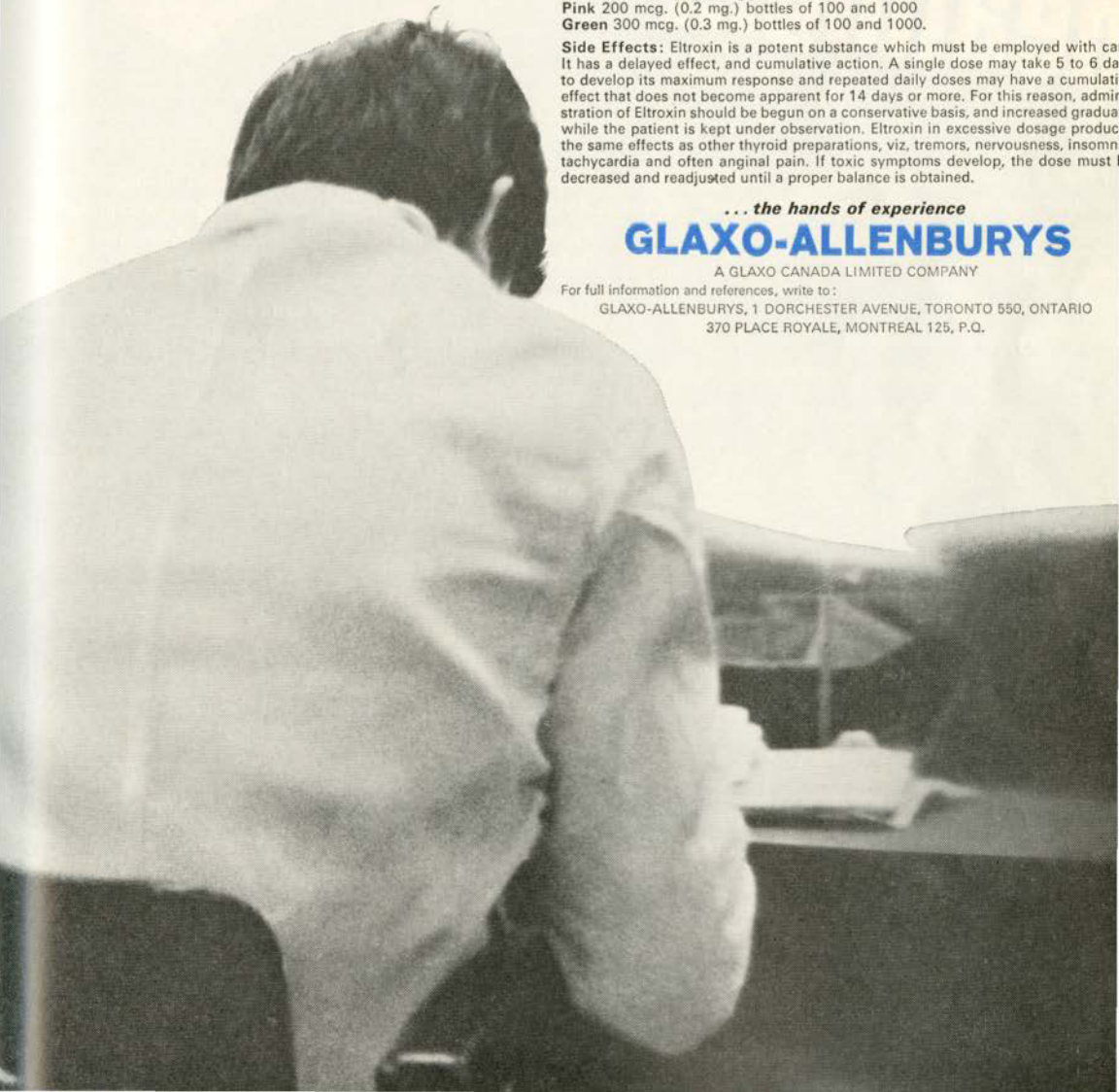
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cedures based on this principle. The significance of the acute angle of entry is suggested first, by the rarity of gastro-esophageal reflux in paraesophageal hiatal herniae, in which there is an exaggeration of the acute angle, and second, a loss of the normal gastro-esophageal angle in many patients with free reflux but without a hiatus hernia. The importance of mucosal folds and a pinchcock action of the crus have not been adequately studied, but they are probably less important than other factors.

Clinical presentation

Significant gastro-esophageal reflux can occur at any age, from infancy to old age. The symptoms are related primarily to the esophagus and lung. Typically, substernal pain or heartburn aggravated by posture is the outstanding feature. Regurgitation, intermittent or progressive dysphagia, choking, burning, and chest pain are also common. Bleeding is uncommon.

The severity of symptoms varies, and marked symptoms may occur even with minimal objective evidence of esophagitis: the reverse is also true. Secondary

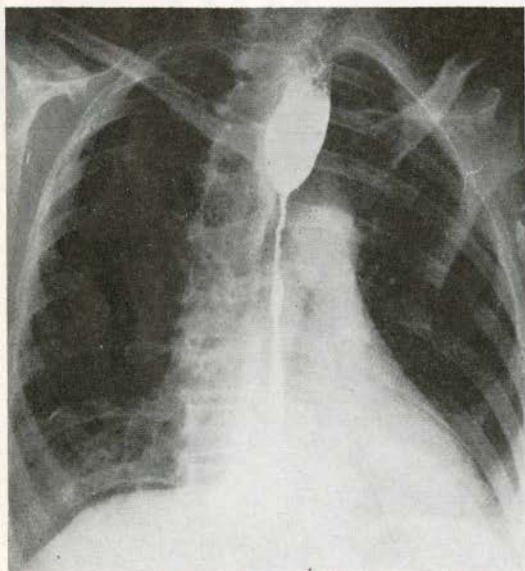


Fig. 3

Long Ascending Stricture Secondary to G.E. Reflux.

esophageal spasm from reflux may cause intermittent dysphagia and severe post-prandial pain which is similar to angina.

Pulmonary complications have not been emphasized but are common. They may develop in the absence of a history of reflux esophagitis. The common complications have been described by Urschel and Paulson.² Recurrent pneumonitis, unexplained hemoptysis, bronchial asthma, nocturnal cough, and chronic bronchitis are all common complications of aspiration. (Table 1).

Esophageal complications are mainly those of stricture formation, in which case the symptoms are those

TABLE I

Pulmonary Complications

Recurrent Pneumonitis
Chronic Bronchitis
Nocturnal Cough
Bronchial Asthma
Hemoptysis

of esophageal obstruction. There may be no history of esophagitis. Inflammation of the esophagus may be superficial or diffuse, involving submucosa, muscle, and peri-esophageal tissue. All stages of acute and chronic inflammation may be found, narrowing of the esophagus being secondary to spasm, edema, or fibrosis. Hopefully, many patients will receive adequate surgical treatment before the development of stricture, because once a stricture develops a serious situation ensues which requires prompt management.

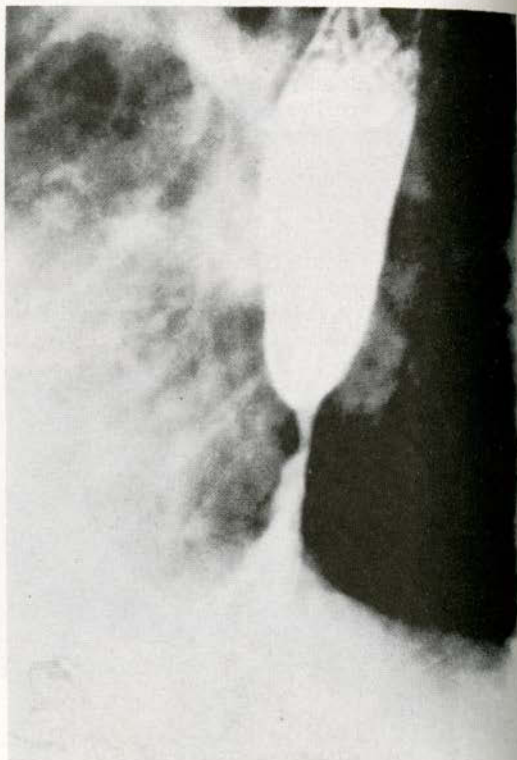


Fig. 4

Short Ascending Stricture Secondary to Reflux.

This form of esophageal stricture can develop anywhere in the lower half of the esophagus. There are two common types³. One is an annular stricture (also known as Schatzki's ring, lower esophageal ring, or esophageal web); it is found at or just above the gastro-esophageal junction, and fixed deformity causes dysphagia when the internal diameter is less than 12 mm. (Fig. 1). The other is a longitudinal stricture which may extend anywhere from the esophago-gastric junction up to the arch of the aorta. (Figs. 2, 3).

Investigation

Radiological studies include barium swallow and cinefluorography. A barium swallow should be directed to the demonstration of the gastro-esophageal reflux, and to evidence of acute or chronic peptic ulceration by careful examination of the duodenum and stomach. The esophagus should be placed on the same horizontal level, or a little lower than, the stomach, and the fundus filled with barium; this is best achieved by placing the patient in the supine position with a slight downward tilt of the table, and then rotating the patient so that the gastro-esophageal junction is cleared from the spine. Coughing and straining may help to raise the intra-abdominal pressure. If free reflux is produced by these manoeuvres, this is probably significant if the history fits the clinical picture. In tense patients, reflux is often demonstrable at maximal relaxation. An examination after the patient has eaten will often show reflux, which cannot be demonstrated by the ordinary maneuvers.

If reflux cannot be demonstrated by these means, the water test may be useful. Many individuals may

The observation of the gastro-esophageal angle is also important. It is usually found to be almost 90° ; in some patients having free reflux without hiatus hernia, an abnormally reduced angle may be seen. Radiologists have tended to under-diagnose this condition for fear of the surgical consequences to the patient.

Cinefluorography is another useful diagnostic aid. It is particularly valuable for the surgeon in a pre-operative review of the function of the esophagus and gastro-esophageal junction.

Esophageal motility studies are primarily helpful in atypical cases in which the symptoms may be bizarre, and in which a disorder of esophageal motility is suspected. The acid drip test is a good indicator of pain being of esophageal origin, and it helps to differentiate those whose symptoms suggest angina. pH studies are sometimes helpful, but they are not generally necessary.

Esophagoscopy is mandatory in any cases with stricture formation, and any evidence of esophagitis seen through the esophagoscope is helpful in those atypical cases in which esophagitis might be diagnostic.

Treatment

A. MEDICAL TREATMENT. This consists of weight reduction when necessary, elevation of the head of the bed 6 to 8 inches, and antacids as indicated. However, symptoms may persist in many patients who have followed a proper medical regime, and furthermore, there is no medical therapy which will make the cardia more competent. Surgical therapy in general is indicated in these circumstances:

- i. Persistence of symptoms following adequate medical treatment;
- ii. Stricture formation;
- iii. Bleeding;
- iv. Plumonary complications.

B. SURGICAL TREATMENT. Because the results of hiatal hernia repair for the correction of gastro-esophageal reflux were not uniformly good in the past, there has been a marked reluctance among physicians to refer patients for surgery. However, several surgical procedures can now be recommended as critical follow-up examination indicates that they have given satisfactory results. In order to be successful, the surgical procedure must correct reflux, give good long-term results, together with low morbidity and negligible mortality rates.

More emphasis has recently been placed on the correction of reflux. The series of Hill⁴, and Skinner and Belsey¹, and the procedure described by Nissen⁴ are particularly important. Nissen first performed fundoplication in 1955; in a 1966 three-year follow up, 96% had disappearance of symptoms. The operation is simple and effective; the fundus is wrapped around the esophagus creating a valve-like flap. It does not appear necessary for the esophagus to remain within the abdomen for this procedure to effectively control reflux.

Hill in 1967 reported a series of 149 cases with a maximum follow-up of 8 years. Among the first 100



Fig. 5

Same Patient as in Figure 4 Post-Operative, Thal Procedure.

produce a reflux of barium from the fundus on drinking water; however, if there is marked reflux with evidence of barium in the middle or upper esophagus, it is probably significant.

patients studied with cine-esophagrams and pH studies, there was one patient with recurrent reflux: no patient developed recurrence of hernia. Hill's approach was basically that of attaching the phrenoesophageal ligament to the preaortic fascia, and suturing the fundus of the stomach to the lower esophagus; the end-result is maintenance of intra-abdominal esophagus and re-creation of the gastro-esophageal angle.

Belsey's series reported on 1,030 cases with a 15-year follow-up: the results were excellent to good in 90%. Others have reported on this type of operation, and at the present time over 3,000 cases have been treated in this way. The technique is that of creation of a long intra-abdominal segment of esophagus and re-creation of the angle with a portion of the fundus compressing the lower end of the esophagus for at least two-thirds of its circumference. The operation is done using the transthoracic approach.

The *management of strictures* is important, and any procedure designed to relieve stricture formation should also prevent reflux. Simple dilatation of the stricture secondary to reflux only aggravates reflux: the reflux then extends higher, and as a result there is progression of the stricture. As stricture formation progresses, management becomes more difficult. For annular strictures, either dilatation or excision with correction of reflux is all that is necessary. Short longitudinal stricture, especially if acute, may be managed by simple dilatation with correction of reflux. For strictures complicated by dense fibrosis and scarring and shortening of the esophagus, two procedures can be recommended. These are the Thal operation, which is a fundal patch technique also designed to prevent reflux⁶, and the Collis gastroplexy with Belsey reconstruction⁷. Longer strictures, which cannot be managed by the Thal procedure, are difficult to treat; the only courses available are, for the good-risk patient, colon interposition, or in the case of poor-risks, multiple dilatations.

Discussion

Although gastro-esophageal reflux may be managed by medical therapy, in its early stages, or when the disorder is mild, surgical procedures are indicated once symptoms are not controlled by medical means or when complications such as stricture formation or pulmonary involvement develop. Of the various surgical procedures available, the Belsey operation appears to give the best results for patients without strictures. Together with the Nissen and Hill procedures, good results should now be obtained in the majority of patients undergoing surgery for gastro-esophageal reflux. It is important to emphasize that the control of reflux is important, and particularly in the case of stricture formation, failure to control reflux means failure of operative result.

Other surgical procedures such as vagotomy and drainage are not indicated unless peptic ulceration is associated with reflux; once reflux is corrected, diminution of gastric acidity is no longer necessary. □

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Comparative Epidemiology of Cytomegalovirus Infection in Two Contrasting Population Groups

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Halifax, N.S.

Summary: *The incidence of complement-fixing antibodies to cytomegalovirus is compared in the populations of Halifax-Dartmouth and Easter Island. The incidence is much higher in the latter. Cytomegalovirus infection gives rise to multifarious clinical syndromes, some of them severe and, in some cases, fatal. Low socio-economic conditions, with overcrowding and poor hygiene, appear to contribute to a higher incidence of cross-infection.*

It is now generally recognized that human cytomegalovirus (CMV) manifests itself as a pathogenic micro-organism in many ways. Infection may be either congenital or acquired. In neonates, congenital infection may appear in many forms. The most severe is a fulminating, usually fatal disease, characterized chiefly by hepatosplenomegaly, jaundice, thrombocytopaenic purpura and haemolytic anaemia.¹⁻³ A more insidious form, in which tissue damage becomes evident only between the ages of 6 and 18 months, may leave a child with permanent neurological damage such as microcephaly, spastic diplegia, and mental retardation; less commonly there is chronic liver damage.^{4,7} However, although the majority of infected infants appear to be normal and healthy, they may be chronic virus-excretors for some years^{7,8} (at least six years in our personal experience), thus constituting a reservoir for virus spread throughout the community and a potential source of danger especially to the foetuses of those pregnant women among their immediate contacts.⁹

Acquired CMV infection in normal, healthy people is usually subclinical, although the virus has been implicated as the infective agent in one form of Paul-Bunnell-negative infectious mononucleosis.¹⁰ This type of infection is particularly common after operations that involve fresh-blood transfusion, *e.g.*, open-heart surgery.¹¹⁻¹³ The resultant illness is apparently mild and self-limiting, although the possibility of long-term effects and chronicity of virus excretion has not been investigated. However, several studies have indicated that CMV infection can constitute a serious hazard as an opportunistic infection in patients with prolonged debilitating diseases or those on immunosuppressive therapy, *e.g.*, in Hodgkin's lymphoma, leukaemia,¹⁴⁻¹⁶ or after organ transplantation.^{17,18} Such patients are particularly vulnerable, and may suffer acute, often fatal CMV pneumonitis.

In view of the occurrence of CMV in such multifarious conditions—and examples of all of the various manifestations have been demonstrated by viral studies in Nova Scotia during the past five years^{3,4,11}—the present comparative sero-epidemiological investigations were undertaken to ascertain the incidence of complement-fixing (CF) antibodies to CMV infection in a 'normal' urban population of Nova Scotia (the Halifax and Dartmouth metropolitan area) and in the total population (958) of Easter Island. This volcanic sub-tropical island in the mid-Pacific is one of the most isolated communities in the world: the only regular contact with the outside world at the time the test sera were obtained was an annual visit by a Chilean supply ship.

Materials and Methods

In Halifax and Dartmouth, all blood samples were collected from normal persons during 1967-68. Samples of cord blood were obtained from newborn infants. As almost 100% of the births in the area take place in the two local maternity hospitals, the cord sera represent a random selection from all socio-economic groups.

Blood samples from pre-school-age children were collected at four well-baby clinics in different parts of the two cities; likewise, blood was taken from school-age children, aged 5-17 years, at three separate day schools. Blood samples from those over 18 years were obtained through the Red Cross Blood Transfusion Service. Sera were removed from clotted blood samples and were stored in screw-capped tubes at -20°C until tested.

In Easter Island, blood was obtained through the help of the Canadian Medical Expedition in 1964-65. At the wish of the Islanders, younger children were subjected to finger prick only, and only four samples were obtained from children aged 5-6 years. Sera were stored at -90°C until they were brought to Canada. We received 318 serum samples for CMV CF antibody testing, representing 45% of the inhabitants older than 4 years.

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On the day of testing the sera were thawed and inactivated at 56° C for 30 min. The microtitration technique was used,⁵ with antigen prepared in our laboratory from the AD169 strain of CMV. A titre of $\geq 1:8$ was regarded as positive. The numbers and distribution of age groups used in the Halifax and Dartmouth area were those proposed by a WHO Study Group.¹⁹

Results

A comparison of the incidence of CF antibodies to AD169 CMV by age groups in the Halifax and Dartmouth and Easter Island population groups is shown in Table I. It is interesting that, in the Canadian group,

TABLE I

A comparison of CMV CF antibodies in the population of Halifax, Dartmouth and Easter Island, by age groups.

Age	Nova Scotia		Easter Island	
	No. Positive*/No. Tested	% Positive	No. Positive/No. Tested	% Positive
0-6 mths	7/25	28	—	—
6-12 mths	3/25	12	—	—
1+ yrs	4/25	16	—	—
2+ yrs	1/25	4	—	—
3+ yrs	3/25	12	—	—
4+ yrs	4/25	16	—	—
5-9 yrs	8/50	16	21/31	68
10-14 yrs	7/50	14	46/60	77
15-19 yrs	7/50	14	35/50	70
20-29 yrs	14/50	28	40/50	80
30-39 yrs	17/50	34	33/47	70
40+ yrs	26/50	52	65/49	82
Total	101/450	22.4	240/317	75.7
Cord Blood	34/100	34	—	—

*Positive titre, $\geq 1:8$.

the percentages of positive sera in cord blood (34%) and in infants up to six months (28%) are paralleled by the levels (28-34%) in the age groups (20-39 years) that include the greatest proportion of females of child-bearing age. It is likely that the antibodies in the infants up to six months of age largely represent maternal IgG antibodies passed transplacentally during foetal life. After six months these maternal antibodies disappear gradually and the percentage of positive findings decreases, to a minimum at two years of age. Thereafter there is a slow rise in the rate of acquired infection throughout the first and second decades, so that more than half the population over the age of 39 has CMV antibodies. A separate evaluation of women of child-bearing age (15-45 years) showed only 121 of 327 (37%) to have CF antibodies to CMV, so that approximately two-thirds (63%) were susceptible to this infection at the time of pregnancy (Table II).

TABLE II

A comparison of the percentages of females of child-bearing age without CMV CF antibodies in the populations of Halifax, Dartmouth and Easter Island.

Age	Nova Scotia		Easter Island	
	No. Negative*/No. Tested	% Negative	No. Negative/No. Tested	% Negative
15-19	34/50	68	6/21	29
20-29	141/211	67	3/30	10
30-39	31/66	47	4/23	18
Total	206/327	63	13/74	18

*Negative titre, $\geq 1:8$.

By contrast, the lowest incidence of CMV CF antibodies in the Islanders tested (5-9 years) is more than four times greater than the incidence at the same age in the Canadian group (Table I). In fact, 76% of all Islanders tested (almost half the total population over five years of age) had a positive titre: by 10 years of age, 60-70% had CF antibodies, and of those older than 39 years, more than 80% were positive. A separate count of Island females indicated that 70% had antibodies by the age of 15 years, and that only an average of 18% was susceptible to primary infection in the child-

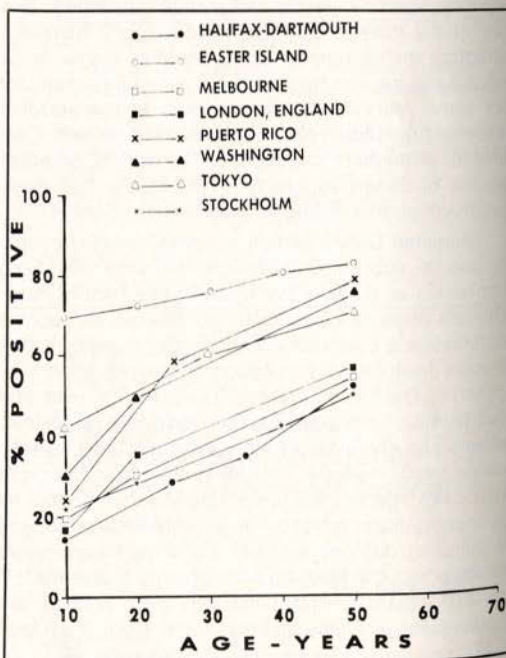


Fig. 1

Graph showing the comparative incidence of CMV CF antibodies in the populations of eight geographical locations.

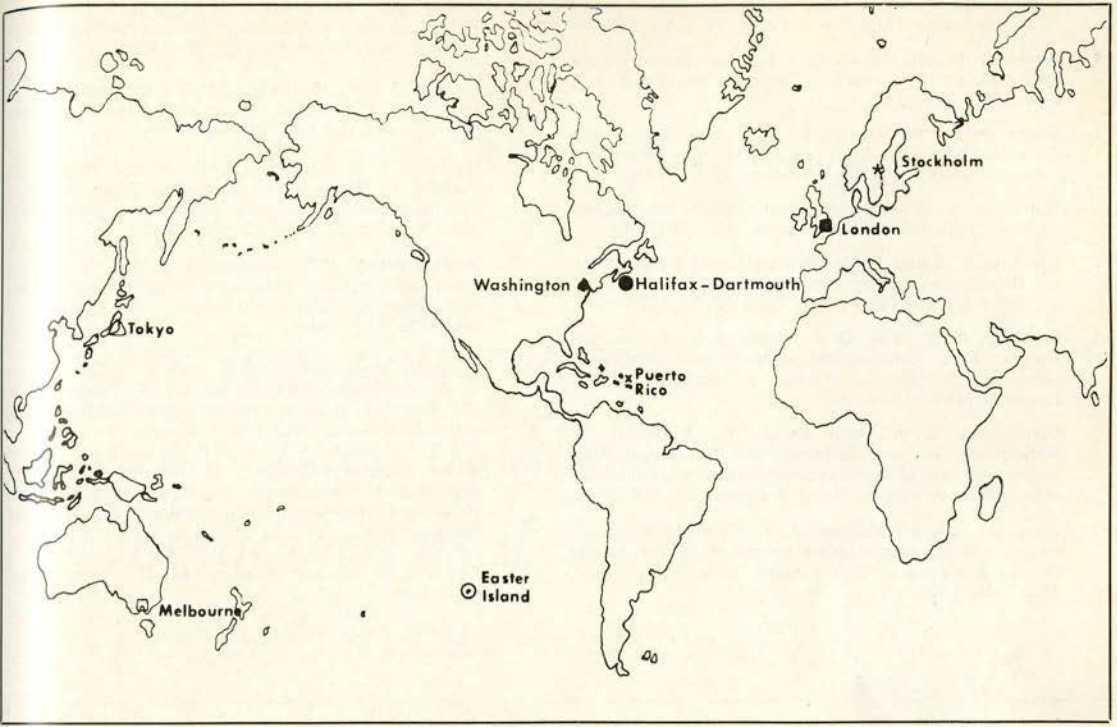


Fig. 2.

Map showing the eight geographical locations where studies were made of the incidence of CMV CF antibodies in the population.

bearing years (Table II). No clinical evidence of congenital or acquired cytomegalic inclusion disease was found among the Islanders.²⁰

Discussion

It is suggested that the acquisition of infection and development of antibodies during early childhood, and the subsequent low susceptibility of females to primary infection during pregnancy, may protect the community against the serious effects of CMV infection.

Figure 1 gives the comparative incidence of CMV antibodies detected in eight geographical locations throughout the world, as shown in Figure 2.

In four groups (Melbourne, Halifax and Dartmouth, Stockholm, and London, England) the incidence of CMV CF antibodies in those over 49 years was 50-55%. In the other four groups (Easter Island, Puerto Rico, Washington, and Tokyo), where the incidence of antibodies in this age group was 70-80%, all sera were obtained from persons living in low socio-economic circumstances with overcrowding and poor hygiene. In Washington, most of the children up to 15 years of age were residents of a foundling home. In Easter Island, the population share every aspect of living in their close community life.

Furthermore, in London, England, 80% of children in a boarding-school population had positive antibodies, compared with only 18% and 29% in two day-school populations of the same age.² It seems, therefore, that overcrowding, poor hygiene and institutional life are important contributory factors in cross-infection with CMV and the acquisition of a higher incidence of positive antibody reactions at an earlier age. □

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Some Aspects of Health Care in Northern Canada *

(Provinces and Territories)

I. OUTPOST NURSING

Ruth E. May, B.A., R.N., C.M. †

During the last half-dozen years, the School of Nursing and the Medical School at Dalhousie University have become aware that nurses serving in the remote, sparsely populated areas of Canada's Northland are required to provide care far beyond the horizons defined by nursing education in Canada. Dr. Robert C. Dickson, Professor of Medicine at Dalhousie University Medical School, and others have had opportunity for travel and observation in the Canadian North, and a liaison has developed between the University and one organization providing northern health services.

Everywhere in the North the provision of health services tends to follow one general pattern. Regional hospitals, preferably with several doctors, are surrounded by satellite nursing stations staffed by one or more nurses. Transportation, usually by air, is provided from the satellite nursing station to the regional hospital when weather conditions permit, and some sort of radio communication is maintained between them.

The nursing stations vary in size and facilities offered, but they serve as a center for the health program throughout the surrounding district, providing outpatient clinics at the nursing station, a few beds for inpatients, and a public health program. A midwifery service is provided, and there are beds and bassinets in the station for obstetrical patients. Initial care for seriously ill patients awaiting transport to the regional hospital is given in the station, if possible under the radio direction of a doctor at the nearest hospital.

A lack of doctors

It is obvious that a nurse at a northern nursing station will be providing services which fall within the prerogative of a doctor in other parts of Canada. Although a doctor may visit from time to time and be available for some radio consultation, many of the nurse's day-by-day activities will require judgment and skill beyond the scope of what we normally consider to be nursing.

It is impossible to provide doctors now at this level; there are simply not enough available. Moreover, a familiarity with this type of service leads one to feel that doctors should not be used at this grass roots level even if they were available. The total population served by one of these stations is small and often widely scattered. There is little to attract a doctor professionally. Diagnostic facilities are of necessity very limited in a station of this size. Any surgery requiring general anesthesia, no matter how minor, is usually not possible as there is normally no one qualified to give anesthesia safely. A

very large number of the doctor's patients would need to be referred to the regional hospital, often not because the doctor lacked the medical background to care for them, but because the requisite facilities would be lacking.

Is it reasonable, one asks, for a person educated amid all the intricacies of latter twentieth century medicine to work where it is impossible for him to use a considerable portion of the knowledge he has acquired and where further professional growth is nearly impossible? How much better for him to serve as a member of a medical team at a regional hospital and for specially prepared nurses to continue to serve at the nursing station level.

As a familiarity with northern facilities developed, one fact became inescapable. A large number of the nurses serving in northern nursing stations are either foreign born or foreign educated. This pattern developed essentially because it was desirable for these nurses to have formal preparation in midwifery, and such preparation is difficult to obtain on this side of the Atlantic. Gradually a conviction arose that facilities should be provided in Canada to help Canadian girls wishing to work in remote areas of the North. We hear much these days about the responsibility of the highly developed nations to the developing areas of the world and the personal rewards of this "Peace Corps" type of service. Why not a plan to prepare Canadian nurses for service in the isolated areas of the Canadian North, a plan which would include preparation not only in midwifery but in all the areas where the nurse is required to function beyond the scope of nursing elsewhere in Canada.

A new program is born

Thus the Outpost Nursing Program at Dalhousie was born. The entire faculty of the School of Nursing and key persons at the University Medical School have been most enthusiastic. A program extending over two calendar years has been planned and will be directed by a member of the University School of Nursing faculty who is a qualified midwife with an extensive background of northern service at the nursing station level.

The first class, to be admitted in September, 1967, will be limited to eight students, as the clinical experience will be highly individualized with intensive tutorial type teaching maintained in all areas. Applicants

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must be graduate nurses and are asked to have completed at least one year of professional nursing experience. Preparation in public health nursing, a vital area in northern service, will be integrated throughout the program, and a university diploma in public health nursing as well as a diploma in outpost nursing will be awarded at the completion of the program. Within the next year or two a shortened course for students who already have preparation in public health nursing will be revised.

Students will spend their first year in Halifax. Lectures and seminars in basic public health nursing will be provided during this year and also clinical teaching within the areas of general medicine, surgery, pediatrics, and midwifery. Some lectures in materia medica and some basic laboratory experience will be included. Three teaching hospitals in Halifax have offered clinical resources most enthusiastically for the students, and clinical teaching and experience will be carried out there, primarily at the bedside, under the direction of medical school personnel working in cooperation with the lecturer in outpost nursing. Opportunity will be given for the student to develop some skill in basic physical examination and also in various specific procedures such as the starting of intravenous infusions, suturing, and the opening of superficial abscesses.

The second year will consist of an internship under the direction of the University in a northern setting, using selected hospitals and nursing stations of the International Grenfell Association and the Department of National Health and Welfare. The students will spend half of this year exclusively within the area of midwifery at St. Anthony Hospital, St. Anthony, Newfoundland. The remainder of the year will provide further teaching and supervised experience in public health nursing and in clinical medicine, surgery, and pediatrics. Opportunity will also be given for the students to develop some skill in routine dental extractions.

Midwifery emphasized

Particular care has been given to the development of the midwifery section of the program. A comprehensive nine-month experience has been arranged with three months during the first year in Halifax and the remainder during the internship year. Lectures will be given by the lecturer in outpost nursing and the obstetrical staffs of the hospitals involved.

Each student will have the opportunity to care for in labor, and to deliver, approximately 30 to 40 women. Opportunity to evaluate, follow, and contribute to the care of patients with abnormal courses will be provided. There will be extensive experience in antenatal clinics with emphasis on patient and family teaching. During the internship, when travel permits, there will be a program of weekly home visits to mothers and babies following discharge from hospital.

Experience in postpartum care and management of the normal newborn and premature infant will be provided. As in all the clinical areas, teaching and supervision will be individualized on a tutorial pattern.

This experience will use as a foundation the three months in obstetrical nursing that students receive in their basic nursing education program. Although basic obstetrical nursing is not midwifery, it does serve as a very useful background, and some lectures reviewing and expanding this material will be given before the students embark on their full-time midwifery experience.

At the end of the program, therefore, the students will have completed a total of one year within the overall area, three months during the basic nursing course, and nine months during the outpost nursing program. This has been arranged to be equivalent not only in time but also in content with the British pattern of midwifery preparation, and the University feels that graduates of the program can be expected to function at the same level of competence. It is hoped that the establishment of this experience will represent a significant achievement in the history of nursing education in Canada.

Constant emphasis throughout the entire program will be given to the early recognition and evaluation of significant illness and potential threats to the well-being of the patient and his family. The nurse must learn to initiate treatment or transfer the patient to a hospital before an emergency situation develops; one of her aims must be to prevent the development of emergency situations in isolated nursing stations whenever this is possible. However, there will be discussions of reasonable plans of action in unavoidable or unpredicted emergencies when medical aid or transport to hospital is not immediately available.

Considerable thought has been given to the identification of those functions and procedures that can be taught safely to nurses and to those that she should avoid. It is essential that the students be taught to recognize and respect their limitations. It should be noted, also, that it is never intended for these students to use the specific skills developed within this program in other areas of Canada where such care is provided by resident doctors.

Arduous, but rewarding

The type of northern service for which this program in outpost nursing seeks to prepare nurses is arduous, and nurses considering service of this sort should face the demands realistically. There are likely to be emergency situations and tragedies that must sometimes be met and accepted alone. Many of the common amenities of twentieth century living will be lacking. There can be periods of drudgery and loneliness; in due time the glamor is likely to fade. However, those who have steeped themselves in this work have found the rewards far outweighing the demands. There will always be a tremendous challenge and satisfaction in attempting to provide the best possible service to those whose birthright has included so much less than ours.

Hundreds of years ago Jesus said to a group of his friends,

"In so far as you rendered such services to one of the humblest of these my brethren, you rendered them to myself." — *Matthew 25: 40, (Weymouth)*.

2. MEDICAL CARE OF ESKIMO CHILDREN

N. Steinmetz, M.D. †

The disparity in health standards between the Arctic and southern Canada has prompted a committee of the Canadian Pediatric Society to study the Eskimo health problems, and to make suggestions as to how pediatricians can cooperate with and support the programs presently being carried out by the Northern Health Services of the Department of Health and Welfare. As a result, in July of 1965, The Montreal Children's Hospital started to send a senior pediatric resident each month to serve in the new 28-bed hospital at Frobisher Bay, Baffin Island.

A harsh land

The health problems of the arctic must be considered in relation to the geography, climate, and the history of its people. The 1,253,000 square miles of land comprising the Northwest Territories equal the combined area of the Atlantic Provinces, Quebec, Ontario, and Manitoba. Distance alone creates a problem in survival. In the Eastern Arctic (Baffin and Ellesmere Islands) Precambrian rocks form mountains, often divided by glaciers, which rise to 10,000 feet and fall in spectacular cliffs into majestic fjords. The vegetation consists only of lichens, mosses and a few shrubs.

In this land the dog sled or skidoo is useful only on the coastal areas during the winter. Effective transportation of men and materials depends on the airplane in winter and on coastal vessels during the short summer. During break-up and freeze-up most transportation comes to a standstill, although some of the larger settlements have landing strips on firm soil. Radio is still the chief means of communication.

The climate makes severe demands on housing and clothing. Great skill is required to live off the land. Between November and February it is genuinely cold, the temperature falling to minus 30-40 degrees F. and only in June, July and August does the average temperature rise to 40-45 degrees F. Strong winds and blowing snow are the chief hazards in overland travel.

A hard life

Traditionally, all the Eskimos lived along the coast in family units, and moved to follow the game upon which their survival depended. Starting as early as 1000 A.D., but mainly between the sixteenth and eighteenth centuries, they had increasing contact with white explorers. During the 1800's they dealt with whalers, fur traders and missionaries. Gradually they settled near trading posts as the latter developed, and sought employment there. The white man established these settlements according to criteria that satisfied his own requirements.

The town of Frobisher Bay, for example, was never an Eskimo settlement. In 1914 the Hudson Bay Company established a trading post elsewhere on the Bay. In 1942, the United States built a military airfield in

Frobisher, obviously because it was a good place to have an airfield, not because the area was a good hunting ground. Of the approximately 3,000 Eskimos in the Eastern Arctic, nearly one-half of them now live in Frobisher Bay, which is for them an artificial location. Here, as in other such settlements, the men find little opportunity to use their special skills for hunting and arctic survival. Consequently these skills are as foreign to the new generation as they are to us. The Royal Canadian Mounted Police now teach Eskimo Boy Scouts how to make igloos.

Education, as we know it, is now being provided to children, but the percentage of the population over 15 years of age without schooling is remarkably high—34 per cent in the North West Territories compared with 1.4 per cent in the rest of Canada.¹ The birth rate is more than twice that of the rest of Canada; the under-four-years age-group comprises the largest group of the Eskimo population in the Eastern Arctic. Hence the interest of Canadian pediatricians in improving the medical care of these people.

Pediatric care essential

The economic situation is such that a bare, prefabricated, one-room dwelling (4 walls, 1 roof, 2 windows) costs \$1,000, a gallon of fuel oil costs 60¢, a gallon of water 1¢. The per capita income of the northern Eskimo is \$426 per year compared to \$1,734 for the rest of Canada.² Under these conditions it is difficult to build an environment conducive to good health. Diseases that could be prevented by education, improved living standards, and accessibility of treatment still take a huge toll in life.

The task of providing effective medical care to this scattered population is presently being attempted by the 28-bed Frobisher Bay Hospital under three doctors, by the 28-bed missionary hospital in Pangnirtung, which is staffed by three very able nurses, by several nursing stations, and by lay dispensers in small outposts.

The infant death rate per 1,000 live births is 6½ times that for the rest of Canada, and the death rate for children one to four years of age is 15 times that for the rest of Canada.³

*Death Rates for Infants Under 1 Year of Age Per 100,000 Live Births.*⁴

	NWT	P.O.	Canada
Lower Respiratory			
Tract Infection	5,458	473	434
Gastroenteritis	1,463	153	120

The death rate of female children is significantly greater than that for males.

†Dr. Steinmetz was formerly pediatric resident at The Montreal Children's Hospital, and participated in the program at Frobisher Bay.

Three out of five children are born at home, delivered by women who have learned the art from their ancestors. Pre- and postnatal care, as we know it, is difficult to provide for such a far-flung population.

Simple diseases have serious effects

Among the greatest causes of death in infants under one year of age are lower respiratory tract infections and gastroenteritis, each 12½ and 12 times as common as in the rest of Canada.⁵ These figures all look very dramatic, but it must be remembered that they have to be interpreted with care, due to the small number of the population.

The Eskimos living on the trading post no longer have easy access to their native diet, and cannot afford nor know how to choose a balanced diet from the variety of foods available in the white man's stores. All too often potato chips and soft drinks form a disproportionate amount of their purchase. As a result malnutrition is manifested by the appearance of vitamin D deficiency, rickets, and iron deficiency anemia. These diseases are not seen in the more remote camps where raw meat is the staple diet.

Impetigo, upper respiratory tract infections, and draining ears are commonplace. Our experience suggests that in the Eastern Arctic there is a relationship between middle ear disease and social conditions, as was demonstrated by Cambon *et al*⁶ in the Western Arctic.

Several epidemics of viral disease have been recorded.⁷ They have been more severe in remote areas than in more concentrated populations where immunological resistance is higher. With this in mind, a widespread program of measles vaccination has recently been undertaken by the Northern Health Service.

Hemophilus influenza and meningococcal meningitis have been reported to occur more frequently than in the rest of Canada. In Frobisher Bay we have seen five to seven cases per month whereas the average from a much larger population at The Montreal Children's Hospital is 4.4 cases per month. Poor housing, inadequate nutrition in settlements, and resulting decreased resistance are likely contributory causes.

Chronic disease is common

The increasing influx of transient laborers has been associated with a rising incidence of venereal disease in adolescents.

Routine chest roentgenograms of Eskimo children referred to The Montreal Children's Hospital for various reasons have frequently demonstrated a diffuse chronic non-tuberculous lung disease. Clinically, the child may or may not cough, and sometimes no adventitious sounds are heard on auscultation. The significance of these findings is not known, nor is the cause or course.

Tuberculosis has been a problem in the Eskimo population only since the second half of the 1800's, when contact with whalers, trappers, and traders became established. As late as 1955-57 Schaefer⁸ estimated that 5-10 per cent of all Eskimos reached by the Eastern Arctic Patrol had to be evacuated for

treatment of active tuberculosis. A vigorous program of BCG vaccination, case finding, and treatment is reducing this problem.

A new frontier

The government departments dealing with Canada's northland have made great strides in recent years in improving living and health standards of the Eskimo, and in providing education and training. However, much remains to be done. In the same spirit in which other Canadian university centers have initiated medical services in the North,* so The Montreal Children's Hospital is sending its residents to Frobisher Bay. Here they are responsible for those children requiring special medical care, and as a result are often able to reduce evacuations for treatment.

The residents run two well-baby clinics a week, and work in the outpatients department every afternoon. An important aspect of their work is the provision of follow-up care to those children who have returned from The Montreal Children's Hospital after having been treated there. Thus, communication between the two hospitals has improved greatly. We hope that by complementing the work of the Northern Health Service, their presence will improve the medical care of Eskimo children.

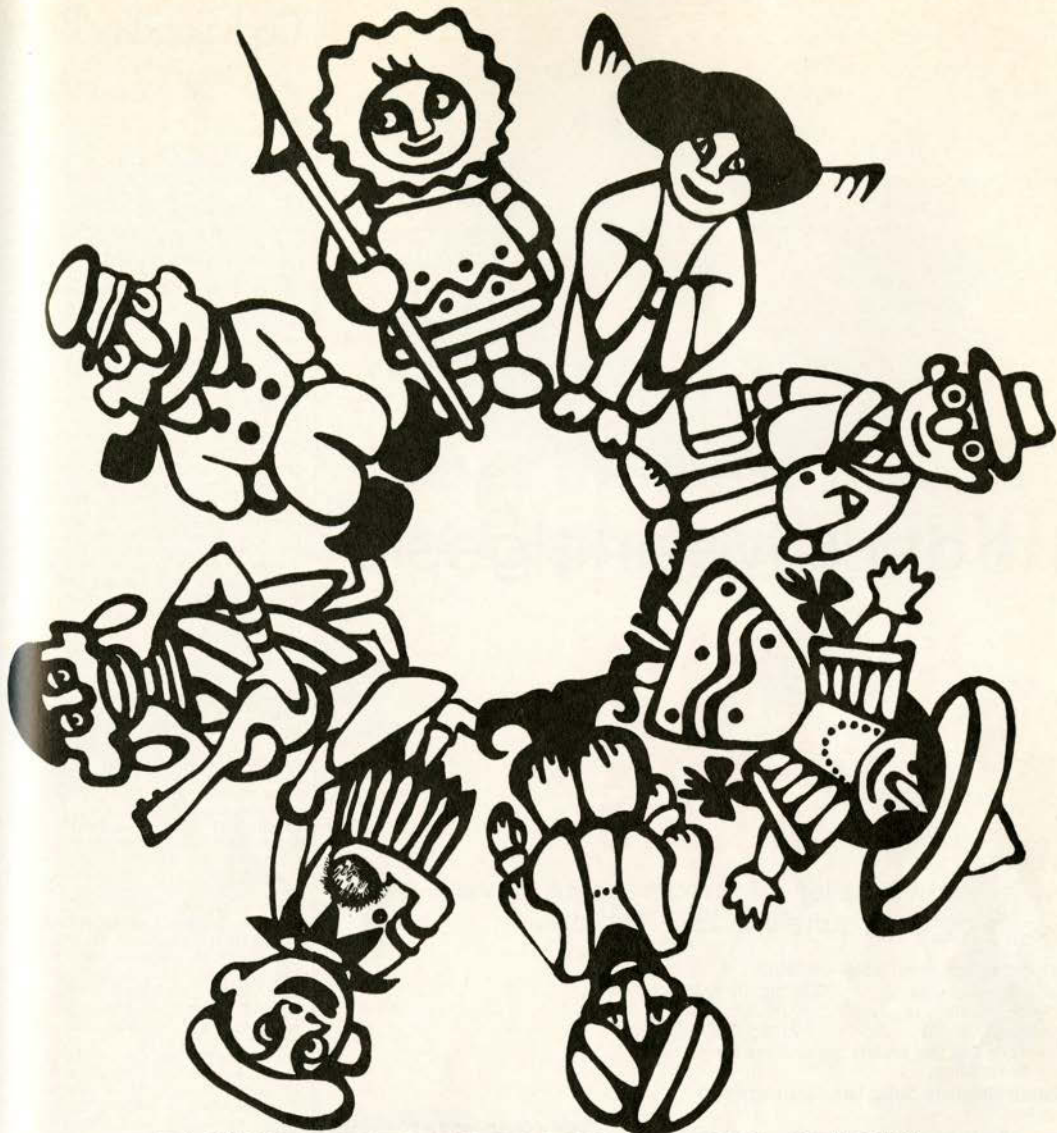
The project has already proven its worth as a training experience by demonstrating how much can be achieved far away from a sophisticated medical center. Residents are more intimately involved with the family and the child's home. Much interest in the medical problems of the Arctic is already being stimulated as a result of this contact.

In summary, we "Southerners" have been responsible for disturbing the ecology of the Arctic. We have tempted the Eskimo with our way of life, and made him dependent on our technology. As these programs of medical service mature, we hope they will help to restore the new generation to better health. This done, the Eskimo will be able to benefit from the training and education that can equip him to participate in our civilization. □

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8. *Ibid.* □

*Queen's University, Kingston, Ont., sends interns to Moose Factory in Northern Ontario, and the University of Alberta provides intern service for the Inuvik area at the mouth of the Mackenzie River in the Northwest Territories.



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Preventive Dentistry And Child Health

Gwendylyne L. Terriss, B.C.L., D.D.S., M.S.*

Halifax, N.S.

"Children begin by loving their parents; as they grow older, they judge them; sometimes they forgive them."

—Oscar Wilde

From time immemorial the art of healing has been the preserve of the physician. While highly developed as an art, it has centred generally on "medical" illness. The teeth were never considered to be a major factor in the overall health status of a patient. However, in recent years, this concept appears to have been changing, and it is apparent to all who care for patients that one may become ill specifically from teeth which themselves are diseased. This certainly is true of the "normal" child and the greater urgency of the situation is obvious when a child who already has a medical problem is also affected by dental problems. The other half of this premise, namely that there is good reason and sufficient necessity to demand the maintenance of sound teeth in a healthy oral environment, is gradually being understood.

General practitioners are no doubt aware of these problems. In particular, paediatricians have an excellent opportunity to assess first-hand the complications which are superimposed upon existing medical problems by the presence of decayed and abscessed teeth. Furthermore almost all major complications stemming from dental pathology can be avoided if one practises preventive dentistry.

From the dental aspect the opening of The Izaak Walton Killam Hospital For Children in Halifax on May 28, 1970 was important because it thereby laid the foundation for rendering dental care to chronically ill children of the Atlantic area. Among the facilities available is a modern dental department where children with any medical problem may receive adequate dental treatment using the newest dental techniques. One example of the dental service which is being established is the provision of prostheses for cleft palate infants. The main objective of these appliances is to minimize the feeding problems which are attendant upon such infants until surgical repair of the palate and/or lip is performed.

The importance of sound teeth

There is no time to delay when dealing with the carious process. In deciduous teeth, approximately 2mm of dentin lies between the enamel and the pulp. In addition, the occlusal morphology of molar teeth is such that deep fissures are normally present. Since these fissures are microscopically narrow the bacteria and food debris cannot be removed. In these occlusal fissure areas the enamel rod structure is such that the path of

invasion leads inward so that the central part of the tooth becomes massively involved before it becomes apparent to the untrained eye. Although these circumstances are vitally important regarding the first permanent molar which has no successor tooth, the same applies to the primary molars.

The maintenance of sound teeth is elementary, not only in the child with a handicap or medical problem but also in the "normal" child. There are several basic reasons for retaining a child's teeth, namely:

- i. To provide the child with an optimum masticatory apparatus with which to properly chew his food, so vital a requirement in this period of his life.
- ii. For the establishment of proper speech and prevention of tongue habits: the position of the teeth in the dental arch controls the space available for the tongue. A gap in the dentition due to tooth loss allows the escape of the tongue and alters the airflow. This latter aspect is of paramount importance in a child who has lost anterior teeth through trauma or caries. These teeth, especially the upper anteriors, are essential for the establishment and maintenance of proper speech sounds and the preventions of bad tongue habits.
- iii. It is important to retain deciduous teeth until their natural exfoliation time since they are nature's own best space maintainers. Adequate space is required for the eruption and proper alignment of the permanent teeth. Teeth adjacent to a gap tend to lean or move bodily into it. This occurs when the proximal tooth surfaces become carious and also when a tooth is extracted without placement of an adequate space maintainer. In such a case, when the time arrives for the eruption of the permanent teeth, there is insufficient space and one of the permanent teeth may erupt on the buccal or lingual of the dental arch or remain impacted.
- iv. The retention of deciduous and first permanent molar teeth is necessary to maintain proper jaw height and ultimately the face height. Ex-

*Head, Department of Dentistry, Izaak Walton Killam Hospital For Children.

cessive traumatic force is placed on anterior teeth when the molars are missing.

- v. Lastly, but to some mothers not the least important, is the necessity of teeth for esthetic value.

The need for dissemination of information

Fortunately dental science research has for many years provided the materials and techniques whereby deciduous and permanent teeth can be retained. However, for too many years and for countless patients this knowledge has not received widespread application. A large sector of the general public appears to be apathetic toward dental care for children. How many times does one hear the oft-repeated phrase: "Why spend all that money on teeth which will be lost in a few years anyway?" It may be that the public has not and is not being advised of the excellent dental care which can be had for their children.

By the very nature of a physician's practice he examines or treats more patients than a dentist. It therefore is possible for physicians to render a distinct service in this problem by making all parents aware of the following:

- i. a child should make his first visit to a dental office at 2½ to 3 years of age;
- ii. deciduous teeth should be retained caries free until they are naturally exfoliated;
- iii. routine 6-monthly dental check-ups obviate the necessity of extensive dental treatment in most cases and allow detection of impending dental problems;
- iv. a diseased tooth, whether carious or abscessed, is no less innocuous because it is concealed intraorally than if it were plainly visible on an external surface. Physicians may also help by referring to our hospital for immediate dental examination any child with a medical problem.

One cannot place a monetary value on good health and freedom from pain. However, one need only contrast the fear and anguish of a small child crying in pain caused by an abscessed tooth or cellulitis with the picture of a smiling, well child, in order to make an appropriate decision. The knowledge and treatment are available, but the desire for such treatment must be given a priority which it has not received heretofore. □

Book Review

"The Right to Abortion: A Psychiatric View". Prepared by the Group for the Advancement of Psychiatry, 419 Park Avenue South, New York, New York 10016. 30 pages \$3.00.

"The right to abortion!": words evoking the frenzy of Women's Liberation groups, and by now part of the jargon of a generation. The medical profession, accused of indecision and even dishonesty in confronting this issue, has been understandably reluctant to take steps hastily which would negate its tradition of preserving life and which would have unpredictable sociological implications. In our bewilderingly changing moral environment, the psychiatrist has been the unwilling arbitrator in the confused picture. We are urged here to reach our own decisions. The purpose of the Group for Advancement of Psychiatry, an independent group of American psychiatrists, is to apply knowledge gained from appraisal of new data and re-evaluation of old concepts to promotion of mental health. This group is seriously dissatisfied with the proposed changes in abortion laws of the American Law Institute (these have now been enacted in some states and are similar to the new Canadian amendment). That "abortion when performed by a licensed physician should be entirely removed from the domain of criminal law," is the vehement contention of this group.

We are presented with a relentlessly logical and complete experiment for this proposal, examining psychiatric factors in relation to religious, moral, ethical, social, economic, political, and legal perspectives: a

somewhat pretentious aim for such a short publication, but it is surprisingly comprehensive.

Systematically, such by now familiar aspects of the issue as the unwanted child, the unwilling mother, the population explosion, the relative ease with which an affluent woman can procure a "therapeutic abortion" are dealt with. The equivocation of both the church and the law are discussed, but the group admits that the religious position especially that of the Roman Catholic church has no rebuttal, yet contending that the rest of society, in fact the majority, should not be restricted on this account.

It is a vast relief to be spared the garishly maudlin depictions of the effects of abortion having been denied: squalid rooming houses, suicidal or exsanguinating young women, which are becoming the stock-in-trade of rabid Women's Liberation abortion protagonists. Equally repellent as arguments are the pictures of aborted fetuses used to illustrate anti-abortion tracts. This is a fair, reasonable, and articulate presentation of an argument in a very compelling issue. However, there is little emphasis placed on the possible sociological implications, and little understanding of the uncertainties we feel in the face of profound religious and moral revolution. Certainly every physician should reach an independent decision on this issue, but having read this article, one is overcome with the inevitability of this solution and with a wistfulness for the days of awareness of a realm other than the practical. □

Margaret Macdonald Casey, M.D.

Lung Cancer in Women



Summary: *In comparing the characteristics of lung cancer in men and women, it was found that, although the condition is rarer than in men, in women it is less frequently resectable at the time of diagnosis and the prognosis is therefore less favorable.*

In an effort to understand the differences in lung cancer in men and women, a study was made of clinical, histological, and biological features of tumors in 83 women and compared with 1,353 lung cancers in men, a ratio of men to women of 16:1. The study covered a 15-year period and was carried out at Morrision Hospital, Swansea, Wales.

Histology

Tissue for histological examination was obtained from 56 patients by bronchial biopsy or open operation. Five types of lung cancer were recognized. They were classified as squamous carcinoma, well and poorly differentiated; adenocarcinoma, well and poorly differentiated; and undifferentiated carcinoma. Thirteen of the tumors were squamous cell; 16, glandular; and 27, undifferentiated.

In comparison with some other surveys, the proportion of squamous-type tumors in this series was significantly low and the glandular and undifferentiated carcinomas were high. The relatively small number of cases of squamous-celled carcinoma may be attributed to the lower frequency of chronic irritation in the bronchi of women than in men, whether due to cigarette smoking or to chronic bronchial inflammation in the latter.

At the time the cancer was diagnosed, the mean age of the women was 56 years, approximately two years lower than that of the men who sought medical advice because of a cough. The mean age of men whose cancer was diagnosed as a result of a routine chest X-ray was 61 years. The younger age at diagnosis in women than in men is somewhat surprising in view of the fact that there are more women than men in the older age groups. Since the incidence of lung cancer increases with age, a relatively higher average might be expected in women than in men.

However, a greater proportion of ill-differentiated cancers are found in women than in men. These lesions tend to occur at an earlier age than the differentiated type, thus the age difference may be due to such a factor. Or, the frequency of lung cancer in younger women may be linked to the fact that cigarette smoking is more common in younger than in older women.

Symptoms

Cough, dyspnea, chest pain, and hemoptysis are the principal symptoms of lung cancer. In the series reported, cough was the major symptom at the time of diagnosis in the greatest number of women and men; men complained of dyspnea more frequently than women; chest pain was a common symptom in about the same percentage of men and women. Hemoptysis was more common in men than in women.

Shortness of breath in patients with lung cancer is often the result of a relatively small decrease in respiratory capacity in a person who has respiratory impairment due to chronic bronchitis or emphysema. Since such conditions are less common in women than in men, the lower prevalence of dyspnea in women may be related to the women's general respiratory health.

Metastases

Extrathoracic metastases were detectable at the time of diagnosis in a significant number of women, 18 of the 56 patients in whom histological confirmation of diagnosis was available having had extrathoracic secondary deposits.

Lesions were resected in 11 patients, a lower proportion than in the series of men, 13.4 per cent in contrast to 21 per cent.

Of 56 women whose smoking history was available, 23 (41 per cent) were nonsmokers. The mean age of the smokers was 55 years, slightly lower than that of the nonsmokers, which was 57 years. No significant differences were observed in the distribution of histological types of tumors among smokers and nonsmokers.

On the basis of the data obtained, it appears that lung cancer is less common in women than in men, is less likely to be of the squamous-celled type, and more likely to be of the glandular type or to be undifferentiated. The degree of differentiation is less in women than in men. Lung cancer is likely to occur at an earlier age in women, and extrathoracic metastases are likely to have taken place when symptoms appear. The prognosis of lung cancer in women is worse than in men.

The difference in resectability of lung cancer in men and women cannot be explained on the basis of the histological type of tumor or on the anatomical localization in the bronchial tree, nor can the higher proportion of women patients in this series in whom extrathoracic metastases were present at the time of diagnosis

David J. B. Ashley, M.D., and H. Duncan Davies, M.D. *Thorax*. July, 1969 (Vol. 24, No. 4).

Reprinted from the Abstracts of the National Tuberculosis Association, January, 1970. Printed through the cooperation of the Nova Scotia Tuberculosis Association.

be explained on the basis of the histological type of lesion. An alternative hypothesis is suggested.

Hypothesis

At least one of the genes in the immunological defense mechanism of the body is carried in the X chromosome; mutation at this locus leads to the clinical condition of agammaglobulinemia in which there is a deficiency of a circulating immunoglobulin and also a deficiency of plasma-cell reaction to foreign antigens. With their double complement of X chromosome, women have a lower frequency of agammaglobulinemia and, by inference, a better immunological capacity.

It is suggested that those tumors of the lung which become clinically apparent are the ones in which the multiplying neoplastic cells are able to overcome the immunological defenses of the body which would otherwise treat them as foreign cells and destroy them. In women, with a better defense mechanism, fewer tumors would overcome the defenses, but those which did would be intrinsically more malignant and less amenable to therapy.

This hypothesis would account for the lower proportion of lung cancers in women, which cannot be completely explained by the lower proportion of women who are cigarette smokers. It would account for the reduced frequency with which the tumors are resectable, for the higher proportion of neoplasms of histologically undifferentiated type, and for the generally poorer prognosis in lung cancer in women. □

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interest. Earnings last year from this source were approximately \$2,250.00. With increased membership and earlier payment of dues, this could very likely be increased this fiscal year.

Prompt payment of membership dues would also result in a reduced operating cost, since it costs something like 75¢ for each reminder notice. Over the course of the year, approximately 400 reminder notices are sent to members of the society.

I hope, where applicable, you will give this matter your consideration. D.D.P.

Money Management Series

During September, the Money Management Series moved into its second phase when Panel Two—**INVESTING**—was presented at Sydney, Amherst and Truro. In addition, the initial presentation, Panel One—**INTRODUCTION AND ESTATE PLANNING**—took place at the Pictou, Inverness-Victoria, Shelburne, and Valley Branch Meetings.

You will recall the brief article on this topic in the June Medical *Bulletin* (page 126); however, to save you a moment, the panel objectives are:

Panel One—Introduction to Money Management and Estate Planning

Objective—To acquaint members with the principles involved in overall Money Management and describe the complex inter-relationship and inter-dependency of the various fields; to provide a brief introduction to estate planning, including requirements for legal services, tax accounting and insurance services; to provide members with a list of trust company association membership firms, and names of branch managers. Speaker: Trust Company Association representative.

Panel Two—Investing

Objective—To outline aims of Investment Dealers Association; approaching the broker; investment objectives; methods of investment; hazards of investing; requirements for estate planning and tax accountant services. Speaker: Investment Dealers Association representative.

Plans are underway to continue with the program since reaction to date has been favourable. Many of those who have attended and participated are convinced of the need and value of the scheme. Panel One will occur in Halifax in November and in the Yarmouth, Antigonish-Guysborough, Eastern Shore, and Lunenburg-Queens Branches in February 1971.

The speakers representing the Trust Companies Association, the Investment Dealers Association, and the Life Underwriters Association deserve credit for the effort and enthusiasm they are putting into this program. Each of them have found their experience a challenging one and thank you for your hospitality and interest. □

D.D.P.

Financial Aid To Medical Students

It is a pleasure to announce that after long months of negotiations with the Bank of Montreal, development of a mutually satisfactory plan for providing financial assistance to Nova Scotia Medical Students attending Dalhousie University has been finalized. All students in 2nd, 3rd, and 4th year medicine have been provided with information on the plan, as well as application forms.

Basically, the plan is one whereby the Medical Society will guarantee Bank of Montreal loans to selected 2nd, 3rd, and 4th year Nova Scotia Medical Students attending Dalhousie University who require financial assistance. This loan will be guaranteed by the Society until such time as the student graduates, at which time it will be his responsibility to make other satisfactory financial arrangements with the Bank for either its repayment or continuation on altered terms. During the period the loan to the medical student is in force, the Medical Society will pay the interest on the loan at a rate of $\frac{1}{2}$ of 1% above prime rate. Upon graduation, when the student assumes responsibility for the loan, the Society will discontinue payment of the interest. Medical students participating in this plan will be required to assign life insurance in a sufficient amount to cover the loan under this plan at all times.

The Medical Society has appointed a Loans Committee consisting of Drs. J. A. Myrden of Halifax, W. I. Morse of Yarmouth, and N. K. MacLennan of Sydney.

The Dalhousie Medical Students Society have been asked to name a member to the Committee. In addition, Dr. I. G. MacPherson of Halifax will serve as adviser to the Committee in processing applications for financial aid.

It is also a pleasure to announce that the Medical Society, coincident with introduction of this plan to provide financial aid to 2nd, 3rd, and 4th year Nova Scotia Medical Students has amended the eligibility requirements for its group life insurance agreement with North American Life to make provision for 2nd, 3rd, 4th, and 5th year medical students attending Dalhousie to participate in this plan. Following graduation this privilege to participate in this plan will continue provided the graduate doctor becomes a member of The Medical Society of Nova Scotia.

Of further interest to all Medical Society members is the subject of Student Membership in the Medical Society of Nova Scotia. The details of the proposal submitted by the Membership Committee of the Society are contained in the NOTICE OF MOTION included in this issue as the green paper "tip-in". You are urged to consider this matter in order that you may participate in the discussion of this proposal at the Annual Meeting of the Medical Society in November. Dr. Norman Glen will speak to the subject of Student Membership when this particular By-Law change is being discussed at Council. □

D.D.P.

Personal Interest Notes



Dr. C. L. Gass, a Tatamagouche native and well-known citizen of Pictou County, was present when the 47-acre Nelson Park at Tatamagouche was opened recently. Dr. Gass was one of those who donated land for the park. The official opening of the park was one of the highlights of the annual Hospital Heyday held in Tatamagouche under the sponsorship of the Lillian Fraser Memorial Hospital.

Dr. W. T. Gorman of Antigonish was recently re-appointed to the Medical Care Insurance Commission for a one year term expiring August 1971.

Dr. W. I. Morse of Yarmouth was appointed to the Commission for an initial two year term expiring August 1972.

We congratulate **Dr. and Mrs. C. J. W. Beckwith**, of St. Margaret's Bay, on their recent 40th wedding anniversary.

Congratulations are also in order for **Dr. W. A. Condy**, of Halifax, well-known local sportsman, who was chosen to play on the old-timers baseball team during the 1970 Dartmouth Natal Day celebrations.

Dr. C. M. Harlow, Director of Laboratories at Camp Hill Hospital, Halifax was recently named to Faculty of Mount Saint Vincent University. Dr. Harlow's post as Instructor in the Home Economics Department is intriguing. His interests in nutrition are well known: his present appointment could be based on his interest in fish protein concentrate and also his part as Chairman of the Board of the Nova Scotia Alcohol Research Foundation.

Dr. and Mrs. L. C. Stoeves and **Dr. and Mrs. H. I. MacGregor**, all of Halifax recently enjoyed a canoeing trip at Kejimikujik National Park.

Dr. and Mrs. J. F. Ross, Halifax attended the recent meeting of the International Congress of Burn Research, held in Prague, Czechoslovakia. Dr. James Ross was the Canadian representative and presented a paper.

Dr. Duncan Lloyd Kippen, recently elected President of The Canadian Medical Association for 1970-71, is presently associate professor in the department of Medicine at the University of Manitoba. His experience in 1967-68 as President of The Manitoba Medical Association and as the representative to the C.M.A. Executive makes him well suited to the post of national President.

A native of Newdale, Manitoba, Dr. Kippen graduated from the University of Manitoba in 1942. Between 1943 and 1946 he served in the Royal Canadian Army Medical Corps, seeing action in England and continental Europe.

Following a residency in medicine, with a special interest in Gastroenterology, at the University of Chicago, he received his certification in internal medicine in 1950. He has been an internist at the Winnipeg Clinic since his postgraduate training. Dr. Kippen is also Assistant Physician at Winnipeg General Hospital and Associate Professor at the University of Manitoba.

Dr. Kippen is a member of the American College of Physicians and of the American Gastroenterological Association. His hobbies include curling, golf, sailing and hunting. He is married and has one son, a fourth-year medical student: his daughter is studying physiotherapy so that the Kippen family is certainly a medical one.

Dr. Kippen will be addressing members of the Society at the mixed luncheon scheduled for 12:30 p.m. Friday, November 27th during the Annual Meeting of The Medical Society of Nova Scotia. With the 1971 Annual Meeting of the Canadian Medical Association also being held in Halifax next June we shall again have the opportunity of meeting Dr. Kippen.

We take this opportunity of congratulating Dr. Kippen on his new position and we can assure him a warm welcome when he visits Nova Scotia.



DR. J. DOUGLAS WALLACE

Appointed General Secretary, Canadian Medical Association

Dr. J. Douglas Wallace has been appointed General Secretary of the Canadian Medical Association. Dr. Wallace assumed his duties October 1st.

Announcing the appointment, Dr. D. L. Kippen, President of the C.M.A., stated "Dr. Wallace has the training, the background and experience necessary to fill the demanding requirements of this position. We are particularly pleased to obtain the services of a man who has had such vast practical experience dealing with all segments of the profession. The record of his successful administrative achievements at a senior level in both voluntary and governmental service speaks for itself".

Dr. Wallace was recently Executive Director of the Toronto General Hospital. From 1961 to 1966, he held a similar post at the University of Alberta Hospital in Edmonton.

Born in Lumsden, Saskatchewan, Dr. Wallace received his medical training at the University of Alberta in Edmonton. Following service in the R.C.A.F. Medical Service during World War II, he was engaged in private

practice for 13 years in his home town of Wainwright, Alberta. His first administrative position was as Director of the Alberta Hospital plan from 1959 to 1961.

Active in both hospital and medical voluntary affairs, he is a Fellow of the American College of Hospital Administrators and an active member of the C.M.A., the College of Family Physicians of Canada and other medical and hospital organizations. In 1969 he served as chairman of the Federal-Provincial Cost of Health Services Task Force on Salaries and Wages. Dr. Wallace is currently the President of The Ontario Council of Administrators of Teaching Hospitals and is a past president of the Association of Canadian Teaching Hospitals. He is a member of the Manpower Committee of the Ontario Council of Health and a member of the Executive of both the Metropolitan Toronto Hospital and Hospital Planning Councils.

He is married to the former Ruth Forster of Lethbridge. Dr. and Mrs. Wallace plan to take up residence in Ottawa, where the Association recently located its national headquarters, in the early fall. □

"MEDICINE IN THE UNIVERSITY AND COMMUNITY OF THE FUTURE"

Proceedings of the Scientific Sessions marking the Centennial of the Faculty of Medicine of Dalhousie University, Halifax, Nova Scotia, September 11-13, 1968. Edited by I. E. Purkis and U. F. Matthews. Faculty of Medicine, Dalhousie University, Halifax, N.S., 1969.

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MEDICAL EDUCATION AND PRACTICE

Ralph W. Tyler, Ph.D.

President of the U.S. National Academy of Education

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Professor of Anatomy, University of Western Ontario, London, Ont.

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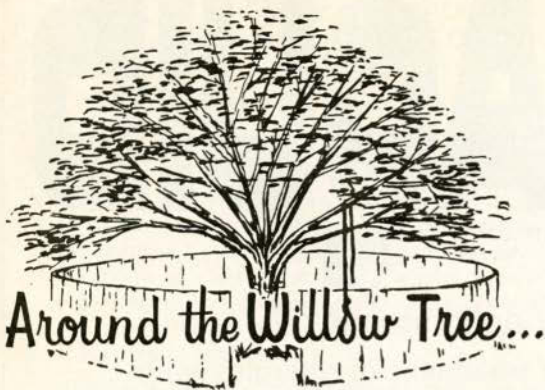
ADVERSE REACTIONS: drowsiness may be observed at the beginning of treatment; **rarely:** blurred vision, dryness of mouth, gastric upset, drug rash, nasal stuffiness, sore throat; **very rarely:** mild headaches, nervousness, insomnia, vertigo, dizziness, tiredness.

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THIS MONTH'S QUIZ: Diagnosis, please!

"The toe-joint affected has a swollen or tumefied appearance, may be painful on manipulation and cause lameness in running. Later, much fibroid tissue is laid down around the joint, and pain and lameness may depart. When the reverse is the case, the most certain and usually the best treatment is amputation of the terminal phalanx, at the same time, preserving the pad. Such an operation removes a great deal of leverage and strain from the actual affected joint, which may be higher up (i.e. the first or second joint)."

ANSWER: See page 176.

The patient was fat, pale, and unhappy, and complained of stomach ache. Asked for details of his diet, he listed enormous quantities of food eaten at meal-times, in-between snacks, and "whenever I feel hungry". When told by the doctor that he must keep to a restricted diet, excluding alcohol, he was very worried: "You don't understand my case, doctor—everything I take flies to my stomach, and beer helps it swim"!



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(From History of Canada, Eric Nicol, Musson Book Company, Toronto, 1965.)

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NEW MEMBERS

The Physicians listed below have joined The Medical Society of Nova Scotia between June 1, 1970 and August 31, 1970. A most cordial welcome is extended from the Society.

Dr. J. D. Arneaud	Halifax, N.S.	Dr. Henry Lau	Halifax, N.S.
Dr. Judith C. Brown	Stellarton, N.S.	Dr. E. R. Luther	Halifax, N.S.
Dr. A. C. S. Browne	Halifax, N.S.	Dr. M. A. MacAulay	Halifax, N.S.
Dr. M. R. G. Burslem	Halifax, N.S.	Dr. J. W. MacDonald	Dartmouth, N.S.
Dr. Thomas Chui	Halifax, N.S.	Dr. J. M. O'Brien	Halifax, N.S.
Dr. D. G. Garnhum	Dartmouth, N.S.	Dr. A. H. Patterson	Lunenburg, N.S.
Dr. W. R. Gillis	Halifax, N.S.	Dr. W. J. Payne	Sydney, N.S.
Dr. J. S. Goomar	Halifax, N.S.	Dr. E. P. Rees	Halifax, N.S.
Dr. T. F. Higgins	Halifax, N.S.	Dr. D. S. Reid	Pictou, N.S.
Dr. Mark Kazimirski	Stellarton, N.S.	Dr. G. C. Sebastian	New Waterford, N.S.

Society Membership

RETIRED CATEGORY

There is no definition for RETIRED classification but it usually means doctors who have retired from active practice. If you fall into this category or wonder if you are eligible for this classification please contact our office as this is our only method of obtaining this information.

D. D. Peacocke

CANADIAN SOCIETY OF AVIATION MEDICINE

Arising out of the increased recognition of a greatly expanding need for professional medical and paramedical support in the general area of aviation, a Canadian Society of Aviation Medicine has now been formed. A steering committee has been elected to perform the ground work within the coming year necessary to the official constitution of such a society. The members of this committee are Dr. A. R. Kempton, Dr. J. R. Carroll, Dr. I. H. Anderson, Dr. C. A. Burden and Dr. W. H. Johnson.

The objects and purposes of this Society shall be:

- i. To advance the science and art of Aviation Medicine in Canada
 - (a) by disseminating knowledge
 - (b) by stimulating investigation and study.
- ii. To establish and maintain cooperation between the medical and appropriate disciplines concerned with aeronautical and astronautical development and progress. In recognition of the fact that there are many groups and organizations interested in this field, the Committee is attempting to have representation at their meetings and conventions on request. Enquiries and suggestions may be addressed to:

Dr. A. R. Kempton Dr. C. A. Burden
 Dr. J. R. Carroll Dr. W. H. Johnson
 Dr. I. H. Anderson
 P.O. Box 173, Toronto-Dominion Center,
 Toronto 111, Ontario

Answer to quiz: Knocked-up-toe, a condition found mainly in greyhounds. (*Source* The Dog's Medical Dictionary. A. J. Sewell, 4th ed., 1951. Routledge and Kegan Paul, London.)

FORTHCOMING MEETINGS

The 1970 Nova Scotia Oto-Ophthalmological Conference will be held in Halifax, N.S., November 23rd, and 24th, 1970. Arranged by the Section for Ophthalmology and Otolaryngology of the Medical Society of Nova Scotia in co-operation with Dalhousie University Medical School, Continuing Education Division.

EYE GUEST SPEAKER

J. C. MUSTARDE, F.R.C.S. Glasgow, Scotland

E.N.T. GUEST SPEAKER

J. H. OGURA, M.D. St. Louis, Mo.
 Members will receive further information, others may write:

J. H. QUIGLEY, M.D.

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 and Otolaryngology
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OCTOBER 1, 1970

NOTICE OF MOTION

Be advised that it is the intention of the By-Laws Committee to present the following amendments to the By-Laws of The Medical Society of Nova Scotia to the 6th Meeting of Council, November 27, 1970 for approval.

A. Chapter XII (1) Renumber Articles 5, 6, 7, and 8, as 7, 8, 9, and 10 respectively.

(ii) Insert new Article 5.

"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."

(iii) Insert new Article 6.

"6. Mediation Committee - Terms of Reference. The Mediation Committee members are the Medical Society President and any 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."

(iv) Article 7 (old 5) Add Aging, Anaesthesia Standards, Finance, Hospitals, MMC/Medical Society Joint, Mediation, Medical-Legal Liaison, Medical-Religious Liaison, Mental Health, N.S.H.I.C. Liaison, Occupational Medicine, Presidents' Liaison. Delete Health Insurance, Special Research.

B. Chapter VI

(i) Renumber Articles 5 and 6, as 6 and 7.

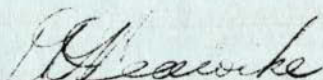
B. Chapter VI (Cont'd.)

(ii) Insert new Article 5

"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. They shall pay such annual fee as levied by the Executive Committee. They may become members of the Canadian Medical Association in which they may enjoy the rights and privileges, but may not vote or hold office.

- C. Chapter XII - Article 4, 1st paragraph add to list of voting members of the Executive Committee "one student member representative for a membership of 50 to 100, an additional representative for its membership from 101 to 200, and an additional representative for its membership from 201 to 300 with maximum representation of three members."
- D. Chapter IX - Add to Article 2, Composition of Council - "XVII - One student member from each of the five Medical student classes who is not a member of Council for any other reason."
- E. Chapter IV - Article 1 paragraph (b) add "Eligibility requirements for election to office in a branch Society shall include membership in The Medical Society of Nova Scotia."
- F. Chapter X - Article 1 add paragraph (c) "Eligibility requirements for election to office in the Medical Society of Nova Scotia shall include membership in the Canadian Medical Association."

DDP:sm



D.D. Peacocke
Executive Secretary

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