

THE MEDICAL SOCIETY OF NOVA SCOTIA

NOVA SCOTIA DIVISION OF THE CANADIAN MEDICAL ASSOCIATION

MEMBERS OF EXECUTIVE COMMITTEE

OFFICERS

<i>President</i>	J. A. Myrden
<i>President-Elect</i>	J. A. George
<i>Immediate Past President</i>	G. W. Turner
<i>Chairman Executive Committee</i>	P. B. Jardine
<i>Vice-Chairman Executive</i>	J. F. Hamm
<i>Treasurer</i>	D. B. O'Brien
<i>Honorary Secretary</i>	T. J. McKeough
<i>Executive Secretary</i>	D. D. Peacocke
<i>Manager, Economics Dept.</i>	A. A. Schellinck

STUDENT REPRESENTATIVES

Mr. L. Hicks	Mr. M. Vail	Mr. R. Miller
--------------	-------------	---------------

BRANCH SOCIETY REPRESENTATIVES

<i>Antigonish-Guysborough</i>	J. A. MacCormick
<i>Cape Breton</i>	J. B. Tompkins, M. A. Smith
<i>Colchester-East Hants</i>	D. A. MacFadyen
<i>Cumberland</i>	G. A. Lawrence
<i>Dartmouth</i>	E. C. Ross
<i>Eastern Shore</i>	J. C. Acres
<i>Halifax</i>	J. H. Quigley, D. F. Smith, D. K. Murray
<i>Lunenburg-Queens</i>	N. G. Gien
<i>Pictou County</i>	W. A. MacQuarrie
<i>Shelburne</i>	G. O. C. Davies-Webb
<i>Valley</i>	J. D. Henshaw
<i>Western</i>	C. W. MacNeil

OBSERVERS

<i>Representative to C. M. A. Board of Directors</i>	F. A. Dunsworth
<i>Chairman Public Relations Committee</i>	K. P. Smith
<i>Editor</i>	A. J. Buhr
<i>Representative to Provincial Medical Board</i>	J. A. Myrden
<i>Medical Director M.M.C. Inc.</i>	A. W. Titus
<i>General Manager M.M.C. Inc.</i>	S. P. Brannan
<i>Nova Scotia Representatives to C.M.A. Councils</i>	(listed below)

CONSULTANTS

C. J. W. Beckwith
John Sansom
P. F. O'Brien

NOVA SCOTIA REPRESENTATIVES TO C.M.A. COUNCILS

<i>Community Health</i>	A. C. Walkes
<i>Economics</i>	G. C. Pace
<i>Medical Education</i>	D. C. Brown
<i>Membership Services</i>	D. B. O'Brien
<i>Medical Services</i>	K. B. Shephard

STANDING COMMITTEE

	<i>Chairman</i>
<i>Anaesthesia Standards</i>	S. B. Donigiewicz
<i>Annual Meeting</i>	President
<i>Archives</i>	R. F. Hand
<i>By-Laws</i>	P. D. Jackson
<i>Cancer</i>	R. M. Cunningham
<i>Child Health</i>	Lachman Gursahani
<i>Discipline</i>	President
<i>Drug & Alcohol Abuse</i>	E. A. Smith
<i>Editorial Board (Editor)</i>	A. J. Buhr
<i>Finance (Treas.)</i>	D. B. O'Brien
<i>Hospitals</i>	J. P. Curry
<i>Legislation and Ethics</i>	C. H. Graham
<i>M.M.C./M.S. Joint</i>	J. A. Myrden
<i>Maternal and Perinatal Health</i>	P. W. S. Watts D. W. Cudmore
<i>Mediation</i>	President
<i>Medical Education</i>	A. Prossin
<i>Medical-Religious Liaison</i>	C. F. Brennan
<i>Membership Services</i>	C. D. Vair
<i>Nutrition</i>	C. N. Williams
<i>Occupational Medicine</i>	D. S. Reid
<i>Pharmacy</i>	John F. Cox
<i>President's Liaison</i>	President
<i>Public Health</i>	A. C. Walkes
<i>Public Relations</i>	K. P. Smith
<i>Rehabilitation</i>	A. H. Shears
<i>Traffic Crash</i>	S. F. Bedwell
<i>W. C. B. Liaison</i>	A. H. Shears

BRANCH SOCIETIES

	<i>President</i>	<i>Secretary</i>
<i>Antigonish-Guysborough</i>	G. L. Silver	J. D. McLean
<i>Cape Breton</i>	C. A. D'Intino	B. S. Ignacio
<i>Colchester-East Hants</i>	J. G. M. Murray	H. R. L. Martenstyn
<i>Cumberland</i>	R. Boodoosingh	S. Ali
<i>Dartmouth</i>	R. W. Beazley	D. M. Andrews
<i>Eastern Shore</i>	P. B. Jardine	J. C. Acres
<i>Halifax</i>	J. H. Quigley	A. H. Parsons
<i>Lunenburg-Queens</i>	Wm. G. Dixon	K. Gandhi
<i>Pictou County</i>	C. G. Harries	E. B. Skinner
<i>Shelburne</i>	F. Markus	J. V. MacWilliam
<i>Valley</i>	D. J. G. Morris	S. V. Anand
<i>Western</i>	A. M. Clark	G. K. Kini

SECTIONS

<i>Anaesthesia</i>	K. W. Fairhurst	W. A. P. Thompson
<i>General Practice</i>	J. A. McPhail	M. A. Smith
<i>Internal Medicine</i>	A. J. MacLeod	L. P. M. Heffernan
<i>Obstetrics and Gynaecology</i>	D. W. Johnston	T. R. Martin
<i>Ophthalmology and Otolaryngology</i>	I. F. Bruce	E. V. Rafuse
<i>Paediatrics</i>	B. D. Grover	R. S. Grant
<i>Pathology</i>	J. H. Cooper	K. Aterman
<i>Psychiatry</i>	H. K. Hall	H. P. Poulos
<i>Radiology</i>	W. F. Mason	
<i>Residents in Training</i>	J. M. O'Brien	
<i>Salaried Physicians</i>	A. W. Titus	J. R. Cameron
<i>Surgery</i>	J. K. B. Purves	G. R. Burns
<i>Urology</i>	F. G. Mack	W. A. Ernst

THE NOVA SCOTIA MEDICAL BULLETIN

EDITORIAL BOARD

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

Members

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

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

Managing Editor
MR. D. D. PEACOCKE

Editorial Assistant
MRS. T. CLAHANE

What makes the Bulletin tick

If we ascribe the appearance of the Medical Bulletin in our mail to anything at all, many of us might lay it to the same sort of automatic magic that produces newspapers at our doorsteps or on the stands fresh daily. And it is a normal human trait, this acceptance of *produced things* simply because they *are*, because they exist.

The immediate demands of our own lives and profession tend to preclude recognition of the obvious — that somebody worked hard to ensure that a particular issue of the Bulletin would, in fact, come into being on schedule.

Take this issue, for instance. It is largely devoted to paediatrics but also includes other items of general and specific interest to the profession. Perhaps, then, in reading it we should be especially mindful of the time and effort involved on the part of the contributors to this publication, as well as to past issues and those yet to come.

But there are others whose role in developing the Bulletin's potential is not quite so obvious.

John Sansom and Peter O'Brien, the Society's public relations consultants, have proved to be bulwarks of strength and sources of ever ready assistance, often at times when other pressing Society business has placed very heavy demands on their time, skills, and energy. They have conducted interviews, produced and edited articles, conferred with the editor and editorial board on story value and money-saving technical considerations, "translated" Society policy through similar conferences with the Officers and Executive, and have maintained an active watch on current events of specific interest to the profession in Nova Scotia so that each issue of the Bulletin will be as timely as a bi-monthly publication can be.

With the exception of John Sansom's name as a member of the Editorial Board, you will not see their names in print. But every two months their unstinting contribution is evidenced on practically every page.

Another low-profile high producer is our editorial assistant, Mrs. Tove Clahane of the Society's office. Mrs. Clahane administers and co-ordinates the Bulletin's advertising, layout, production and general business. It is largely through her efforts that deadlines are met, proofs and final typesetting are produced and the final publication reaches the readership.

So, while recognizing with deep gratitude the efforts of all our by-lined contributors, the editorial board thought it appropriate to direct special thanks to three of the *unsung*, as it were, for their consistency of unflagging effort to make the Bulletin good, better and, someday, best. □

Paediatric Research in Nova Scotia

Richard B. Goldbloom*, M.D., C.M., F.R.C.P.(C)

Halifax, N.S.

There was a time when a good many people, including some physicians, looked upon medical research in Nova Scotia as a luxury (or possibly a superfluity) that a relatively under-privileged region of Canada could ill afford. However, it is now abundantly clear that a vastly expanded research effort is a necessity we can no longer afford to ignore. It is simply a question whether we wish to be leaders in Canadian and international medicine or are satisfied merely to be followers. If we are willing to accept a following role (as, to be honest, we have done in many medical fields in the past), then we must also accept the prospect of losing our best medical graduates to more progressive centres, and our attractiveness to outstanding physicians from elsewhere will be determined by non-medical factors.

Physicians and patients would also have to accept significant deficiencies in the quality of care available to all our citizens as the price of disinterest in research participation. In the light of these considerations, the Department of Paediatrics at Dalhousie and The Izaak Walton Killam Hospital for Children have embarked on a major program to develop a paediatric research program of international calibre.

As a result of this effort of the past few years, we have been able to attract several brilliant young paediatric sub-specialists who would otherwise have been lured elsewhere in the United States or Canada. In addition, these scientists, through the quality of their work, have attracted the lion's share of their own personal support as well as the support for their technicians, equipment and supplies through their success in international competition for grants from federal agencies. Thus, medical benefits aside, the concept of medical research as an economic luxury is totally destroyed by the fact that these medical scientists bring far more funds (and employment) to Nova Scotia than the province spends on them.

It would require much time and space to describe in any detail the many new paediatric research projects currently under way in Nova Scotia. I will mention merely a few:

The past year has been highlighted by the appointment of Dr. Richard J. Pickering as Director of our new Infectious Disease Research Laboratories. Dr. Pickering is an immunologist, a paediatrician and a scientist of international reputation. In association with Dr. Juan Embil, he and his colleagues have already uncovered exciting new knowledge of practical significance in problems of infectious disease and host resistance.

From minuscule beginnings, the external financial support attracted by the relatively small group of young scientists in the Department of Paediatrics has grown to over \$400,000 per year. The major portions of this total are received from the Medical Research Council and The Department of National Health and Welfare, with additional important contributions from the Canada Council, the Muscular Dystrophy Association of Canada, The Multiple Sclerosis Society, the Canadian Cystic Fibrosis Foundation, the National Foundation, the National Kidney Foundation, the Laidlaw Foundation, the Opportunities for Youth Program, the Vanier Institute, the Connaught Fund, the Junior League of Halifax and the Women's Auxiliary of the Izaak Walton Killam Hospital for Children.

In one of several projects, Dr. Pickering and his colleagues are unravelling the significance of a specific enzyme deficiency in the etiology of one form of immune deficiency. Dr. Embil has been a pioneer in the study of cytomegalovirus infections. He is continuing these studies, and in addition is working with Dr. R.L. Ozere towards the development of methods for rapid and specific identification of infection with human and animal forms of ascaris. Dr. Embil's other fields of research include herpes simplex infections and the possible role of platelets as carriers of virus.

This year, Dr. Matthew Spence, Associate Professor of Paediatrics at Dalhousie achieved the great distinction of being named a Medical Research Council Associate. This is the highest level of personal recognition awarded by the MRC, only 3 such appointments being made in Canada each year. Dr. Spence is a neuro-chemist and neurologist whose major interest is in the lipids of the central nervous system. He is exploring the changes in brain lipids caused by various diseases. In addition, he has developed an increasing interest in several of the inherited metabolic disorders prevalent in the Maritimes, and his work is adding vital new understanding of such diseases which will be of practical therapeutic value to affected families.

As a result of work done in the past few years, Halifax has acquired increasing recognition as a centre for care, teaching and research in neonatology. Dr. Kenneth Scott has developed a program for studying perinatal mortality throughout the province which serves as an essential basis for improving the quality of care in specific regions. He has also conducted important studies on the causes of apneic spells in the newborn, the treatment of hyperbilirubinemia in low birth weight babies, and the growth requirements of such babies. Dr. W. Donald Reid has developed a new method for treating necrotizing enterocolitis in the newborn, which has resulted in the lowest mortality figures reported to date for this frequently fatal condition. Dr. Eli

*Professor and Head, Dept. of Paediatrics, Dalhousie University; Physician-in-Chief and Director of Research, The Izaak Walton Killam Hospital for Children.

Rees is studying the contribution of patent ductus arteriosus to chronic respiratory distress in small infants.

Dr. Winston Gaum (paediatric cardiology) and Dr. H. Lawrence Vallet (paediatric endocrinology) have established a new method for very accurate measurement of circulating digitalis levels in infants and children. It is expected that this will permit much more careful control of digitalization in these small patients.

Dr. Vallet has also begun studies to identify the specific sequence of hormonal events resulting in sexual differentiation in early fetal life. In this work he is employing the technique of pituitary organ culture, and we expect that the results of his work will provide us with new insights into the disorders of sexual differentiation.

Dr. John Crocker (paediatric nephrology) is studying the role of various pesticides in causing diseases, the mechanisms by which congenital renal abnormalities develop, and etiological factors in rheumatoid arthritis. All three projects are of major significance and are producing exciting new information.

Dr. Alan Pyesmany (paediatric hematology) has made fascinating new observations on the disturbance of leucocyte bactericidal activity in chronic granulomatous disease, a frequently fatal disorder of the immune system. These studies, which will be reported this May at the meetings of the Society for Paediatric Research, have led to a new and very promising treatment for this disease.

The studies of child abuse in Nova Scotia, conducted by Dr. John Anderson (Director of Outpatient Services, Izaak Walton Killam Hospital for Children) in collaboration with the Faculty of Law and the Maritime School of Social Work, will be published within the next six weeks. We regard this as a pioneer study of a problem of enormous importance to everyone in the health professions, and to the community at large.

Dr. Anderson, with the collaboration and support of the Junior League of Halifax, has conducted a pilot study demonstrating that efficient screening of young children for defects of vision and hearing could be carried out accurately by trained lay volunteers. This pilot project has now been vastly expanded, with a view to screening all Primary Grade students in the Halifax area during the current year. As an offshoot of this program, additional volunteers have been trained to conduct a similar (but mobile) screening service for South Shore communities.

Dr. J. Philip Welch (medical genetics) has developed a growing research program in hereditary disease, of which our province has an unusually large share. He and his colleagues have developed improved methods for chromosome identification. He has also conducted extensive studies of the social and psychological significance of the XYY chromosome abnormality, and has initiated a program to identify all carriers of the Duchenne form of Muscular Dystrophy in the province. Many of these studies are carried out under the aegis of the Atlantic Research Centre for Mental Retardation.

Dr. M. DeWolfe (biochemistry) has established methods for identifying and monitoring treatment of a large number of hereditary metabolic disorders, and for screening newborn infants for these conditions.

Dr. C.T. Gillespie has established a laboratory for measurement of lung function, not only in older children, but also in the youngest of infants. We hope that these techniques will provide a basis for assessment and improvement of treatment for paediatric bronchopulmonary diseases.

In July, 1973 our full time paediatric surgical staff will be strengthened by the addition of Dr. David A. Murphy. In addition to his work as a full time paediatric cardiovascular surgeon, Dr. Murphy will devote approximately 50% of his time to the continuation of his research, begun at McGill University, in the development of improved membrane oxygenators.

Two of our research programs have been rated sufficiently highly by the Departments of Biochemistry and Biology at Dalhousie to be approved for training towards the Ph.D. degree. This year, the first two candidates so trained will receive their doctorates — Harold Cook in Biochemistry, for research carried out under the supervision of Dr. Matthew Spence; and Elizabeth Winsor in Biology, for her work in genetics under the guidance of Dr. J. Philip Welch. We take great pride in the success of these young investigators, who are already making valuable contributions to Canada's scientific output.

These are merely a few highlights of the early growth of a rapidly expanding research program. We look upon the effort as a key factor in determining our future as an international centre for paediatric care and teaching, and in ensuring the ultimate delivery of optimum care to *all* infants and children throughout the Maritime provinces. □

And, therefore, gentlemen, I would point to that liquid and say to you, I have taken my drop of water from the immensity of creation, and I have taken it full of the elements suitable for the development of inferior beings. And I wait, I watch, I question it, begging it to recommence for me the beautiful spectacle of the first creation. But it is dumb; dumb since these experiments were begun several years ago; it is dumb because I have kept it from the only thing man cannot produce, from the germs that float in the air; from life, for life is a germ and a germ is life. Never will the doctrine of spontaneous generation recover from the mortal blow of this simple experiment . . . No, there is now no circumstance known in which it can be affirmed that microscopic beings came into the world without germs, without parents similar to themselves. Those who affirm it have been duped by illusions, by ill-conducted experiments spoiled by errors, that they either did not perceive or did not know how to avoid.

Louis Pasteur, 1822-1895

Cleft Lip and Palate in Nova Scotia

A Multidisciplinary Approach to Treatment

B. D. Grover, M.D., F.R.C.P.(C)
T. M. F. Roberts, M.D., F.R.C.S.(C)
N. M. Wali, M.D., F.R.C.P.(C)
B. St.J. Brown, M.D., F.R.C.P.(C)
James F. Ross, M.D., F.R.C.S.(C)
W. S. Parkhill, M.S., F.R.C.S.(C)

Ruth Kimmins, L.C.S.T.
G. M. Jensen, D.D.S., M.S.
Wm. Currie, M.A.
Ann MacDonald, M.S.W.
G. L. Terriss, LL.B., D.D.S., M.S.
Ann Lupburger, M.S.

Halifax, N.S.

One child in every 1,000 born alive will have a cleft lip, cleft palate or both. In Nova Scotia, about twenty new births per year will have these anomalies. In the past, the treatment of these children has been less than ideal because of a number of factors. These factors include: —

1. An early rejection by the family of the new born as a hopeless problem.
2. Less than satisfactory initial surgical treatment and poor follow-up.
3. Failure to co-ordinate the many facets of treatment.
4. Lack of dental and speech facilities at a cost within the family budget.
5. Lack of available comprehensive program.

With the advent of Medicare, the cost factor to the patient has been eliminated apart from the dental care. Hopefully, Government aid may soon look after this aspect of care.

The ideal would be treatment at the local community level. The assessment and treatment of this congenital defect requires specialists in many fields and it is not economically sound to make this available at the community level. The travelling clinics of the Canadian Rehabilitation Council for the Disabled help to bring these specialists to regions of Nova Scotia.

A comprehensive multidisciplinary approach to this problem will improve the standard of care and prevent many of the problems with which these children have had to contend.

The Izaak Walton Killam Hospital for Children now has a Cleft Palate Clinic where children can be seen and assessed by a team of specialists. These include Paediatrician, Plastic Surgeon, Audiologist, Speech Therapist, Dentist, Orthodontist, Psychologist, E.N.T. Surgeon, Radiologist and Social Worker. The new born infant should have a thorough assessment by the Chairman and other members of the team.

From The Izaak Walton Killam Hospital for Children, Halifax, N.S.

The following outlines the place of each of these individuals in a team approach to a difficult problem.

Paediatrician

The Paediatrician is the key consultant in the team. He looks at the child from a general point of view. His position as Chairman of the team is important as co-ordinator of the many specialists involved.

A thorough general assessment of the child may reveal other associated anomalies such as, congenital heart disease, Pierre Robin syndrome with respiratory distress or Trisomy E syndrome with multiple anomalies. This assessment should be carried out as early as possible and certainly before surgery.

Feeding problems may arise in patients with gross defects and special feeding methods may have to be employed. These children will feed satisfactorily if a large, soft nipple with an enlarged opening is used.

The parents need guidance and encouragement because there is a great "guilt complex" present in many. The cause of these defects is unknown apart from a familial incidence in 25%. Where familial incidence occurs, genetic counselling is available.

The Plastic Surgeon

The surgery of cleft lip and palate should begin with closure of the lip and anterior palate when the baby is about ten pounds in weight. In bilateral cases, some surgeons repair the sides two months apart. Preliminary orthodontics may be indicated in severe cases

The cleft palate is usually repaired at one to one and a half years of age or when the child reaches twenty pounds.

Secondary operations on the lip are usually carried out just before school in order to make the child cosmetically acceptable. These operations may include lengthening of the nasal columella in severe cases.

In children with poor speech an increase in speech quality may be obtained by the operation of Pharyngoplasty. This should be delayed until efforts at speech therapy have been used.

Later surgical procedures may be indicated after the nose has been fully developed. In order to give adequate nasal airway, an SMR or Septoplasty may be performed. The appearance and function of the nose may be improved by Rhinoplasty procedures.

Dental Aspects of Cleft Palate Children

The newborn infant with a cleft palate may be helped considerably by the use of an acrylic plate tailored to his needs. Feeding problems can be averted. The parents find this early form of treatment acceptable and encouraging, knowing that something is being done for their baby from birth.

During the ensuing months, the palate is changed as the infant grows, and the action of the tongue keeps the two halves of the maxillary arch in good position preventing collapse and the gross dental malformations which ensue. Several leading centres have had excellent results with this form of treatment. In the Cleft Palate Clinic of the I.W.K. Hospital for Children, we plan to consider this approach from the earliest days of life and with consistent follow-up, deal with subsequent dental and orthodontic problems as they arise. Maintenance of sound teeth in a healthy mouth is essential and will be an important part of the programme. The aim of dentistry for these children is to "PREVENT" as far as possible, the majority of problems arising from dental decay, space loss, malocclusions, related speech problems and psychological problems related to poor dental esthetics. Where prevention is impossible, then the aim is to "Ameliorate".

The Role of the Prosthodontist in the Treatment of Cleft Lip and Palate Patients

The prosthodontist attempts to provide structures that will permit the acquisition of socially acceptable speech, restore the masticating apparatus, establish facial and dental harmony, maintain the orthodontic expansion of the upper arch, and enable the patient to make a good psychological and physiological adjustment.

Some prostheses may accomplish more than one task; providing teeth in the anterior section, covering a fistula in the palate, and extending into the pharynx to assist in velopharyngeal closure.

Most team members believe that the form of management should be determined for each patient, although surgery is the first choice in many instances. The team-oriented prosthodontist at present is often called upon to provide supplements to surgery. If the cleft involves the alveolar ridge, the patient will in all probability require a fixed or removable prosthesis to complete the anterior part of the upper dental arch, since teeth are frequently congenitally missing or malformed in this area.

In most instances, if the team decides that a prosthesis rather than surgery is the indicated form of management, it can be effective, particularly if speech training helps the patient to use it maximally.

The Role of the Orthodontist in the Treatment of Cleft Lip and Palate Patients

Cleft lip and palate patients should be under routine observation by an orthodontist from birth until growth has ceased between sixteen and nineteen years of age but routine follow-up is started around three years. When possible definitive orthodontic management should be delayed until eight to nine years of age.

The aim of orthodontic treatment may be listed as follows: —

1. To prevent the occurrence of gross deformity of the dental arches.
2. To stimulate the bone growth and development where this is possible.
3. To restore the normal overall contour of the upper arch.
4. To coordinate the upper and lower dental arches in size and symmetry by increasing the overall dimension of the upper arch and by reducing the overall dimension of the lower arch where necessary by extraction of certain teeth.
5. To enable proper functional exchange between the arches so that the mandible may exert a stimulating influence upon the development of the upper teeth.
6. To create more room for the tongue so that the articulation of sounds is facilitated.
7. To improve the appearance of the profile and facial structures.
8. In cooperation with the oral surgeon, to diagnose, plan treatment and perform pre and post-surgical orthodontics on those patients requiring jaw osteotomies, or ostectomies to improve profile.

Role of Radiologist

Radiology has made a highly significant contribution in these advances in comprehensive care since visual and auditory records of internal moving structures can be obtained with little or no disturbance to the patient.

We are fortunate in Nova Scotia in having one of the best equipped and most modern departments of Radiology in North America. At the I.W.K. Hospital for Children, radiology contributes to the comprehensive care of patients of any age with cleft palate problems in the following ways:

1. In the infant, and at any age thereafter, Cephalometrograms can be obtained. These are used to predict growth and other aspects of the patient's problems.
2. Maxillary radiographs to show the bony, dental and soft tissue malformations.

3. Panoramic radiography — this provides a "wrap around" view of the upper and lower dentition.
4. Cine radiography has been used for many years in lateral projections only, and has proved its worth in showing the excursion and motion of the soft palate, the efficiency of attempts to achieve velopharyngeal closure, the development of compensatory pharyngeal movement, rigidity and scarring, muscular deficiency, paresis and incoordination, and the importance of the adenoids in speech function. However, there are some aspects which cannot be thoroughly evaluated in the lateral projection alone. Since the opening of the I.W.K. Hospital for Children in May 1970, we have developed a basal projection with positive contrast medium, which reveals new information on the movement of the lateral walls of the pharynx.
5. Simultaneous audio and video recording has been added in recent years; we have found this to be of great value to the surgeon and speech therapist.
6. Sound spectrography will be available; this records a visual record of the spectrum of sound during speech. We plan to add this simultaneously to the audio video record as providing a "new look" at each patient's problem.

Apart from its diagnostic usefulness, the sound spectrograph is of great value in the actual treatment of speech problems, since the patient can view his own spectrographic performance on the oscilloscope and his efforts at obtaining correction; all this is obtained without reliance on his hearing alone.

The Psychologist

The psychological aspects of cleft lip and palate may be examined from two dimensions — the effect of the deformity on the child and the effect of the child with the deformity on the parents. Initially, parents may be consumed with guilt, rejection, and anxiety becoming later emotions with a tendency to over-protect the child as he grows into his formative years. The child may develop a host of defense mechanisms increasing in complexity as he grows older. However, with early counselling of the parents (primary prevention) help and support can be extended to build a parent child relationship where he will be accepted and receive encouragement to deter development of negative and unhealthy attitudes.

Reviews of psychological testing of cleft palate children show that these children fall into the normal distribution curve; however, early speech and language habits form the basis for later reading and spelling abilities, and deficiencies in these abilities can create a false impression of inability to learn or retardation. With good rehabilitation services, cleft palate children have been shown not to differ significantly in their intellectual and social adaptation from their siblings.

Speech Therapist

Speech therapy in cleft palate children is concerned with two areas — reduction of nasal quality as a result of velopharyngeal incompetence and correct production of consonant sounds. In English only three consonant sounds m, n, and ng are produced with air being permitted to escape through the nasopharynx, thus any degree of nasal air escape on other consonant sounds will be very apparent and can contribute to reducing intelligibility of speech. Acquisition of the various consonant sounds occurs at appropriate developmental age levels however, the child with a cleft palate may omit, substitute or distort many consonant sounds as a result of structural defects or superimposed upon these a hearing loss and the influence of intellectual and environmental factors. At its most severe speech may be totally unintelligible. Preventive speech and language treatment can be initiated taking advantage of normal developmental stages once the baby is six months of age. The earlier formal speech therapy, where indicated, is effected, the more quickly defects will respond to remediation.

Otolaryngologist

Among the various problems associated with the management of cleft palate is the recognition and treatment of hearing loss, secondary to a high incidence of middle ear disease. The middle ear disease is related primarily to the palatal defect and the associated malfunction of the Eustachian tube. This tube connects the middle ear cavity with the nasopharynx. Its tympanic end is bony, open and has no active function, while its nasopharyngeal end is cartilaginous and closed, only to open during the act of swallowing, yawning, or sneezing. Opening of the tube equalizes the middle ear pressure; equalization results in at first a retraction of the tympanic membrane and later formation of fluid in the middle ear. The aural pathology associated with cleft palate varies from fluid in the middle ear to chronic suppuration. In reviewing the literature, it appears that 80-90% of these infants have fluid in the middle ear with a hearing loss while 50% of cases beyond this age have a conductive hearing loss.

The management should include a thorough ear, nose and throat examination starting around two to three months of age, a hearing sensitivity by a qualified audiologist, and insertion of ventilation tubes, when indicated. A regular follow up is mandatory. There is good evidence that hearing acuity in these children improves with age if the ear condition is recognized early and managed properly.

Social Service

The social worker on the team attempts to help the child and his family adjust to the many social and emotional problems which result from his condition. She gives guidance and support to allow the child to cope with his continuing medical care and his overall daily living. It is important for her to establish an early relationship with the

parents in order to make it clear that she is available to help with difficulties that affect the child at home, in school, or in the community.

The social worker's contact with the family will depend on the kind of problems presented. She may need to provide brief support to ease anxiety or solve little problems as well as handling the more difficult deeper problems through intensive contact over a longer period of time. Knowing of the child's personal and environmental development, the social worker contributes relevant information to help the team better understand the overall

situation of a particular child and therefore provide the total care to which we aspire.

Summary

A comprehensive multidisciplinary approach to the care of children with cleft lip and/or cleft palate has been given. The intelligent use of facilities now available and the hoped for assistance in the funding of a Comprehensive Care Programme by government will greatly improve the outlook of these children and help to make them more useful citizens. □

Unilateral Thymic Rebound in Premature Infants

W. D. Reid, M.D., F.R.C.P.(C) and M. P. Shannon, D.M.R.D., F.R.C.P.(C)

Halifax, N.S.

It is well recognized that the thymus may atrophy in response to stress, following radiation or administration of adrenal corticosteroids. For example, infants with severe intrauterine growth retardation frequently have no demonstrable thymic shadow on initial chest roentgenograms.

With recovery, the neonates' atrophied thymus may undergo hypertrophy and appear pathologically enlarged in comparison to the earlier abnormal smallness. Following surgical correction of congenital cardiac lesions, the enlarging thymus may be confused with a mediastinal haematoma or abscess. Rapid rebound enlargement of the thymus following successful corrective surgery for transposition of the great vessels was noted in 28 percent of cases reviewed recently by Rizk et al.¹

The recovering thymus gland usually enlarges in a uniform manner, producing a fairly symmetrical broadening of the superior mediastinum in the frontal projections. In these cases, there is little difficulty in recognizing the thymus by the characteristic shape and position. Confirmation may be obtained by demonstrating the anterior location of the structure in the lateral chest film or by observing at fluoroscopy, variation in the size of the structure during respiration.

Sometimes, however, the thymus may enlarge in an asymmetrical manner so that a unilateral broadening of the superior mediastinum develops. In these cases, the rapid emergence of a mass extending across the upper and middle zones of one lung may simulate an extensive area of pneumonia or an encysted pleural effusion.

Four examples of such asymmetrical rebound enlargement of the thymus have been observed in the neonatal nursery of the Halifax Infirmary during the last year. The

first case was initially treated as a diffuse right upper lobe pneumonic infiltrate. Prolonged physiotherapy and antibiotics failed to produce any radiological improvement in this clinically thriving neonate. Fluoroscopy confirmed the right sided mass to indeed be thymus.

The clinical similarity in these patients is striking. All were small premature infants with significant respiratory failure. Positive pressure ventilation with 100 percent oxygen was required for several days to weeks. During this period of stress, maintenance of nutrition was difficult and a decrease in the size of the thymus roentgenographically was observed. However, with recovery from the severe lung disease, these infants all demonstrated a dramatic growth spurt with increase in their weight, length and head circumference. During this period of rapid growth, the right sided thymic shadow appeared. These infants were now thriving and were relatively asymptomatic as far as any pulmonary disease was concerned.

Two of these infants have been followed for over six months. In both, the right sided thymic enlargement has slowly diminished in size.

The exact explanation for the unilateral thymic enlargement to the right side only presently remains unclear. Perhaps it is related to the prolonged endotracheal intubation. However, there was no evidence of tracheal damage or mediastinitis in any of these infants.

In summary, a unilateral thoracic lobe mass in a rapidly growing premature infant may simply represent the asymmetrical rebound of thymic tissue. □

Reference

1. Rizk, Ghassan, et al: Rebound Enlargement of the Thymus after Successful Corrective Surgery for Transposition of the Great Vessels, *Am. J. Roentgen.*, Vol. 116, No. 3, November 1972.

Departments of Paediatrics and Radiology, Halifax Infirmary, Halifax, N.S.

Huntington's Chorea in Nova Scotia

E. J. Winsor,* Ph.D., and
J. P. Welch,** M.B., Ch.B., Ph.D.

Halifax, N.S.

Stories have been told of a victim of Huntington's chorea who was hanged for witchcraft at a public execution in Boston in 1653¹ and of Europeans in the Middle Ages who "became possessed with a common delusion and danced through the country like raving maniacs".² The situation is not quite so macabre in the twentieth century, but there is still no cure for this hereditary disorder of the central nervous system.

The progressive chorea and dementia are characteristic, with onset usually between the age of 35 and 40 years but in some recorded cases as early as 5 and as late as 70 years.³ From prevalence estimates,⁴ between 16 and 32 cases are to be expected in a population the size of Nova Scotia's. This appears to be a relatively small number — until one considers the number of *potential* victims, and the tremendous amount of family, community, and medical concern for a patient who will survive on average for 15 years.

Huntington's chorea is an autosomal dominant condition with complete penetrance, implying that offspring of an affected person have a 50:50 chance of being affected. Due to the late onset of the disease and the inability to identify victims before they exhibit symptoms, those with an affected parent live in constant fear that some day they too will 'develop the shakes'. On the other hand, complete penetrance implies that if a potential victim survives to old age without having the disease, there is no risk to his or her children.

This latter fact is small consolation to members of affected families, however. The young man or woman wanting to marry and have a family is haunted by the possibility that the disease may yet develop in a presently unaffected parent at risk; that he or she has a 50:50 chance of having inherited it; and that, if so, it will be transmitted to approximately half of *their* children. Furthermore, if individuals at risk adopt children, even if the disease does not develop in the adoptive parent at risk, the years of dread uncertainty remain. It is small wonder that a high suicide rate in affected families has been reported.⁵

The first published information on Huntington's chorea in Nova Scotia was a report by Hattie⁶ to the American

Medico-Psychological Association in 1909. In 1962, Dr. B. C. Hennessey[†], then a medical student, updated parts of the pedigree published by Hattie,⁶ and during the past year we have added a few more cases from hospital records (Fig. 1). The World Federation of Neurology is sponsoring a survey on the origin, distribution, and migration pattern of Huntington's chorea throughout the world; the Canadian contribution to the survey is under the direction of Dr. André Barbeau in Montreal, but unfortunately not all cases are being reported to the registry.⁷

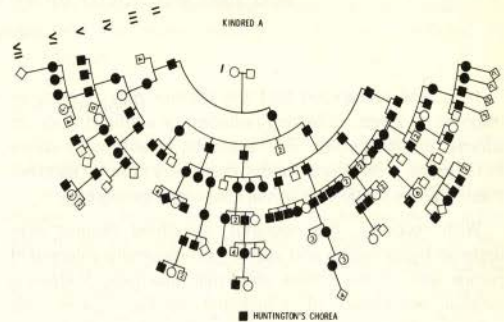
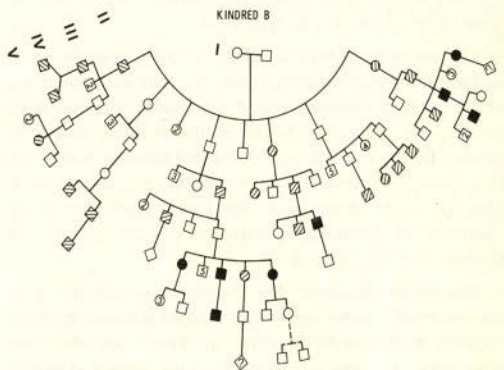


FIGURE 1



■ HUNTINGTON'S CHOREA (reported by a physician)
▨ PROBABLE HUNTINGTON'S CHOREA (reported by family or friends)

FIGURE 2

The pedigree of kindred A, shown in Fig. 1, illustrates the typical direct transmission from parent to child, with no skipped generations. The apparent gaps in pedigree B (Fig. 2) no doubt are due to incomplete reporting or death

*Research Assistant, Atlantic Centre for Research in Mental Retardation.

**Associate Professor of Paediatrics, Dalhousie University, Halifax, Nova Scotia.

[†]The information contained in this unpublished report of a summer project was made available to us by Dr. W. A. Murray, who supervised the project.

of individuals before symptoms were apparent. Some members of kindred A reputedly settled in Nova Scotia in 1771, and members of kindred B settled in a neighboring county in the early 1800s; many family members still reside in these and contiguous counties. Both pedigrees are incomplete and no doubt there are many more affected individuals. Mr. Ross Graves, a genealogist who has assisted in tracing pedigree B, has estimated that there are between 2000 and 3000 descendants of the generation-I couple. In addition, we are aware of several apparently isolated cases of Huntington's chorea.

The following requests for genetic counselling emphasize the urgent need for education, for both the affected families and the medical community.

Family 1. A young woman was interviewed regarding her carrier status for sex-linked nephrogenic diabetes insipidus. As incidental information she volunteered that her maternal uncle was confined to hospital permanently and that his father had died of a similar disease. She was not aware of the name of the disease or that there was any risk to other members of the family. In fact, both her grandfather and uncle are confirmed cases of Huntington's chorea; we have not examined her mother.

Family 2. While watching a television program about Huntington's chorea, a young woman realized that the TV patient's reactions reminded her of her mother. She wrote to her sister in Ontario, and the sister's family doctor suggested that the records be checked. Seeking further information, the woman had two consultations with different physicians, both familiar with her family medical history.

It appeared that her mother had indeed suffered from Huntington's chorea and had been hospitalized many times, but from both consultations she gained the impression that the risk to herself was, at most, "very slight". In fact, she has a 50% risk of having inherited the disease.

Family 3. An illegitimate child of a girl whose mother is choreic was offered for adoption. The girl volunteered to the social worker that her mother was "nervous"; however little initial attention was paid to this point, and the child was placed for adoption. A subsequent chance enquiry revealed that several physicians were aware of documented Huntington's chorea in the family. The risk of future Huntington's chorea in the baby (currently 25%) was not fully appreciated, however, until after the child had been placed with a couple who wished to adopt her.

- o o o -

We welcome any inquiries or additional information about known or possible cases of Huntington's chorea in the Atlantic Provinces. □

References

1. **Vessie, P. R.:** On transmission of Huntington's chorea for 300 years — Bures family group. *J. Nerv. Ment. Dis.* **76:** 553, 1932.
2. **Davenport, C. B. and Muncey, E. B.:** Huntington's chorea in relation to heredity and eugenics. *Am. J. Insan.* **73:** 195, 1916.
3. **Myriantopoulos, N. C.:** Huntington's chorea. *J. Med. Genet.* **3:** 298, 1966.
4. **Barbeau, A.:** Cited by Myriantopoulos.³
5. **Reed, T. E., and Chandler, J. H.:** Huntington's chorea in Michigan. I. Demography and genetics. *Am. J. Hum. Genet.* **10:** 201, 1953.
6. **Hattie, W. H.:** Huntington's chorea. *Am. J. Insan.* **66:** 123, 1909.
7. **Barbeau, A.:** Personal communication, 1972.

PRE NATAL CLASSES

AT

Veith House

Halifax, N.S.

There is available at Veith House a continuous series of classes to provide exercises, discussion, and information for the expectant mother.

Invite your patients to contact:

Sue Higginbotham R.N. 453-4320

COUNSELLING SERVICES

for

UNMARRIED PARENTS

Many Unmarried Parents do not know where to turn for help in making plans for their children or for themselves. There are Social Agencies in the Halifax-Dartmouth areas offering counselling services to parents who plan to keep or place their children for adoption.

To enable these parents to make the *best plan*, early referral to a social agency is necessary.

For further information contact:

Department of Social Services 44 Portland Street Dartmouth, N.S. PHONE: 424-3298	Children's Aid Society 5236 South Street Halifax, N.S. PHONE: 425-5420
---	---

Urinary Tract Infections in Childhood

J. F. S. Crocker,* M.D., F.R.C.P.(C)

Halifax, N.S.

Recently the impression has gained considerable popularity that infection of the urine means involvement of the renal parenchyma, and that urinary infection and pyelonephritis are synonymous. However, there is a great deal of evidence^{1,2} to show that the child who walks into the doctor's office with complaints of urinary tract infection may really be "the tip of the iceberg" and that chances are in favor of her having a lower urinary tract infection, which can be confirmed by careful history taking and laboratory studies. Kunin¹ has shown on screening 100,000 children that at least 5 per cent of girls will acquire bacteriuria during the elementary and high school years. Only one third of these girls had symptoms referable to the urinary tract, usually urgency, frequency and dysuria. 10.3 per cent of the total with diagnosis of urinary tract infections had clinical episodes of acute pyelonephritis.

The greatest number of urinary tract infections occur in infancy and here boys outnumber the girls. After infancy, urinary tract infection in girls is 14 times as frequent as in boys³ and your yield in investigating boys of finding a gross structural urinary tract anomaly are greater and thus makes proper investigation mandatory. The term "pyelonephritis" conveys different meanings to different physicians. To the pathologist, it means mononuclear cellular infiltrate in the interstitial areas, sclerotic or hyalinized glomeruli, and tubular atrophy. To the family doctor, it means clubbing of the calyces as seen on urogram, or thinning with diminished or renal function. Heptinstal⁴ emphasizes that either of these concepts can be grossly incorrect, for instance, the pathologist could see the same picture with hypersensitivity reaction to drugs such as sulfonamide, or dilantin. Structural abnormalities of the calycial system may be congenital in origin.

Chronic pyelonephritis, in the absence of gross kidney, urinary or nervous system structural defects, is a rare disease in childhood.³

The presence or absence of pus cells in the ordinary voided specimen is of little or no diagnostic value³, unless the urine has been collected in a manner to prevent contamination by vulval or vaginal discharge. We rely completely on the results of a urine culture for diagnosis (clean catch midstream) done by only one nurse in our hospital and using 100,000 colonies/ml. or greater as index of infection.

Urethritis

Here the child is usually female and complains of dysuria (unable to discern initial or terminal) and may have enuresis

*Assistant Professor, Department of Paediatrics, Dalhousie University.

or even incontinence. Urinalysis shows good concentratory ability and often a very acid urine and with pyuria. Midstream culture is usually negative or shows only a very low count e.g. 3,000 colonies of normal urogenital flora. On physical examination, the only finding is erythema of introitus. There is no renal or bladder tenderness. The treatment and diagnosis can often be learned on history as pinworms, bubble bath,^{1,2} or poor hygiene, particularly wiping from anal to urethral area, instead of front to back.

Lower Urinary Tract Infections

As pointed out in the introduction, many of these never present to the doctor. When they do the most common complaint from the mother is of foul smelling and cloudy urine. However, since many of these may be secondary to urethritis they may have dysuria, bedwetting and rarely fever, and if so usually of low grade. Urinalysis shows normal concentration and normal ability to acidify, usually they have pyuria; colony count will indicate greater than 100,000 colonies. If the physician accepts the data that pyuria, depending upon the population studied occurs in only 50 per cent of asymptomatic female patients with bacteriuria, that pyuria occurs commonly in the absence of bladder bacteriuria, and that Gram stain has an intrinsic error of about 20 per cent, there is no choice other than to count bacteria in the urine.

Upper Tract Infection

Here the symptoms are mainly those of systemic effects, commonly gastrointestinal with nausea and vomiting and occasionally diarrhea. Fever is fluctuating with high spikes even to the degree of causing febrile convulsions. Many of the systemic signs also reflect the renal tubular acidosis problem which these patients have. There is a marked loss of carbonic anhydrase activity⁵, as upper tract infection is the most common cause of renal tubular acidosis in childhood. The patient has an inability to acidify his urine and thus may come to be systemically acidotic.

Pyuria usually is intermittent and the patient loses the ability to concentrate the urine. The lack of concentrating ability⁶ has been a consistent picture and may account for some of the frequency often complained about by these children.

Surprisingly on physical examination, one does not always get the classical physical findings as we were taught as medical students. Tenderness to percussion over the kidneys is often inconsistent and in acute pyelonephritis increases of blood pressure are rare.

Further Investigations

Urinalysis and midstream culture are a good routine base to help establish whether a true infection of the urinary tract is present. The question of when to do further radiological and urological investigations is controversial. It is agreed by all that boys with urinary tract infection should be investigated routinely. Any female with high fever and severe urinary tract infection should have the benefit of *at least* an excretory urography, which serves as an excellent screening procedure for any serious congenital urologic anomaly. A detailed urologic investigation in girls with uncomplicated urinary tract infection after their second bout is our current procedure.

At times, minimal dilatation of one or both ureters seen on the excretory urogram may arouse suspicion that the problem is recurring infection due to vesicoureteral reflux. It is now well documented both clinically and experimentally that infection in the urine may produce temporary incompetence of a normal ureterovesical angle by the production of rigidity and edema in this area⁷. However, reflux may also be a familial⁸, or a benign transient finding occurring during normal development,^{7,9} disappearing with maturity. However large "stove pipe" like ureters with poor peristaltic movements should never be considered benign and often require surgical reconstruction.

Cystoscopic evaluation is a necessary adjunct to the above testing particularly where the radiological examinations do not confirm the serious clinical and laboratory testing. The bladder should be scrutinized for any evidence of inflammation and the normal development of the trigone confirmed. Poor development or absence of trigone development is often associated with vesico-ureteral reflux signifying failure of the intramural or submucosal ureter to develop adequately. Dilated ureteric orifices into the bladder assume several characteristic shapes denoting dilation. The bladder neck and urethra should also be examined for obstruction such as posterior urethral valves.

Treatment

Kass has clearly stated the major factors that can reduce a bacterial infection in the bladder to number less than 10^5 /ml. are in descending order of importance: (1) antimicrobial therapy, (2) hydration, (3) frequent voiding, (4) fastidious organisms, and (5) the presence of cleansing detergent washed from the perineum into the culture bottle.¹³

Any chronic and recurrent cases of urinary tract infection can be controlled by frequent and sensible use of the laboratory. The acute case presents a different problem. Treatment must often be started on a "best guess" basis while awaiting cultures and sensitivities. Adjustment of antibiotic therapy can be made on basis of sensitivities and a 2 week course of antibiotics is effective. Since the most common organism is *E. Coli.*, usually trisulfapyrimidines, nitrofuradantin or ampicillin are effective. When the two week course of therapy is finished the child should be off therapy a short while and a recheck culture taken.

For these patients who have vesicoureteral reflux and infection, and those who have had corrective urological surgery a longer period of 3 to 6 months of antibiotic therapy is employed.

Kunin¹ showed that in recurrent urinary tract infection 80 per cent were due to reinfection with a new organism. "With each treatment removed about 20 to 25 per cent of white girls into long-term remission. This was noted regardless of the number of preceding treatments, even in girls with as many as 14 recurrences, as though the population were being fractionally extracted into remission each time. As a consequence, the number of girls requiring multiple treatments fell, and after several years of follow-up observation, only a small number of bacteriuric girls remained."

Treatment after Antibiotic

Ureteroneocystostomy may be necessary in those ureters which, after serial follow-up, shows (a) progressive ureteral dilatation, (b) calycial deformities, (c) atrophy of the renal parenchyma, (d) when prolonged antibiotic therapy of urinary infections shows the reflux, which seems to amplify the length of infection, is persistent, (e) when cystoscopic examine shows gross deformities of the ureterovesical junction particularly paraureteral diverticulum.

Questions of the effects of calibration of urethra in children have made surgical correction of distal urethral stenosis debatable as a worthwhile procedure in children.^{10, 11} Evidence has been provided by several reports that urethral calibers considered abnormally small in infected girls are equal to or greater than that of normal girls from a control population.

Conclusion

Consistent intelligent use of the laboratories should financially be worthwhile, as the prevention of a young child becoming an adult in chronic renal failure would, on cost analysis, convince any accountant.

Missing the correct diagnosis and treating blindly is the most costly error both for the patient's family and our medical system. □

References

1. Kunin, Calvin M.: The natural history of recurrent bacteriuria in schoolgirls, *The New England Journal of Medicine*, vol. 282:26, June 25, 1970, pages 1443-1448.
2. Meadow, S. R., White, R. H. R., Johnston, N. M., Browning, A. J. F.: Prevalence of symptomless urinary tract disease in Birmingham schoolchildren. I — Pyuria and Bacteriuria, *British Medical Journal*, vol. 3, pages 81-84, July 12, 1969.
3. Burke, E. C., Kelalis, P. P.: Recurrent urinary tract infections in children: Clinice of approach to diagnosis and treatment, *Mayo Clinic Proceedings*, vol. 44:7, pages 489-499, July, 1969.
4. Heptinstall, R. H.: The enigma of chronic pyelonephritis, *The Journal of Infectious Diseases*, vol. 120:1, pages 104-107, July, 1969.

5. **Whitaker, J., Hewstone, A. S.:** The bacteriologic differentiation between upper and lower urinary tract infection in children, *The Journal of Paediatrics*, vol. **74**:3, pages 364-369, March, 1969.
6. **Savage, D. C. L., Wilson, M. I.:** Renal concentrating ability in 5-year-old girls with covert bacteriuria, *Archives of Disease in Childhood*, vol. **47**: 251, pages 141-143, February, 1972.
7. **Williams, D. I.:** The natural history of reflux — A review, *Urologic Internationalis, Urol. int.* **26**:350-366, 1971.
8. **Miller, H. C., Caspari, E. W.:** Ureteral reflux as genetic trait, *The Journal of the American Medical Association*, vol. **220**:6, pages 842-843, May 8, 1972.
9. **Blank, E., Girdany, B. R.:** Prognosis with Vesicoureteral Reflux, *Journal of Pediatrics*, vol. **48**:5, pages 782-787, November, 1971.
10. **Manley, C. B., Frech, R. S.:** Urinary tract infections in girls: Prevalence of spina bifida occulta, *The Journal of Urology*, vol. **103**, pages 348-352, March, 1970.
11. **Graham, J. B., King, L. R., Kropp, K. A., Uehling, D. T.:** The significance of distal urethral narrowing in young girls, *The Journal of Urology*, vol. **97**, pages 1045-1049, June, 1967.
12. **Altchek, A.:** Pediatric Vulvovaginitis, *Pediatric Clinics of North America*, vol. **19**:3, pages 559-580, 1972.
13. **Kass, E. H.:** The role of asymptomatic bacteriuria in the pathogenesis of pyelonephritis, In Quinn and Kass (Eds): *Biology of Pyelonephritis*, Boston, Little Brown and Company, 1960, pages 399-412.



YOUR EXPERTS IN TRAVEL

Whether you're going to a Convention, on a Vacation or on Business — Call us at either of our two convenient Locations.

Lord Nelson Arcade 429-7970
 Scotia Square 429-7974

Medical Estate Planning Services

Donald R. Cox

Suite 1110
 Duke Street Tower
 Scotia Square

Phone: 422-6314

Estate Planning Directed to the Medical Profession

Announcing Guaranteed Life Insurance

For those members who have been previously ineligible for life insurance through The Medical Society of Nova Scotia Insurance Program for reasons of health.

All members of The Medical Society of Nova Scotia who have less than \$25,000 of term LIFE insurance through the Society's plan may apply for an increase in LIFE coverage to a maximum combined total of \$25,000 without proof of insurability. This may only be done in the period June 1, 1973 — August 30, 1973.

This offer is restricted to members who are residents of the Province of Nova Scotia and who have not yet attained age 65.

If you desire to take advantage of this special offer, please complete the reply card on Page 114 and mail it to:

The Medical Society of Nova Scotia
 c/o Murray G. Bulger & Associates Limited
 6009 Quinpool Road
 Halifax, Nova Scotia

The Medical Society of Nova Scotia

ANNUAL SUMMER MEETING DIGBY PINES

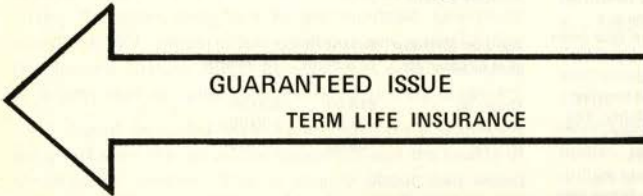
September 6, 7, & 8, 1973

THE MEDICAL SOCIETY OF NOVA SCOTIA

THE NOVA SCOTIA DIVISION
OF
CANADIAN MEDICAL ASSOCIATION

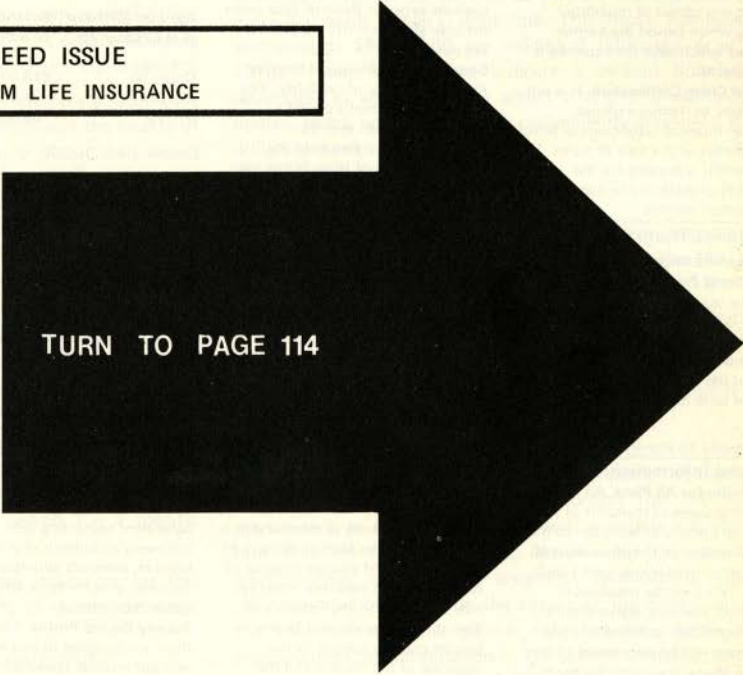
INSURANCE PROGRAM

**SOCIETY MEMBERS
EMPLOYEES OF SOCIETY MEMBERS**



**GUARANTEED ISSUE
TERM LIFE INSURANCE**

For information on how your Society's insurance plans may be of benefit to you and your employees . . .



TURN TO PAGE 114

Life Insurance

Level Term Protection is available in units of \$25,000.00 from a minimum of \$25,000.00 to a maximum of \$125,000.00. Upon attainment of age 66 the protection reduces by 10% of the face amount each year and terminates at age 75.

Employees may purchase a unit of \$10,000.00. If an employee requires a higher amount, a unit or units of \$25,000.00 may be purchased.

Age Limit. Any member of the Medical Society or employee may apply, providing the member has not attained age 65.

Waiver of Premiums. If an insured member becomes totally disabled for six consecutive months before age 60, coverage will remain in force for the complete duration of disability without further payment of premiums.

Conversion Privileges. All or part of the term protection may be converted to any of the company's whole life or endowment plans without further evidence of insurability.

Complete Protection. Benefits are payable in the event of loss of life from any cause, even from suicide after two years, anywhere in the world, and in addition to any other insurance carried.

Beneficiary. You may designate anyone as your beneficiary and may change your appointment any time, subject to the provisions of the law.

Ownership. The owner may be yourself or a third party, such as your spouse. However, you are always the life insured. If desired, the policy may be assigned.

Annual Rates per each unit.

Age Last Birthday as at October 1st

\$10,000.00 \$25,000.00

Under 31	24.12	60.36
31 - 35	28.32	70.80
36 - 40	30.60	76.56
41 - 45	39.24	98.04
46 - 50	50.88	126.96
51 - 55	79.80	199.68
56 - 60	108.84	272.04
61 - 75	168.84	421.92

Underwritten by: Imperial Life Assurance Company of Canada

Income Replacement

Long-Term Disability Protection.

Pays to age 65 or for life if disability is caused through injury. Any disability due to sickness following the attainment of age 63 will be paid for a period of up to two years. Insurance reduces to \$500.00 per month on attainment of age 66, and terminates on the annual anniversary of the master policy next following the attainment of the insured's 70th birthday.

Age Limit. Any member of the Medical Society of Nova Scotia or employee may apply up to the attained age of 64.

Benefit Limits. You may select the Base Monthly Benefit of \$100.00 plus additional \$100.00 units up to a maximum of \$1,500.00 per month. Since benefits are not taxable, the

amount selected should not exceed two thirds of regular gross income.

Rehabilitation. Following a period of total disability a member is eligible to receive the regular monthly benefit under the plan, less 50% of income received, for a period of up to twenty-four months.

Elimination Periods. You may select the elimination period which best suits your needs - 15, 30, 60, 90, or 180 days. Benefits payments begin after you have been disabled for the period selected.

Liberal Total Disability Wording.

Unlike many individual plans, your Society defines "Total Disability" as the "inability to perform the duties of your own occupation" for the first five years of such disability. After the first five years, "Total Disability" means "the inability to perform the

duties of any occupation for which you are reasonably fitted by education, training, or experience"

Waiver of Premiums. Premiums falling due after ninety days of continuous disability are waived for the entire duration of such disability.

Annual Rates per Each \$100.00 of Monthly Benefit

Age Last Birthday as at October 1st	Elimination Period in Days				90	180
	15	30	60	90		
Under 31	\$22.44	\$18.72	\$17.40	\$16.08	\$14.28	
31 - 35	23.88	20.04	18.60	17.16	15.24	
36 - 40	28.08	23.54	21.84	20.16	17.76	
41 - 45	35.52	29.76	27.60	25.32	22.56	
46 - 50	43.08	36.00	33.36	30.72	27.24	
51 - 55	50.88	42.60	39.48	36.36	32.16	
56 - 60	60.00	50.16	46.44	42.72	37.80	
61 - 65	69.84	58.32	54.00	49.68	43.92	

Underwritten By: Income Disability and Reinsurance Company of Canada

Business Expense Protection

Purpose of This Plan is to compensate for continuing expenses in connection with your practise during any period of disability, during which period the normal revenue which pays the expenses is interrupted.

Liberal Claim Certification. It is not necessary to itemize expenses, provide financial statements or proof of expenses at the time of claim. The full benefit is payable for the duration of disability to a maximum of eighteen months.

Income Tax Position. All premiums paid for this benefit may be written off against taxable income as a business expense. Benefits paid under the plan are taken into income for tax purposes.

Benefit Period. Payments begin on the fifteenth day of disability. You may choose a benefit period of twelve or eighteen months.

Age Limit. Any member of the Medical Society of Nova Scotia may apply, who has not attained the age of 69.

Annual Rates per each \$100.00 of monthly benefit

Age Last Birthday as at October 1st	Benefit Period	
	12 months	18 months
Under 50	\$18.00	\$20.00
51 - 60	27.00	30.00
61 - 70	36.00	40.00

Underwritten By: Income Disability and Reinsurance Company of Canada

Accidental Death and Dismemberment

Accidental Principal Sum. Benefits are available from \$10,000.00 to \$100,000.00 in units of \$10,000.00

These Accident Benefits are Payable 100% of principal sum

loss of life
loss of both hands, feet, and sight of eyes

loss of one hand and one foot
loss of one hand and sight of one eye
loss of one foot and sight of one eye

75% of principal sum
loss of one arm or leg
50% of principal sum
loss of one hand, foot, or sight of one eye
25% of principal sum
loss of thumb and index finger from same hand

Worldwide 24 Hour Accident Protection including while flying as a passenger in any certified aircraft.
Annual Rate. \$9.60 per each \$10,000.00 of principal sum.

Underwritten By: Income Disability and Reinsurance Company of Canada

General Information

Eligibility for All Plans. All members and employees of members of the Medical Society of Nova Scotia may apply subject to the attainment of age limits listed above, under each plan. This includes members in research, teaching, administration, intern and post-graduate training. Coverage will be maintained so long as the Master Insurance Agreement is in force and membership in the

Medical Society of Nova Scotia is maintained.

Portability. So long as membership is maintained in the Medical Society of Nova Scotia, and you are engaged in work related to medicine, coverage may be carried in any Province or Territory of Canada, and to any foreign country subject to the approval of the Society and the Insurance Company.

Premium Rates. Upon the anniversary of the master insurance agreement coinciding with or next following attainment of a new age bracket, premium automatically increases in accordance with the above rate schedules.

Society Owned Profits. The Society's Plans are designed to vest the profit realized through favourable claims

experience with the Society. This surplus may be used at the Society's discretion to further improve the insurance plans, broaden underwriting acceptance standards to permit more members in the plans who would normally not be eligible for reasons of health, or reduce future premium rates.

If you wish to apply for coverage; increase your present limits; or obtain further information, your inquiries may be directed to:

The Medical Society of Nova Scotia Insurance Program

c/o Murray G. Bulger and Associates Limited

Consulting Actuaries - Plan Administrators

6009 Quinpool Road, Halifax, Nova Scotia

Telephone: Area Code 902 - 425-3741

Genetic Screening by Amniocentesis

The Current Status

J. Philip Welch*, M.B., Ch.B., Ph.D.

Halifax, N.S.

The technique of amniocentesis has been used as an aid to diagnosis since the early 1930's; more recently, it has become of proven value in the management of Rh iso-immunization (Liley, 1965). Largely as a result of this work, the procedure has been performed over 10,000 times after the 20th week of pregnancy and maternal or fetal morbidity or mortality has been reported in less than 1% of cases (Nadler and Gerbie, 1970). The ability to use the technique for the detection of some genetic changes has also been known for some time (Fuchs and Riis, 1956); however the use of this technique for the pre-natal detection of hereditary defects has achieved growing prominence over the last five years. This change may be ascribed to the development of various technological advances, coupled with a rapid attitudinal change in society.

Currently, the technique involves a sampling of the amniotic fluid at 14 to 16 weeks gestation, in selected pregnancies, to assess the sex, chromosomal status, and/or certain of the fetal enzymes. The frequency of complications in the mother or fetus from this procedure appears to be very low, as is the frequency of diagnostic errors, the latter being now largely avoidable. One study identified 287 amniocenteses without any complication (Nadler and Gerbie, 1970); however it is only reasonable to expect that complications will occur on rare occasions.

It should be noted that the test involves a significant delay between the actual amniocentesis and the results of chromosome analysis. This is usually about two weeks (Nadler and Gerbie, 1970). It is also worth noting that certain other rare situations will influence the predictive value of this test, e.g. the presence of a twin pregnancy; also that the test involves a potential risk of Rh sensitization (Queenan et al, 1971).

Indications

A recent review of the collective experience from a number of genetics clinics in the U.S.A. (Littlefield et al., 1973) identified a total of 677 pregnancies studied in this manner. About three-quarters (509) of these cases involved the possibility of a chromosomal disorder, 49 were instances of a possible sex-linked (X-linked) disorder, while the remaining 119 concerned the search for a specific metabolic defect.

It is thus seen that the principal indication for this procedure is the possible presence of a chromosomal

disorder. In rare instances this is prompted by the prior knowledge of the presence of a chromosomal translocation in one or other parent. Much more commonly, however, the test is carried out on account of either relatively advanced maternal age, or because of the existence of a previous child with Down's syndrome (mongolism, or trisomy 21). It has been estimated (Milunsky et al., 1970) that a woman, pregnant at age 40 or more, has a 1 in 40 chance of producing offspring with a serious chromosome disorder such as trisomy 21, 18, or 13, XXY, or XXX.

We currently feel that the test can reasonably be offered to all expectant mothers aged 37 or over.

Potential Benefits

I have estimated that there are about 600 pregnancies per year in Nova Scotia involving mothers aged 37 or more and thus carrying a significant risk of a chromosomal disorder. The laboratory cost of the test is of the order of \$100.00 per determination. In a screened population carrying an overall 1% risk, therefore, about 100 pregnancies would be screened to ascertain one affected fetus, resulting in a detection cost of \$10,000.00 per case. Against this figure may be set the cost of care for the undetected individual with Down's syndrome. This figure has been estimated at \$60,000.00 per individual (Milunsky et al., 1970). These figures thus indicate a six-fold financial advantage, to which must be added a long-term saving in human terms which cannot be conveniently measured in dollars and cents.

Medical-Ethical Considerations

It is self-evident that without pregnancy termination of affected fetuses there is no practical advantage to this test. I also feel that there must be a moral commitment of both parents towards termination, if the fetus is affected, *before* the test is carried out. Parenthetically, it may be noted that current Canadian legislation governing abortions does not allow for termination on grounds of any fetal abnormality, genetic or otherwise.

I realize that there is probably a wide divergence of views on this subject among both patients and doctors. It seems to me, however, that the most reasonable role for the physician is to supply the family with complete information and let them make the decision for or against amniocentesis and possible pregnancy termination. The information should include the nature of the disease and the risk; not only the genetic risk, but also those of amniocentesis, of termination in the second trimester, and

*Associate Professor of Paediatrics, Dalhousie University.

of the largely unavoidable risk of various other congenital disorders which cannot be detected. A number of centers have developed a form for use in these situations and a copy of the one currently in use at this center is appended to this communication. It should be stressed that the form is in no way intended as a legally binding document but merely as an additional means of information transfer.

Early in 1972 an attempt was made to generate some awareness of the potential of this procedure among physicians by means of a personal letter sent to all obstetricians in the province and all physicians practicing obstetrics in the Halifax-Dartmouth metropolitan area. A brief note, also providing an indication of the usefulness of this test, was published in the April, 1972, edition of The Nova Scotia Medical Bulletin. Since that time we have had six requests for chromosome analysis on amniotic fluid. Almost all these patients have been self-referred; that is, the patient has made the initial suggestion to the doctor that pregnancy monitoring by amniocentesis might be considered. It seems that patients are acquiring this knowledge of new medical skills from such sources as Life Magazine, Chatelaine, Reader's Digest, nursing journals, etc. Physicians, on the other hand, are either not acquiring this information or have an overwhelming reluctance to apply it.

References

1. Fuchs, F. and Riis, P., Antenatal sex determination. *Nature* 177: 330, 1956.
2. Liley, A. W., The Use of Amniocentesis and Fetal Transfusion in Erythroblastosis Fetalis. *Pediatrics* 35: 836, 1965.
3. Littlefield, J. W., Milunsky, A. and Jacoby, L. B., Prenatal genetic diagnosis: status and problems. In *Ethical Issues in Human Genetics* (Ed. Hilton, B., Callahan, D., Harris, N., Condliff, P., and Berkley, B.) New York, Plenum Press, 1973, pp 43-51.
4. Milunsky, A., Littlefield, J. W., Kanfer, J. N., Kolondy, E. H., Shih, V. E. and Atkins, L., Prenatal Genetic Diagnosis. *N. Engl. J. Med.* 283: 1370, 1441, 1498, 1970.
5. Nadler, H. L., and Gerbie, A. B., Role of Amniocentesis in the Intrauterine Detection of Genetic Disorders. *N. Engl. J. Med.* 282: 596, 1970.
6. Queenan, J. T., Shah, S. J., Kubarych, S. F. and Holland, B., Role of Induced abortion in Rhesus Immunization. *Lancet* 1: 815, 1971.

Informed Consent and Release

To Whom It May Concern:

We, the undersigned, have requested of Dr. J. Philip Welch and Dr. _____ that an attempt be made to perform a chromosome analysis on our unborn child. We understand that the material required for this test is obtained from the fluid surrounding the fetus by a transabdominal amniocentesis procedure which involves inserting a needle through the mother's abdominal and uterine walls.

The following points have been explained to us and we understand and accept them:

- 1) That although this procedure of amniocentesis is a proved technique which has been used extensively and hazard to the mother or the fetus is considered to be extremely small, it cannot be guaranteed that the procedure will not cause damage to the mother or the fetus or initiate premature labor possibly resulting in spontaneous abortion (miscarriage).
- 2) That although most instances are successful, any particular attempt to obtain material by this technique may be unsuccessful.
- 3) That although cells, suitable for analysis, are obtained in better than 9/10 cases, any particular sample of fluid may not produce suitable cells.
- 4) That although the probability of a misinterpretation of the results of this test is considered to be small, a complete and correct diagnosis of the condition of the fetus based on the examination of the cells obtained cannot be guaranteed.
- 5) That abnormalities of development may occur for many reasons, only one of which is being checked by this test. Thus a perfect baby cannot be guaranteed, just as it can not be guaranteed in a more usual pregnancy.

In full recognition of these possible hazards and limitations of the technique and tests involved in the chromosome analysis of our unborn child, we elect to have the analysis attempted and hereby request same.

In consideration of the performance of this attempted analysis, we hereby release Dr. Welch, Dr. _____ and the Cytogenetics Laboratory from any liability for any injury, either physical or mental, which might be sustained by either of us or our unborn child as the result of the factors and hazards of techniques and evaluations involved in this diagnosis as herein above set forth, and hereby assume all risks inherent in this procedure.

Signed _____

Witness _____

Date _____

"Science is built of facts the way a house is built of bricks; but an accumulation of facts is no more science than a pile of bricks is a house."

Henri Poincaré

Acute Appendicitis in Children*

L. Button** and D. A. Gillis***, M.D., F.R.C.S.(C)

Halifax, N.S.

Acute appendicitis is considered by most surgeons to be a more severe disease in children than in adults. A number of reasons are advanced for this:

1. The tendency to earlier perforation of an acutely inflamed appendix in children;
2. The inability of the child's omentum to encompass an area of perforation;
3. The child's difficulty in communicating symptoms;
4. The practice of parents giving cathartics to children with abdominal pain;
5. The difficulty of assessing physical signs, particularly in young children with acute abdominal pain and fever.

The duration between onset of symptoms and the time of operation is undoubtedly related to the severity of the pathological changes in the appendix and therefore to the incidence of rupture. One review indicated that 18 - 45% of children with appendicitis sustain a perforation by the time they come to surgery.¹ Parental delay can be a factor in contributing to this. There is no doubt that delay may also be caused by difficulties on the part of the physician in arriving at a correct diagnosis. A perusal of recent literature indicated that the highest percentage of acutely inflamed appendices removed at operation in children was 88%.² The perforation rate in this series was 18% and this occurred in a group of one thousand children undergoing appendectomy.

We have carried out a brief review of some aspects of acute appendicitis as encountered at The Izaak Walton Killam Hospital for Children. It was apparent from reports of tissue committees, etc., that the rate of acute inflammation was above 90%. While this is an acceptable figure on initial inspection, one has to consider the possibility that the perforation rate might be excessive because of undue conservatism in selecting children for appendectomy.

The records of the last 500 patients undergoing appendectomy were reviewed. Children having an appendectomy as an incidental procedure in conjunction with some other operation (e.g. at the time of resections for Hirschsprung's disease) were excluded from the study. All cases in which the appendix was perforated were selected for further study. Specifically, the time between the patient's first assessment at the hospital and the performance of the operation was determined.

*From the Department of Surgery, The Izaak Walton Killam Hospital for Children, Halifax, N.S.

**4th year Medical Student, Dalhousie University, Halifax, N.S.

***Surgeon-in-Chief, The Izaak Walton Killam Hospital for Children, Halifax, N.S.

The results of the survey are indicated in Table I. A total of 418 children were operated on with the pre-operative diagnosis of acute appendicitis. The appendix was found to be normal in 34 and diseased in 384 (91.9%). It is emphasized that by "disease" we mean acute suppurative appendicitis, obvious both on gross inspection and on microscopic assessment. Cases where the appendix appeared grossly normal but showed minor changes (e.g. superficial ulcerations) on microscopy were considered not diseased. Of the 418 cases of suspected appendicitis (pre-operative diagnosis) a total of 74 (17.7%) were found to have perforated at the time of surgery. There were no deaths in this series.

TABLE I

500 APPENDECTOMIES IN CHILDREN

Incidental	82	
Suspected Appendicitis	418	Normal 34 (8.1 %)
		Diseased 384 (91.9 %)

As noted above, particular attention was paid to those cases where the appendix had perforated by the time of operation. It is difficult to define excessive observation but it was decided to accept a figure of six hours or more between the time of initial assessment and the time of surgery. Cases observed longer than six hours were presumed to have been assessed incorrectly when first seen. As indicated in Table II, 63 patients were in hospital less than six hours prior to the operation and 11 were in hospital longer than six hours before coming to surgery. In retrospect, three of these probably sustained their perforation prior to admission while the other eight probably suffered perforation between the time of admission to hospital and the operation.

TABLE II

384 CASES OF ACUTE SUPPURATIVE APPENDICITIS

Non - Perforated	310 (82.3 %)	
Perforated	74 (17.7 %)	In hospital <6 Hrs. prior to surgery 63
		In hospital > 6 Hrs. prior to surgery 11

This review supports a conservative approach to acute abdominal pain in children with respect to appendectomy. It is fully appreciated that rigid figures and percentages are not desirable in assessing the adequacy of any particular service although they are useful as broad guide lines. In a large paediatric hospital, it seems reasonable that the percentage of acute appendicitis should be high. There may be some justification for a more aggressive approach in situations where the patient cannot be as adequately observed and under conditions where delay might be more dangerous. However, it is also worth noting that in these same situations the risk of the operation might be somewhat higher and that the facilities for the management

of anesthetic and surgical complications might be less elaborate. It is apparent that various factors will modify the approach and the results in this disease in any given community. The ultimate aim is to achieve a high rate of accuracy in diagnosis without an adverse effect on surgical risk. □

References

1. Holder, T. M., and Leape, L. L.: The Acute Surgical Abdomen in Children. *New Eng. J. Med.* 277: 921, 1967.
2. Lansden, F. T.: Acute Appendicitis in Children. *Am. J. Surg.* 106: 938, 1963.

Observations on the Proposed Childrens' Dental Health Plan

D. P. Cunningham*, D.D.S., M.Sc.,
Halifax, N.S.

"The day is surely coming and perhaps within the lifetime of you young men before me when we will be engaged in practicing preventive dentistry rather than reparative dentistry, when we will so understand the etiology and pathology of dental caries that we will be able to combat its destructive effects by systemic medication."

The above words were spoken by one of our pioneering dentists, Dr.G.V. Black, to a group of his students. The year was 1896.

Today, 77 years later, dentistry has made great strides in this direction.

The discovery of the beneficial effects of fluoride started from a problem. Dentists in Colorado in the early 1900s noted that many of their patients had what was then called Colorado brown stain --mottled enamel -- on their teeth. It wasn't until the 1930s however that researchers recognized that (1) the teeth with mottled enamel seemed more resistant to decay, and (2) the causative agent was fluoride in the water. Since that time there have been many studies into the biologic effects of fluoride.

In 1956 the City of Halifax initiated a fluoridated water supply program. The results of a 15 year application of this public health measure are significant. The percentage

reduction in decayed, missing or filled teeth for six to eight year olds is 66%. The nine to eleven year olds experienced a 55% reduction while the 12 to 14 year olds had a 43% drop in this category. It is significant that greatest reduction is seen in the younger age groups. It is also significant and unfortunate that some 30 communities in Nova Scotia representing some 109,000 people have not implemented such a program although they are apparently capable of doing so. Quoting from the Interim Report of the Task Force on Dental Care Services, "The Task Force cannot over-emphasize the importance and significance of the benefits to be obtained from exposure of younger children to fluoridated water supply systems. The 30 communities for whom such programs are technically feasible but who have chosen not to provide this service for its inhabitants, should, and must be encouraged to make plans for the immediate implementation of the program."

The latter comment bears special attention in the light of the recent announcement in the Nova Scotia Legislature of a children's dental care program for five and six year olds. In making the announcement it was suggested that "The only effective tool that the government had in combatting the long-standing dental care problem in Nova Scotia was 'money'."

While one can only applaud the initiation of a dental health care plan for children in Nova Scotia, perhaps a few comments might outline the enormity of the task that awaits the participants.

*Head, Division Paedodontics, Dept. of Paediatric and Community Dentistry, Dalhousie University.

Live birth figures from the Reports of the Registrar-General tell us that we can expect about 31,000 five and six year olds combined to be eligible for such a plan. Data taken from surveys done by the Dental Division of the Department of Public Health indicates that each five year old could be expected to have in excess of 3.5 cavities while each six year old would have 3.8 cavities. This results in the figure of approximately 109,000 restorations required for the two age groups. The significance of the trend noted earlier in the percentage reduction of decayed, missing or filled teeth becomes more apparent. It was noted that since the inception of a fluoridated water program in Halifax the younger group (six to eight year olds) experienced a 66% reduction while the oldest group (12-14 year olds) had a 43% reduction.

As effective as this much-talked about public health measure is, it quickly becomes apparent to any dental practitioner that treatment alone of a disease of this proportion is not enough. To quote from the Final Report of the Task Force on Dental Care Services "...the greatest return on an investment in dental care and good dental health will result from a combination of sound preventive and educational measures with a broad range of treatment services provided at regular intervals".

As G.V. Black prophesied, the dental profession is turning with increasing enthusiasm and numbers to the use of prevention and education as tools in the task of bettering the dental health of Nova Scotians. Decades of experience have taught us that unless the patient is shown how to care for his own dental health and motivated periodically to this end, the level of care will remain at a "plug the hole" status. It is noted that even this relatively inadequate level of care is unavailable to many. Suggestions have been made to alleviate this problem. However, before too much is made of an obvious lack of manpower, perhaps a look at one means of reducing the problem might prove worthwhile.

Although it is difficult to reach the pre-school group of children, it is possible. Would it not seem feasible to attempt to reduce the number of restorations required by the five and six year old groups? Granted if one is thinking only of treatment then it is easier to reach the "captive audience" of five and six year olds, particularly through

school clinics. This approach however, misses the obvious advantages of starting the preventive treatment and education of the pre-school group. It also by-passes the involvement of the parent in the development of this habit of dental health care. As the Task Force points out, the best return on the investment necessitates a "...combination of sound preventive and educational measures...".

The pre-school group could possibly be organized on a small scale, locally, i.e. by home and school groups, the public health nurse, the dental public health hygienist, or any local club. The advantage and perhaps necessity of utilizing local groups is that they have contact with the pre-schoolers and their parents. The education program need not, as well, take place in a dental office or school clinic. The basic concepts of dental health care can be taught in the classroom with a minimum of teacher training and teacher and student motivation. The "Tooth Keeper" program is just such an approach to this type of health education. First used in California it has now spread across the United States and, with modifications, the concept has been introduced in Nova Scotia. The approach is to first involve the teachers in a short training program. The subject material is preventive methods in dentistry and the models are themselves. Once instructed they pass on the methods of tooth brushing and dental flossing to their individual classes.

Just such a program has been introduced in a school of over 200 children in the village of Terence Bay. Backed up by comprehensive treatment services, the teachers first, and then the children were trained in preventive dental health measures. The newness of the program does not permit a study of long-term results, but if the immediate enthusiasm and real interest are of any importance, the level of dental health in that community was significantly raised.

Perhaps an extensive program of this nature, directed at the pre-school children as well as the five and six year olds might significantly reduce the cost of any dental health care plan for children. Certainly the experience of this dental practitioner and educator has been that education, prevention and treatment must go hand-in-hand if one is to raise and maintain an acceptable level of dental health. Any one, or perhaps two alone of the three approaches, is just not good enough. □

Compliments of

The CAMEO RESTAURANT and LOUNGE

The Prestige Restaurant of Halifax

Fine Dining Tradition Since 1929

5511 Spring Garden Rd.

Garamycin Injectable

Now available for intravenous administration.

Garamycin is now available for intravenous administration where indicated... same dosage range as for intramuscular injection. Consider Garamycin as initial therapy in suspected as well as documented gram-negative septicemia, or in imminent development of septicemia from serious respiratory or urinary tract infections, or wounds and burns complicated by sepsis... because of its broad gram-negative spectrum, its value in selected staphylococcal infections and its established clinical efficacy.

GARAMYCIN Injectable (40 mg (base)/ml)
GARAMYCIN Pediatric Injectable (10 mg (base)/ml)

INDICATIONS:

GARAMYCIN is indicated in the treatment of serious infections caused by proven susceptible organisms. In suspected or documented gram-negative septicemia, particularly when shock or hypotension are present, GARAMYCIN should be considered for initial antimicrobial therapy. In staphylococcal infections, GARAMYCIN should be considered when conventional antimicrobial therapy is inappropriate or when susceptibility testing and clinical judgment indicate its use.

ADMINISTRATION AND DOSAGE:

INTRAMUSCULAR/INTRAVENOUS** ADMINISTRATION:

A. Urinary Tract Infections

The usual dosage in lower urinary tract infections is 0.8–1.2 mg/kg/day in two or three equally divided doses for seven to ten days. For increased antibacterial activity it may be advantageous to alkalinize the urine. Infections of the upper urinary tract, such as pyelonephritis, should be treated according to one of the schedules for systemic infections.

B. Systemic Infections—Normal Renal Function

The treatment of systemic infections in patients with normal renal function requires a dosage of 3 mg/kg/day in three equally divided doses. A course of seven to ten days of treatment will usually clear an infection due to a susceptible organism. In patients with life-threatening infections, dosages up to 5 mg/kg/day should be administered in three or four equally divided doses. This dosage should be reduced to 3 mg/kg/day as soon as clinically indicated.

C. Patients with Impaired Renal Function

In patients with diminished renal function or those undergoing intermittent hemodialysis, the dosage has to be adjusted depending on the degree of renal impairment.

For detailed information consult the product monograph or the Schering Representative.

**INTRAVENOUS ADMINISTRATION

The usual effective dosage of GARAMYCIN Injectable administered intravenously is 3 mg/kg/day in three equally divided doses. For intravenous administration, a single dose (1 mg/kg) of GARAMYCIN Injectable is diluted in 100–200 ml of sterile normal saline or 5% dextrose. The solution is infused over a period of one to two hours and repeated two to three times a day. The usual duration of treatment is seven to ten days.

PRECAUTIONS:

Ototoxicity:

Gentamicin, like other aminoglycosides, has produced ototoxicity in experimental animals and man. It is manifested by damage to vestibular function and may be delayed in onset. Damage has occurred in patients who were uremic, had renal dysfunction, had prior therapy with ototoxic drugs or received higher doses or longer therapy than those recommended. The concomitant use of ethacrynic acid and furosemide should be avoided. The physician should strongly consider discontinuing the drug if the patient complains of tinnitus, dizziness or loss of hearing. Serum GARAMYCIN levels in excess of 12 µg/ml should be avoided.

Nephrotoxicity:

Nephrotoxicity manifested by an elevated BUN or serum creatinine level or a decrease in the creatinine clearance has been reported with GARAMYCIN. In most cases these changes have been reversible.

Neuromuscular Blocking Action:

Neuromuscular blockage and respiratory paralysis have been reported in animals. The possibility of this occurring in man should be kept in mind particularly in those patients receiving neuromuscular blocking agents.

ADVERSE REACTIONS:

Among other adverse reactions reported infrequently and possibly related to GARAMYCIN are elevated SGOT, increased serum bilirubin, granulocytopenia and urticaria. Reactions reported rarely and possibly related to GARAMYCIN include drug fever, hypotension, hypertension, itching, hepatomegaly and splenomegaly.

OVERDOSAGE:

Peritoneal or hemodialysis will aid in the removal of GARAMYCIN from the blood.

PRESENTATION:

GARAMYCIN Injectable 40 mg/ml: GARAMYCIN Injectable is packaged in 2 ml multiple-dose vials containing 40 mg/ml of gentamicin base in aqueous solution at a pH of 4.5 for intramuscular/intravenous administration. GARAMYCIN Pediatric Injectable 10 mg/ml: GARAMYCIN Pediatric Injectable is packaged in 2 ml multiple-dose vials containing 10 mg/ml of gentamicin base in aqueous solution at a pH of 4.5 for intramuscular/intravenous administration. They are both heat stable and do not require refrigeration.

Full information and references are available on request from Schering Corporation Limited, Pointe Claire 730, Quebec.

Can we help with your questions about Garamycin Injectable, Doctor?

If so, write to:
Medical Department
3535 Trans Canada Highway
Pointe Claire 730, Quebec.

Injectable IM/IV
Garamycin
(gentamicin sulphate)

The Dosage Effect of Enteric-Coated ASA on Serum Salicylate Levels*

J. F. L. Woodbury,** M.D., F.R.C.P.(C), F.A.C.P.
S. Ahmad,*** M.D., F.R.C.P.(C), M.R.C.P.(U.K.)

Halifax, N.S.

Toxic side effects often complicate salicylate therapy. Because of this, much effort has been directed toward achieving adequate serum salicylate levels and at the same time, minimizing serious complications. Enteric coating of acetylsalicylic acid (ASA) was developed to this end, but the reliability of dissolution of the enteric coating of some preparations has been challenged. The purpose of the study reported in this paper was two-fold: first, to determine whether enteric coated ASA, when given twice daily, would produce an adequate and consistent serum salicylate concentration without giving rise to more deleterious effects and second, to compare the results of two different total daily dosages of enteric coated ASA.

MATERIALS AND METHOD

Thirty-two adult in-patients with chronic inflammatory arthritis were studied. Nineteen of them were females, whose average age was 54 years, the average weight 62 kg.; of the thirteen males, the average age was 49, and their weights averaged 69 kg. None had specific symptoms (tinnitus, impaired hearing, anorexia, nausea, vomiting, constipation, and diarrhea) before the start of the study which might later have been considered to be due to the treatment under study. All were treated with a basic program of rest and specific exercises, and some were given intra-articular injections of glucocorticoids. Other medications, such as Chloroquin, were held constant throughout. The duration of the ASA study varied from four days to the intended 14 days.

Before the study was started, and at weekly intervals thereafter, the following investigations were done: hemogram, erythrocyte sedimentation rate (Westergren), prothrombin time, serum albumin and globulin levels, and urinalysis for protein, sugar, microscopic content, specific gravity, and pH. Serum salicylate levels were determined by the Toxi-pak* modification of Trinder's method¹; determinations were made varying from up to four times daily at the beginning of the study, when we were establishing the time required for maximization of serum salicylate levels, to once daily. All stools were tested with benzidine

for occult blood and were examined for undissolved ASA tablets.

Salicylates were withheld until the serum salicylate level was less than 1 mg./100 ml, the lowest value reported by our laboratory. The tablet formulations employed were as follows: Entrophen 10 grain (648 mg. ASA; Frosst) and Entrophen 5 grain (324 mg. ASA; Frosst). The tablets were coated with Polymer 37, a polyvinyl acetate thallate that is insoluble in media having a pH < 5 but completely soluble at a pH > 7.

The patients were assigned sequentially to one of the four regimens for a period of 14 days (Table I). Thirteen patients received a total daily dosage of 5.1 gm. ASA: eight (Group A) received two equal doses of 2.55 gm. and 5 (Group B) three doses of 1.9 gm., 1.28 gm., and 1.9 gm. each day. The other 19 patients took a total daily dosage of 3.8 gm. of ASA; in 9 (Group C), 1.9 gm. ASA was given twice daily, while 10 patients (Group D) received 1.28 thrice daily.

GROUP	NO. OF PATIENTS	COMPLETED STUDY	ASA DOSAGE		TIME OF ASA INGESTION			
			TOTAL DAILY	DOSES DAILY	0800	1200	2000	2200
13 A	8	5	5.1 g	2	2.55g	----	2.55g	----
	5	3	5.1 g	3	1.9 g	1.28g	----	1.9 g
19 C	9	8	3.8 g	2	1.9 g	----	1.9 g	----
	10	10	3.8 g	3	1.28g	1.28g	---	1.28g

TABLE I

Each patient was seen by one or both of the authors at least once daily.

RESULTS

A) Serum Salicylate Levels

i - Groups A and B (patients receiving total daily dosage of 5.1 gm.) Figure 1 depicts serum salicylate levels during the first three days of the study in these 13 patients. The values were some what higher in those patients receiving 320 mg tablets than in those receiving 640 mg. tablets; however, the differences were not statistically significant (student t test - 1.4475; $p > 0.05$). More notable was the finding that, at this particular dosage, mean serum salicylate levels were

*From the Department of Medicine, Victoria General Hospital Halifax, N.S.

**C.A.R.S. Associate.

***While working on this study, Dr. Ahmad was in receipt of a Fellowship Grant from the Canadian Arthritis and Rheumatism Society.

higher in patients receiving ASA thrice daily than twice daily; this is also illustrated in Figure 2.

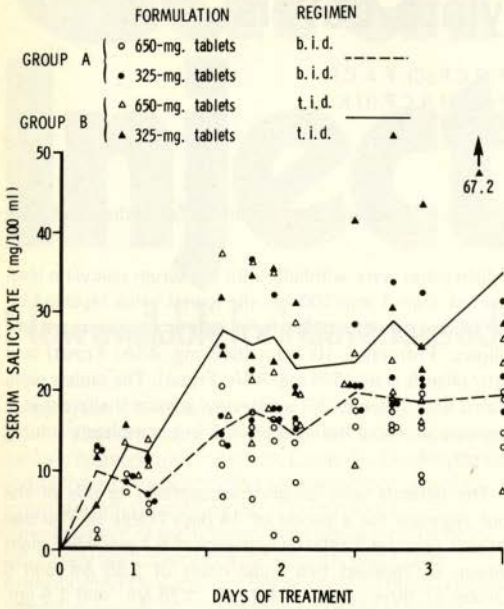


FIGURE 1

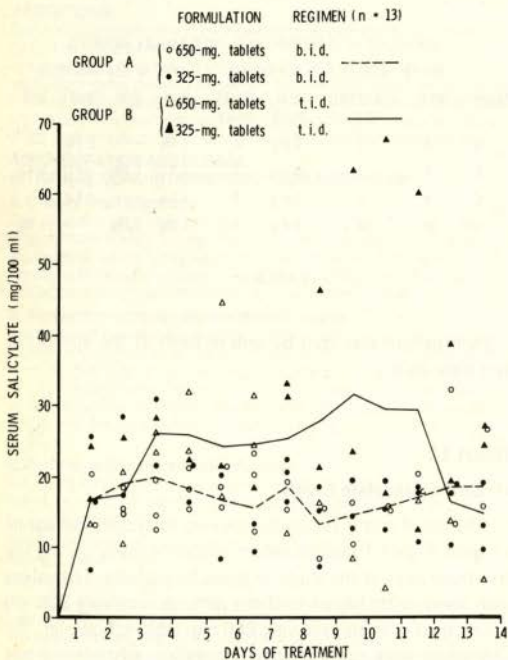


FIGURE 2

Figure 1 also illustrates the finding that in these groups, the mean serum salicylate level after 24 hours was 15 mg./100 ml. or higher.

ii — Groups C and D (patients receiving total daily dosage of 3.8 gm.) Figure 3 depicts mean serum salicylate levels in 13 of 19 patients during the first three days of treatment. Comparing this with Figure 1, salicylate levels rose more slowly; the level of 15 mg./100 ml. was not reached until 24 hours had lapsed. There were no appreciable differences in values for the twice and thrice daily regimens, a trend which is illustrated in Figure 4.

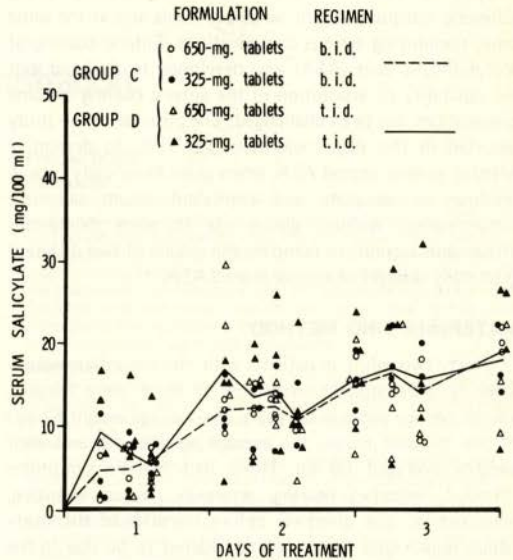


FIGURE 3

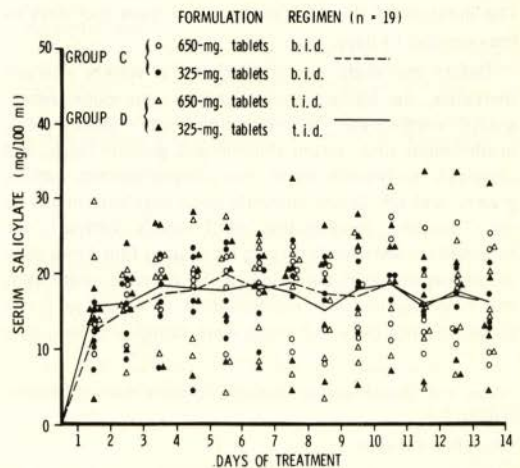


FIGURE 4

Serum salicylate levels of less than 15 mg./100 ml. are generally considered undesirable in the management of inflammatory arthritis.² Table II lists the values in all groups which were recorded after the first three days of the study, when the mean values had reached or exceeded the accepted therapeutic range. In the patients having twice daily medication, approximately one-third of the serum salicylate levels were classed as undesirable, while of the patients on a thrice daily regimen, about one-half of the values exceeded the desirable range.

INCIDENCE OF UNDESIRABLE SERUM SALICYLATE LEVELS AFTER THIRD DAY OF STUDY

GROUP	NO. OF SERUM SALICYLATE DETERMINATIONS	UNDESIRABLE SERUM SALICYLATE LEVELS		TOTAL
		< 15mg/100ml (no.)	> 25mg/100ml (no.)	
A	55	17	3	36%
B	33	6	13	57%
C	91	28	3	34%
D	107	39	16	51%

TABLE II

B) Toxicity

While symptoms suggesting ASA toxicity were common to all regimens, they appeared to be more frequent in those patients having thrice daily medication. Table III also indicates that as far as nausea and vomiting are concerned, these distressing side effects were more common in patients receiving the higher total daily dosage; of the 13 patients receiving 5.1 gm., seven complained of nausea and vomiting, while of the 19 taking 3.8 gm., three offered these complaints.

COMPARISON OF SIDE EFFECTS OF ASA GIVEN B. I. D. AND T. I. D.

	B. I. D.		T. I. D.	
	GROUP A 5.1 g	GROUP C 3.8 g	GROUP B 5.1 g	GROUP D 3.8 g
ANOREXIA	1	-	3	1
NAUSEA	1	-	2	2
VOMITING	2	1	2	-
CONSTIPATION	2	2	1	6
OCCULT BLOOD IN STOOL	-	1	-	2
TINNITUS	1	3	3	7

TABLE III

Of the 13 patients receiving 5.1 gm. daily, five developed toxic symptoms which were severe enough to lead to cessation of therapy (Table I). Serious salicylism developed in two patients who received 5.1 gm. ASA per day in 3 doses in one respiratory alkalosis developed, in the other metabolic acidosis occurred.

Whereas most of the patients studied had low serum albumin levels, the toxic symptoms were encountered more

often in patients with lower serum albumin levels, as shown in Table IV.

INCIDENCE OF TOXICITY IN RELATION TO SERUM ALBUMIN

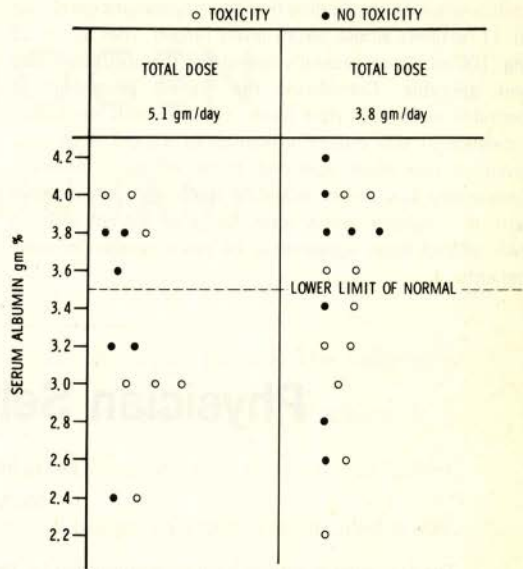


TABLE IV

Thus ten out of 16 patients with serum albumin level of below 3.5 gm.%, had toxic symptoms as compared to seven out of 15 with serum albumin level about 3.5 gm.%.

COMMENT

Two factors determining the efficacy of enteric coated tablets of ASA are apparent in this study. The frequency of administration is one factor; lower mean serum salicylate levels were achieved by twice daily administration than when ASA is given thrice daily. The second factor is total daily dosage, and the difference between twice and thrice daily dosage was marked at a dosage of 5.1 gm., but minimal at 3.8 gm. Probable differences in rates of absorption or excretion are responsible.

As expected, toxicity had an important bearing on ASA treatment, and in five patients, toxicity was serious enough to result in cessation of therapy. In two of the five patients receiving 5.1 gm. ASA daily, in three doses, therapy was discontinued within the first four days. Although the small number in this particular group makes it difficult to form a statistical viewpoint to draw definite conclusions, it can be stated that this treatment regimen may be undesirable for some patients.

Another interesting observation was the high incidence of toxicity in relation to low serum albumin level. From the, in vitro, studies of Reynold and Cluff, it is apparent that a major portion of salicylate is bound to albumin. Thus

with low serum albumin levels, the amount of free salicylate in blood is higher resulting in more toxic effect.

The established association of toxicity with efficacy of therapy, as reflected by serum salicylate levels, received confirmation in the finding that toxic symptoms developed in 11 patients whose serum levels ranged from 18 to 23 mg./100 ml., levels generally considered therapeutically safe and desirable. Considering the highest percentage of desirable serum salicylate levels, together with the lowest incidence of side effects, a regimen of 3.8 gm. ASA daily given in two doses appeared to be effective; however, undesirably low serum salicylate levels were encountered with this regimen, and a total dosage of 5.1 gm. given in two divided doses appeared to be more suitable for some patients.

Since symptoms of toxicity were frequent with all four ASA regimens studies, it is clear that in every case, doses should be adjusted to the individual patient's tolerance for ASA. □

For this study Charles E. Frost & Co. supplied "Entrophen" enteric coated acetylsalicylic acid tablets and financial support.

References

1. Trinder, P.: Rapid Determination of Salicylate in Biological Fluids. *Biochem. J.* 57: 301-303, 1954.
2. Fremont-Smith, K., Bayles, T. B.: Salicylate Therapy in Rheumatoid Arthritis. *J.A.M.A.* 192: 1133, 1965.
3. Reynold, R., Cluff, L.: Interaction of Serum and Sodium Salicylate. *Bull. John Hopkins*, 107: 278, 190.

Physician Self - Assessment

Lea C. Steeves, M.D.

Halifax, N.S.

The following questions have been submitted by the Division of Continuing Medical Education, Dalhousie University, and are reprinted from the American College of Physicians **Medical Knowledge Self-Assessment Test No. 1** with the permission of Dr. E. C. Rosenow, Executive Vice-President.

It is our hope that stimulated by these small samplings of self-assessment presented you will wish to purchase a full programme.

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

324. A 52-year-old woman is admitted to the hospital with a chief complaint of muscle pain. Physician examination consistently elicits the complaint of pain, but fails to demonstrate muscle weakness. Electromyogram is normal. There is no eosinophilia; the urine is normal. A biopsy of the gastrocnemius muscle is essentially within normal limits.

Which of the following is the most likely diagnosis?

- (A) Polymyositis
 - (B) Trichinosis
 - (C) Polymyalgia rheumatica
 - (D) Dermatomyositis
 - (E) Schonlein-Henoch purpura
327. While working in the yard, a young engineer is stung in the right arm by a bee. A severe local reaction occurs such that he experiences pain on moving the arm and later that day has marked swelling of the lip.

He is advised to

- (A) take maintenance steroids, the dose to be increased whenever he works in the garden
- (B) take steroids only during the weekends he plans to work in the garden
- (C) undergo a program of hyposensitization, and to have a syringe filled with adrenalin available at all times
- (D) venture outdoors only if fully clothed so as to expose as little skin as possible
- (E) forget the whole episode □

(Please turn to page 146 for answers)

FIBRINOGEN

(DRIED, HUMAN)

Fibrinogen (Dried, Human) is prepared from normal human plasma. The material is produced by the cold ethanol plasma fractionation process of the late Professor E. J. Cohn and associates. It is dried in vacuo from the frozen state in quantities which should be reconstituted for use by the addition of sterile, pyrogen-free distilled water.

Fibrinogen (Dried, Human) may be indicated in hypofibrinogenaemia whether this be congenital or associated with other conditions. The product has been found useful in instances of abruptio placentae or in cases involving a dead fetus.



CONNAUGHT LABORATORIES LIMITED

UNIVERSITY OF TORONTO

1755 Steeles Avenue West, Willowdale, Ontario

A booklet entitled "Products in the Service of Medicine" (1970 ed.)
is available on request from Connaught Laboratories Limited.

Quality of Medical Care^{*}

Robert C. Dickson,^{**} M.D., F.R.C.P., F.R.C.P.(C), F.A.C.P.

Halifax, N.S.

Today, I could easily detail to you a mass of statistics and information indicating the growth of our College in numbers and in many fields concerned with medical education and the delivery of health care. In doing so I fear I would induce a degree of somnolence which might extend to influence your enjoyment of the excellent program prepared for this afternoon.

I intend, therefore to speak very briefly on the interest of the College in the delivery of "Quality Medical Care by Internists". It is usually advisable to begin a discussion of this sort by defining the subject as accurately as possible. In a recent panel discussion at another joint Regional Meeting of the Royal College of Physicians and Surgeons of Canada and the American College of Physicians held in Halifax an attempt at definition immediately produced an argument which identified two different viewpoints:

One group maintained that "Quality Medical Care" meant the best that could be provided by the most competent personnel with the most complete facilities anywhere in the world. This might be termed the "ultimate" or "absolute" definition of quality medical care and everyone should be striving to achieve this standard.

The other group maintained that "Quality Medical Care" meant the best care possible, in a given locality with the personnel and facilities available at a given point in time. This might be termed the Pragmatic or Relative Approach to Quality Medical Care.

Some may say that it really is an academic question and that there are two viewpoints each of which will have its supporters. I would submit that the matter is not quite so simple. In this era when in Canada virtually all medical care is provided by tax dollars and when an ever increasing proportion of medical care in the U.S.A. is similarly financed we must have clearly in mind what we mean by "Quality Medical Care" since if we are not sure what we mean others will make the decision for us.

My own views are in accord with the Pragmatic Approach. I believe that the Grenfell Mission through its four hospitals and eleven nursing stations delivers "Quality Medical Care" in northern Newfoundland and Labrador. The same standard would not be "Quality Medical Care" in Toronto or Rochester or Hamilton. Similarly, I believe that the late Dr. Norman Bethune delivered "Quality Medical Care" in China — though the standard would possibly not be high enough to qualify as Quality Medical Care in the

Grenfell area of operation. This view does not mean that we should not be continually striving to bring all areas as close to the "ultimate" as may be, but it does make possible an attempt to determine the adequacy of the standard at a given place at a given point in time.

If for the sake of further discussion we accept the pragmatic approach we can proceed to the consideration of how it can be assessed. This brings us back to our old problems of manpower and facilities. I will confine my remarks largely to the manpower problem, merely remarking that the present efforts to increase the scope and potential of ambulant care may reduce the total cost of *hospital facilities* but there is not any evidence of which I am aware that it will reduce the demand for medical manpower or the over-all costs of delivery of Quality Medical Care.

Much discussion has gone on and is proceeding regarding the team approach to the delivery of health care — yet there are still many and different views as to who shall constitute the team — and who shall lead it. I believe that the constitution of the team will of necessity vary from patient to patient. Remembering that illness is usually a composite of physical, emotional and socio-economic factors, it is easy to understand how the leader might change even during the period of one patient's illness. For example a patient acutely ill with rheumatoid arthritis would come under a team headed by a physician perhaps one interested particularly in the sub-specialty of rheumatology, perhaps a general internist, perhaps a family physician — but surely in any case a doctor.

Later in the course of the illness when the treatment program has been established the Physiotherapist might assume the role of leader and still later the Social Worker might lead in helping solve the economic problems of rehabilitation. Perhaps this is evidence of my advancing years — but I remain to be convinced that anyone but a doctor can lead the health team until the patient's problem is identified, the physical and emotional components placed under a plan of treatment and the socio-economic factors clearly recognized and plans worked out to incorporate their solution in the total rehabilitation of the patient. If Medicine does not recognize and accept this role — with all the knowledge, skill, understanding and compassion it requires — then I fear for the care that my grandchildren will receive.

A matter which greatly affects manpower requirements is the role to be assumed by various members of the health team. The point of greatest weakness today is the entry of the patient into the stream of health care. Once in, he is usually looked after adequately and often superbly. In the United States and Canada we have depended largely on the

^{*}Address to Luncheon Meeting at the Combined Regional Meeting of R.C.P.&S.(C) & A.C.P. (American College of Physicians) Hamilton, Ontario, October 1972.

^{**}Professor and Head, Department of Medicine, Dalhousie University.

first contact physician to do this, but with the increasing demands on doctors to provide the ever expanding and improving treatment services and the increasingly complex investigation necessary to establish the detailed diagnosis necessary to definitive treatment, the demands upon physician time are increasing to an alarming degree. These demands on medical manpower have lead to different approaches to the basic problem — the entry of the patient into the stream of health care. Some advocate the expansion of ambulant care facilities of general hospitals, some the establishment of community health centres, some group practice with or without the addition of a new health professional — the Physician Assistant — to use one of many names. At this point in time there is no hard data on which to base a decision on which is best. It is quite possible that different approaches should apply in different areas. We would be wise then to adopt a flexible approach and to study different methods with a view to obtaining the data which will make possible a wise decision.

No matter what organization is adopted the personnel supplying the service are likely to be rather similar. Who is the first contact physician? The A.C.P. advocates the trained internist for this role. In Canada some of us fear that we cannot afford this luxury. It requires at present 3 to 4 years post M.D. to qualify for the higher examinations in Internal Medicine — be they National Board of Internal Medicine or Royal College. We must remember that every extra year taken in training shortens the doctor's working life by the same time. In Canada about 1000 medical students graduate each year. If they take a straight internship in Medicine and three years for the work of the first contact physician then it means the sacrifice of 3000 doctor years per year as compared to having the family doctor with one year of internship after graduation, render this important first contact physician service. I hasten to add that the further postgraduate training provided by Family Practice Programs demands a similar sacrifice of physician practice years.

It is my own view that four years of medical school and one of internship — if the teaching is patient oriented and the curriculum wisely planned — should suffice to prepare an excellent first contact physician and one whose scope could be increased by one or more Physician Assistants working under his supervision.

We come inevitably to the problem of evaluation of the "Quality of Health Care". This demands evaluation of the end product but also of the individuals who provide it. I

would be daring indeed to embark upon a discussion of recertification and re-licensure today since a very brief consideration of this facet of the overall problem formed the basis for a similar address to another Regional Meeting of these two Colleges held in Winnipeg last February. Suffice it to say that at present we lack the tools to adequately or objectively evaluate either the "Quality of Health Care" or "the ability of the physician to care for his patient". Fortunately both in the United States and in Canada we are vigorously seeking the means to do so.

The A.C.P. is now engaged with the National Centre for Health Services Research and Development in a study of the feasibility of evaluating and improving internal medicine services in hospitals. In conjunction with the San Joaquin Foundation it is studying a Computer Based Evaluation of Medical Care by Internists. The immediate purpose of this study is to revise for the Foundation criteria to delineate proper care for each patient according to the applicable diagnosis. In the long run the program may provide tested standards for peer review which could be made available for wider application.

The R.C.P.&S.(C) is working hard on the development of a Computer Based Patient Simulation Type Examination which it is hoped will objectively assess a candidate's ability to take a given body of clinical data, synthesize it into a diagnosis and outline a rational course of treatment. While primarily designed for use as a qualifying examination it might also add to modified and improved methods of peer review in an overall plan for periodic re-assessment. Such re-assessment should be in the view of the A.C.P. — and to which view I strongly subscribe — voluntary and non-punitive should be available to all doctors and should measure the ability of the physician to care for sick people — not merely his recall knowledge.

In conclusion may I point out the urgency of acquiring the hard data necessary for proper decision making. Already in some jurisdictions governments are making important and far reaching decisions in the absence of such data. Perhaps we should all read again W. H. Frost's article entitled "Rendering Account in Public Health" published in the American Journal of Public Health, page 394, May, 1925. The article in essence points out the difference between conclusions drawn from hard data as exemplified by the effect of sterilization of water supplies and those drawn from opinion even though these be similar and widely held. The lesson is equally applicable to the problems I have discussed today. □

"When we build, let us think that we build forever. Let it not be for present delight or present use alone. Let it be such work as our descendants will thank us for and let us think, as we lay stone on stone, that a time is to come when these stones will be held sacred because our hands have touched them, and that men will say, as they look upon the labour and wrought substance of them, 'See! This our fathers did for us'."

John Ruskin

Maritime Medical Care

It had never been any secret to Nova Scotia physicians in pre-medicare days that the costs of medical care could be a very real impediment to good health services for a large part of the population.

So, in 1948 and under the direct aegis of the Medical Society of Nova Scotia, Maritime Medical Care Incorporated was formed to provide insured medical services under individual and group plans tailored to meet the needs of the largest number of Nova Scotians possible in the best way possible.

Times change, however, and MMC, while retaining both its private identity and a variety of private plans, is now the administrative body for the government sponsored Medical Services Insurance Plan — or MSI. It is perhaps important to note right away that MMC is not in any sense of the word an MSI "policy" entity. It functions solely as an administrative paying agency under contract to government in this sector of its responsibilities.

Naturally, some might wonder about the corporation's true place in the overall scheme of things medical, particularly with respect to Medical Society participation on its Board of Directors. The following resumé may help Society members to consider what to them may or may not be a problem. We are particularly indebted to MMC General Manager, Sam Brannan, for his assistance in placing the matter in perspective.

The nature of medical representation on the board hasn't changed too significantly since July, 1960. In fact the record shows that there has been little real change since the corporation was established by a special act of the Legislature in 1948.

Medical representation on the board has always been based on having all branch medical societies represented on the board. Branch nominations to the board are submitted to the Executive of the Medical Society of Nova Scotia, who must approve of such nominations and advise MMC.

Existing by-laws provide that the president of the corporation must be a doctor and there is also provision for the immediate past president to serve on the board in the event that he is not renominated by his branch.

Branches vary their method of appointment; some change their representative on the board at the expiration of each two-year term; others re-appoint the same physician several times. In fact we have some branch representatives who have been on the board almost since the inception of the plan.

Initially only one member of the board was non-medical (he was Mr. John Walker, the corporation's legal counsel). The non-medical representation increased to five by 1961 where it has remained; except that in 1969, when we took over the under-writing of prescription drug insurance from the Nova Scotia Pharmaceutical Services Incorporated, a

seat on the board was made available to a member of the N.S. Pharmaceutical Society.

With the introduction of medicare and MMC's involvement in the administration of MSI, the Halifax and Cape Breton branches had their representation reduced from two to one member, and the appointment of our five lay directors was assumed by Governor-in-Council instead of the medical members of the board as in the past.

Initially, Maritime Medical Care confined its activities to the sale of prepaid physicians' services insurance. Because the corporation had no accumulated reserves from subscriber premiums to meet contingencies, it was necessary that the individual members of the medical profession assume the underwriting risk in the event that premiums did not meet costs.

Individual physicians entered into agreements with Maritime Medical Care to accept as "payment in full" the level of payment approved by the board of directors.

The agreement also provided that in the event that premium collected from subscribers was not sufficient to meet the expenses of the corporation, the physician would accept a pro-rated amount in full settlement for his services.

During the early years the "pro-ration" clause was applied regularly with stability in underwriting finally coming around 1960 when MMC was able to pay 85% of the schedule of fees for all services insured by the plan. Eventually the pro-ration concept was abandoned in 1965 and the plan paid 90% of the fee schedule, and the participating physicians agreed to a 10% discount in view of the medical profession's involvement in sponsoring and operating the plan.

Through the years, close liaison between the corporation and the Medical Society has existed. The corporation's president still reports annually to Council. There is provision for an exchange of observers between the Medical Society's Executive Committee and the Board of MMC, and MMC directors and administrative personnel keep branch society members informed of corporate affairs by attending branch meetings.

Over the years, the Medical Society of Nova Scotia cited Maritime Medical's comprehensive programs as examples of the types of plans which would best serve the interests of the doctor and the patient. The objective was to bring as many Nova Scotians as possible under the MMC programs in order to set minimum criteria for governments when they decided to go into medicare.

As with any private business, Maritime Medical experienced considerable competitive pressures (particularly in the early 1960's) from other health plans who were offering nearly comparable physician's benefits but were also including hospital, drug, nursing and other health services in their health package. The corporation was

therefore obliged to enter other fields of health insurance in order to retain its physician insurance business. By 1967 most MMC subscribers had our physician services insurance and one or more of our other health benefits.

In 1965 Lester B. Pearson announced his government's intention to introduce a national medicare plan in which it would be possible for a non-profit doctor-sponsored plan to act as the administrative vehicle for a province's medicare program. Maritime Medical Care, in consultation with the Medical Society, prepared a submission to the Nova Scotia Minister of Public Health in January, 1966, offering its administrative facilities to administer the provincial plan.

One of the main conditions of support from the MSNS for MMC as the administrative vehicle was that the corporation should confine its activities to the administration aspects of the medicare plan and *not become involved in the policy-making or fee schedule negotiations*, as the Society felt that such matters should be handled directly between the Society and the government. MMC's submission and subsequent contract with the government were entered into in July, 1967, with this understanding.

When medicare was finally introduced, MMC's annual private premium volume dropped from over \$7 million to less than \$2 million. Virtually all physicians' services became insured under MSI (with the exception of the private radiological facility which is operating at the Halifax Professional Building at Spring Garden and Robie Streets).

With the virtual elimination of physicians' services as part of MMC's health plans, the old participating physician agreements between the plan and individual doctors became useless as underwriting guarantees because the participating doctor had limited his sharing of risk to losses incurred in underwriting physician services only. At this point in time, therefore, the physician was freed of any financial responsibility toward MMC and the corporation paid off the last of its financial obligations to physicians by the middle of 1969.

By 1970 there were some serious questions being asked by board members as to whether MMC should continue to operate private programs of health insurance, and, also, whether the medical profession should have a continuing involvement in MMC.

In a special report to an Executive Committee meeting of the Medical Society in March, 1970, Dr. Jim Corston, as president of MMC, set out several reasons why the corporation, after a careful reassessment of its position, felt that continued support by the medical profession was important. Included in these reasons were the following:

1. MMC knows the doctors' problems in handling insurance claims and can effect the necessary administrative arrangements to ease these problems;
2. MMC's regular taxing committee of practicing physicians will continue to be used in assessing claims, thus assuring fair treatment;

3. MMC's board (fifteen medical and five non-medical directors) will act as first line of appeal on claims assessment and matters of eligibility;
4. MMC's board will be in a position to advise the commission regularly on all operational aspects of the plan;
5. MMC does provide a "screen" in that all confidential medical information remains with MMC and does not go to government departments for scrutiny. MMC codes and key-punches all information before it goes to the computer;
6. MMC directors in each branch can act as a "sounding board" for local physician problems;
7. MMC directors and administrative staff can continue to report to branches on the activities of the plan's administration and explain new policies and procedures;
8. MMC staff can help doctors keep their staff informed of new developments through seminars and visits to doctors' offices.

A committee of the board set up to study these matters advanced other reasons for a continued medical involvement which included:

1. The physician is the senior member of the health team and as such has a contribution to make in the design and administration of insurance plans for other health services which will contribute to the well-being of the patient; and
2. Continued physician involvement would also be desirable in the event that certain physician services cease to be fully insured under MSI, thus enabling MMC to return to insuring more physicians' services.

When the board finished the review of its position in 1970 it was satisfied that continued development of new programs of health insurance was an important role for MMC and that continued medical profession involvement was also desirable. It was felt that the amount of medical involvement should remain unchanged from pre-medicare days; i.e. representation for all branch medical societies. The board also felt that further development of the corporation's private side would reduce the corporation's dependency on the government for survival and afford it the independence necessary to perform its MSI duties effectively and impartially.

Now that medicare has been operating more or less smoothly for four years, the occasions upon which the MMC board becomes involved in MSI matters has become fairly infrequent. Aside from receiving progress reports from its administrative staff and reports and recommendations from the medical review committee periodically on its examination of physician and patient profiles, the board has very little involvement in the affairs of MSI. It is precluded from becoming involved in policy matters by reason of its prior agreement with the Medical Society and the government. Even if this limitation was lifted it is very doubtful that the board would want to involve itself in

policy matters as it could undermine its performance as administrators.

The only policy matters coming before the board nowadays relate to MMC's private operation and the terms and conditions under which MMC will perform its duties as administrators of MSI. MSI activities are restricted to reviewing progress reports on MSI operations, the handling of appeals from physicians on claims settlements, and making recommendations to the Medical Care Insurance Commission and the Medical Society arising out of the deliberations of the medical review committee.

Because of this reduced private-side responsibility there has been a lessening of the workload and there has not been the need for frequent board and committee meetings. At a recent meeting of the board it approved the dissolution of several committees of the board with a view to having these duties assumed by its executive committee. The number of board meetings were also reduced from four to three each year.

There can be no doubt that the amount of work requiring physician involvement has been sharply reduced with the introduction of medicare. The board has felt however that even with a smaller workload, "grassroots" contact with the medical profession through branch representatives was desirable. Whether the medical profession is still desirous of committing as many members to directing the affairs of MMC as before is a matter to be determined by the profession through its branches and the executive committee of the Medical Society.

The shift in emphasis toward Prescription Drug Insurance and Prepaid Dental Care cannot help but require MMC to look to these professional groups for more advice,

and they in turn may also seek more representation on MMC's Board of Directors.

From the point of view of efficient administration of the Corporation, a smaller board of directors might be better. The present executive committee, consisting of the president, vice-president and six members (two of whom must be Governor-in-Council appointees), may be more than adequate. However, by reducing the board to that size it would lose its value as a "sounding board", and some areas of interest and also some geographic areas might have to be omitted.

Maritime Medical Care's scope of operations is broader than many might think. Recently MMC Operations Manager, Robert Wilcox, spent four weeks in Australia advising the Australian government on some of the administrative aspects of the Nova Scotia experience with MSI as a prelude to the introduction of the Australian plan.

Mr. Wilcox's visit down under was followed up by a week long session in Halifax with three Australian government officials for a practical demonstration of MMC's administrative skills. Perhaps of particular interest was the part the Medical Society played in introducing the MMC concept and the continuing role the Society plays in the corporation's function.

By and large, that's the picture. While the medical profession may not have the jurisdictional influence it originally had over the entire spectrum of MMC's operations, the fact remains that a strong, continuing association between the Society and MMC can and should be of benefit to both parties as well as to the people of Nova Scotia as a whole. □

LA POLITESSE

There is the man who has no manners. There is the man who would sooner be accused of murder than of using the wrong fork with the fish. There is the man to whom *politesse* is and can only be the outward manifestation of an inner and abiding sense of the fitness of things. It is a story of one of the last I wish to tell, to point the moral of a courtliness, a thoughtfulness, a kind-heartedness, that is all too rare in this our world.

There was a certain young physician who, having been brought up in humble circumstances, had worked his way by the sweat of his brow through a medical school. He was a young man of promise, and has since fulfilled that promise. As a resident medical officer of a great metropolitan hospital he was invited to a dinner given by his Chief. Now his Chief was already a very famous healer, and to his dinners came the great and the near-great. Among these the young physician moved with a certain trepidation, the result of his strangeness to those surroundings. The guests sat themselves down to eat. Course upon course came and went. *Enfin*, arrived the last course — ice-cream — and with it the finger bowls. Now the young physician had

never seen finger bowls, but with the assurance born of the excellent manner in which he had until then handled his table utensils, and born likewise, no doubt, of the wine which he had drunk, he decided to put these things to what he took to be their proper use. He poured the water from the finger bowl into the whisky the butler had just placed near at his side, and he dumped the ice-cream into the finger-bowl and proceeded to eat it. It might have been a ghastly moment but for the wink the young man's Chief passed his wife, who, with that gentle yet swift wit which characterized her, immediately emptied her finger-bowl into her empty glass, poured her ice-cream into it and proceeded to eat it as though this were her custom. Her good husband in the meantime had done the same thing. The guests, though doubtless with amazement, followed suit, and the young physician's pride was saved.

Who was his Chief?

William Osler.

H. B. A.

Reprinted from The Nova Scotia Medical Bulletin.

IN RETROSPECT

The Medical Society and The Health Council

There are both joys and perils in the art of retrospection but, let's face it, a look at past efforts in the light of current events is always instructive.

In the April issue of the Bulletin, the Medical Society took a look at the report to government of the Nova Scotia Council of Health. The Society's reflections were based on the nature and tenor of the completed document. But the Society had already expressed certain concerns to the Health Council while material was being gathered for the report.

In July, 1972, the Society did, in fact, make an official submission to the Health Council about our health delivery system. Of course, that submission did not purport to cover all facets of the system but dealt, in the main, with those areas of research which the Society thought essential to the Health Council's studies.

The officers of the Society thought you might like to be reminded of that paper and, accordingly, it is reprinted here in full.

THE PRESENT SYSTEM

The Medical Society believes that the effectiveness of this Province's Health Delivery System compares favourably with other Medicare Systems throughout the world; however, it recognizes that there is room for improvement.

Four basic problems appear to exist. Their relative importance depends on one's lay or professional point of view, personal experience, or commitment and interest in any one or more of the areas they represent. They are:

1. Accessibility of care or entry into the system and the degrees of ease or difficulty experienced by patients in acquiring care,
2. The unavailability of equal levels of care for all Nova Scotians,
3. Escalating costs, and
4. A foreseeable trend to increased utilization (but not necessarily over-utilization) of the system by Nova Scotians along with an increase in the unwitting improper utilization of the system.

Let's examine each of these problems.

1. Accessibility of Care – Entry to the System

There are areas in Nova Scotia where medical services are not readily available to residents – or *appear* to be not readily available.

In general terms, there are three root causes of this "inaccessibility syndrome". They are:

- a) Geographic isolation,
- b) Physician shortage,
- c) Traditional patient inhibitions against incurring personal medical expenses with the consequence that a "de-

veloped" ignorance of how best to acquire medical assistance implies an inaccessible system.

a) *Geographic isolation* negatively affects both accessibility of care and the levels of care available.

It involves elements b) and c) above as natural corollaries.

As in other professions, physicians are unwilling to invest the relatively large amounts required in those areas where:

- a) access to a hospital and the ability to provide continuing personal care for hospitalized patients is limited by geographic considerations
- b) peer contact and effective continuing medical education may be achieved only through extra expense or at considerable inconvenience
- c) remuneration may be inadequate to offset such an investment
- d) family educational, cultural and social needs will be similarly affected

As a first step in determining to what extent geographic isolation does inhibit accessibility to the system at the primary contact level, it might be best to first determine what geographic isolation *is*, then engage in those steps which seem appropriate to the situation.

Accordingly, the Medical Society recommends:

1. That the Health Council and the Medical Society of Nova Scotia *jointly* determine what specific areas of the province might be termed geographically isolated in terms of primary contact services, physician and patient access to hospitals and in terms of accessible service needs.

While this is pure supposition, the following *might* be the types of recommendations which could spring from such an assessment:

- i) That the Department of Health initiate a form of clinic mortgage guarantee at subsidized rates for the establishment of wholly medical clinics in those areas through private physician funding, and that such prime rate mortgages be transferable as per common practice
 - ii) That the province engage in a compulsory service bursary arrangement for qualified medical students to ensure that *appointments* to these isolated areas might be made. (The Medical Society already has its own bursary program with, in the broader sense, the same goal in mind).
 - iii) That a mobile clinic (or travelling physician) pilot project with V.O.N. or similar physician assistant back-up be instituted in a given area to assess its viability in terms of the service provided against capital and operating costs.
 - iv) That a definitive assessment be made of all medical emergency vehicle services in the province as to type, location and quality of conveyance with a view to realigning the service on the basis of area and incidence of need, possibly under a centrally controlled management and communications system
 - v) That a comprehensive grassroots information program on how to use Nova Scotia's medical services for best effect be instituted at the community level. (And it should be noted here that geographic isolation and inhibitions against entering the system through ignorance are not exclusively rural problems; vide, Ward Three, City of Halifax)
- b) A *shortage of physicians* is often cited as a primary cause of problems within the delivery system — and it probably is. But a careful manpower assessment has yet to be made.

We do know, for instance, that the Province is short of ophthalmologists and that the ophthalmologists we do have tend to congregate in the Halifax metropolitan area where the specialized "tools of the trade" are readily available for better patient care. In this instance, it is highly unlikely that the province could afford the type of investment required to establish first rate ophthalmological facilities (hospital) through Nova Scotia.

It may well also be that action paralleling recommendations i, ii, iii, iv and v in the geographic isolation sector could go a long way toward offsetting any calculated shortage of qualified professional manpower.

Therefore, we would recommend:

- II. That the Medical Society of Nova Scotia and the Health Council jointly establish as true a picture as possible of medical manpower shortages in the province by specialty, by geographic area and, of course, by need.
- c) Inhibitions against self-referral to a physician until such time as expensive "crisis medicine" must be applied has, to a certain extent, been evidenced in Halifax. The incorrect

utilization by patients of hospital out patient and emergency clinics has also come to light.

In view of this, the Medical Society combined forces with the North End Community Health Association and, with government assistance, initiated a North End Clinic on Göttingen Street, the area where ignorance of correct and more effective utilization of medical services seemed to predominate. It was hoped that Health Association field workers through community contact would assist residents in disengaging themselves from the traditionally free or low cost services of the Victoria General Hospital's out-patient and emergency departments and come to realize through experience that "free" services are available at the local family physician level. The clinic would be the catalytic "experience" agent for the reversal of the improper and expensive utilization trend.

To some extent, success has been achieved and considerable progress is still being made. In other words, *residents are discovering that the health care system is more accessible than they had thought.*

Accordingly, in order to demonstrate that the system's accessibility quotient is higher than the average person thinks, the Medical Society recommends:

- III. A public information campaign on how to use the system *properly*, making full use of identifiable community motivating groups and forces which can demonstrate how individual self-interest can best be served.

2. Availability of Equal Levels of Care

Government, the profession and the public generally realize that achievement of equal levels of care regardless of geography, socio-economics and manpower is an ideal which is almost impossible to attain — especially in emergent situations. But it is an ideal which should be sought, taking into account the realities of the negating factors mentioned above.

Recommendations made earlier in this submission are geared to an improvement in disparities existing in this area.

In matters of specialty care, Halifax, as the Maritime educational and referral centre, naturally attracts and holds a preponderance of specialists. In this respect it is no different from any other medical research-service-education centre anywhere in the world.

The possibility of decentralizing medical education has been investigated extensively by the Society. It was agreed that while this would result in a definite improvement in the quality of care at the designated hospitals and provide greater public access to specialty services, the cost would be prohibitive.

However, a *degree* of educational decentralization which would attract teaching specialists to other areas in the Province will certainly help to eliminate the existing disparities.

During the past two years, the Society in co-operation with the Division of Continuing Medical Education of Dalhousie Faculty of Medicine is developing the medical audit in-hospital education program. At the moment, the only limitation on the program is lack of funds. The Provincial Medical Board is considering our proposal to increase all physician licensing fees to provide the funds for this program.

IV. The Society recommends that the Health Council support the Society and its associate bodies in the development of the medical audit program.

Additionally we recommend:

V. That in line with recommendation I under Physician Shortages, a true assessment of need be made and that any moves to realign specialist services be made on that assessment — and that in keeping with a cost/effectiveness philosophy no precipitate action be taken to introduce those specialists' services where the need is questionable and where the services can be provided within a reasonable cost-distance ratio dependant on the point of origin of the need.

Obviously, the best indicator to any upgrading of levels of care in any given area must remain evident need — particularly if we are to consider service and costs jointly and not as mutually exclusive elements. It must be recognized that because of natural population distribution it may be economically impossible to provide specialist services throughout Nova Scotia on an equal level. Any attempt to do so would result in an extreme escalation of costs.

3. Cost Escalation

The increasing escalation of health costs demands urgent attention. The cause of the problem cannot be simply stated, nor can all the impinging factors be identified in true perspective without a thorough analysis.

It seems that by far the greatest attention has been paid to the utilization of facilities and their components — either improperly or inadequately — than has been afforded true "health services" requirements at the patient level in assessing costs. It may well be that we have all become too "thing" oriented, when we should have been considering "service" needs, e.g. the intensive study of utilization of hospital beds.

Accordingly, the Medical Society of Nova Scotia recommends:

VI. That the Health Council utilize "health service" requirements in lieu of "facilities" as a basis for system planning and budget projections.

4. Control of Utilization

It is recognized that the physician commits approximately 80 per cent of the health dollar which is, for the most part, spent on institutional care. Certain aspects of the responsibility for this expenditure therefore rests heavily on

the physician's shoulders. It must be noted, however, that the physician only commits the expenditure, he does not generate the requirement. Controlling this form of utilization will require the co-ordinated effort of the public, the professions, and all governing bodies.

In our opinion, controlling the demand for medical services should only in part be the responsibility of the physician. To resolve this problem, control must be exercised by the public educated by government and the professions, and if this is not effective, legislation must be used. It is recommended that:

VII. Serious consideration be given to a grassroots public education campaign on the proper use of the family physician, and the proper use of associated health and social service agencies.

Notwithstanding the above, the Society has considered the requirement for a professional review program and has adopted firm policy in this regard. In this most difficult area, the Society has made some progress — initiation of a survey program of physicians' practice profiles, establishment of Standards Committees of Specialty Sections, and establishment of a committee to work out the matter of criteria and functioning of the peer review program.

VIII. It is recommended that the Health Council endorse and support the Society's Professional Review Program.

Legislation relative to control of utilization referred to above would be, at least initially, in the area of adding increased effort and sophistication to the review program for patient profiles.

IX. The Society recommends increased activity in the area of patient profile review by Maritime Medical Care, in co-operation with the Society.

5. Regionalization

The Society has retained the definition of regionalization as used in the Task Force reports as follows:

"Most authors agree that a hospital region must include, at its centre, at least one large medical centre (regional) providing the whole range of care in addition to active research and teaching programs. In addition to this regional centre, sub-regional hospitals (subdivisions), local hospitals and sometimes rural hospitals are generally specified." (Vol. 2, Appendix "I", page 38)

In keeping with this definition, the Medical Society fully supports the concepts of regionalization. However, proposals by Health Council for the province have not appeared to conform to the Task Force principles. The Task Force Reports define a region in terms of facilities and services which represent an economical structure for a population base of some one million people. If Nova Scotia were to attempt to provide a similar level of facilities and services to the designated regions which involve as few as 50,000 population, an economic disaster would obviously result. In view of this,

X It is recommended that Nova Scotia be considered a single region.

Following on from this single region concept, it is suggested that consideration be given to the establishment of a number of districts, consisting of one or more communities, each headed by a Board with responsibility for planning, budget estimating and advice to Council. This organization structure should be adequate to provide the "grassroots" input to Health Council activities. Consideration should also be given to the designation of district representatives as observers to Health Council.

Typical characteristics of District Boards would be:

1. District Boards would be structured along existing hospital board lines, providing the administration and operating facilities for all services. Terms of reference would be broadened to include co-ordination of all community health services;
2. The District Board would include representatives from vested interest community groups;
3. The Board would review and develop health systems within their community or communities, and be responsible for co-ordination of district planning, program development and all submissions including budgets, to the central authority in the single Commission, and;
4. The Board would be responsible for co-ordination of other programs including ambulance services, certain educational programs, and proposals regarding consultant services.

To summarize, the primary function of the District Health Boards would be in relation to continuing evaluation of health needs and long term planning with each District Health Board serving as a most important arm of the Health Council in development of long term planning for health services in Nova Scotia.

As well, we have concluded that the fundamental cause of our major ailments in terms of provision of quality care and control of costs lies in a managerial area. The application of strong positive leadership, clear policy direction from the Ministerial level, positive control at the executive (Commission) level, and streamlined co-ordinated administrative support services, in conjunction with our suggested organization will move Nova Scotia in the appropriate direction relative to improvement of service and control of costs.

XI. It is recommended that Nova Scotia be considered a single region comprised of a number of District Health Boards with terms of reference and responsibilities as set out above.

6. Physician Remuneration

A desirable, if not essential, feature of a health program is elimination of open-ended budgets. It has been considered by some that the fee-for-service type of physician

remuneration is just such an open-ended budget and it has been erroneously assumed that salary should be substituted. The fee-for-service is in fact a closed end system when the level of payment for services rendered is a fixed amount based on a stable fee schedule and paid at a predetermined tariff level. It is obvious, therefore, that fiscal budgets may be arranged on the basis of predetermined fee schedules, tariff payments and the utilization of forecasting and control. Where unpredictable fluctuations occur in the total payment to physicians for services rendered, these fluctuations can be traced not to a variation in fees for service charged but rather overutilization of physician services. Should the Government consider it mandatory to stay within a fixed budget for medical services then it must be prepared to limit public access to the medical system rather than impose a less favourable form of remuneration on physicians.

The fee-for-service type of payment is exceptionally well suited to meet the demands of a good management information system and financial management system. It provides the basis for cost/effectiveness and consequently productivity measurements to be made in minute detail within the total health delivery system.

Additionally, remuneration of physicians has a direct bearing on availability of physicians' services. The imposition of a salaried system could have a variety of side effects with serious consequences. Most noticeable of these would be that physicians, for years accustomed to providing medical services on the basis of something like three thousand hours per year, would quickly adapt to the new arrangement and plan for a 40-hour work week, one month annual holidays, free weekends and statutory holidays. If this occurred, and the medical demand remained constant, the number of physicians required to provide the present level of care could more than double.

The Society recognizes that under certain circumstances a form of remuneration other than fee-for-service may be more suitable. Providing the physicians concerned have no objection to the proposed method, the Society would not object to an alternative arrangement. However, the Medical Society must retain the freedom to select the form of remuneration for its membership.

As referred to earlier, physicians are in the unique position of being required to commit a high percentage of the health budget in pursuing the demands of their profession. It would be morally improper to place them in a position where they had to compete with the patient's level of care for a fair level of remuneration. For this reason we strongly recommend:

XII. That remuneration of fee-for-service physicians be managed separate and distinct from the overall health services budget; and

XIII. That in the vast majority of circumstances fee-for-service be the accepted mode of remuneration for physicians providing medical services.

7. Paramedical Personnel

Some two years ago, the Medical Society endorsed the concept of increased utilization of paramedics in the delivery of medical care. This was in recognition of the fact that in certain instances physicians spent too much time on tasks not in keeping with their levels of skill and training and that ways and means must be sought to improve the productivity of physicians. Society policy in respect to this matter is one of encouragement to physicians to take advantage of opportunities where utilization of paramedical personnel will result in improved services to the public, particularly when their use will permit physicians to spend more of their time performing functions in keeping with their training and skill.

There is a recognized requirement for an extensive study into the functional utilization and consequent classification by levels of paramedical personnel.

XIV. It is recommended that this study be initiated before policies relative to the subject of paramedics are released.

The Society wishes to emphasize that the increased utilization of paramedical personnel will not necessarily have as a consequence, a reduction in the overall medical cost. It is anticipated that their services will, however, go a long way in meeting the increased demand for services and thus reduce the rate of escalating cost. It is also recommended:

XV. That cognizance be taken of current efforts in some specialties to increase productivity (in spite of a current work overload) by the introduction of qualified physician assistants.

8. System Design — Methodology

As previously noted, it appears as though the health delivery system is being designed on the basis of facility requirements. It is felt that this method is not the best and emphasis should be shifted towards utilization of the health services required by the population base as the basic building block for the health system. This approach is favoured because it follows a more logical sequence. The public requires a given level of health service. This in turn dictates professional manpower requirements. The facilities necessary for the professions to administer their services are then provided. In this way, the systems' pyramid can be built up from the smallest unit of health care i.e. physicians' offices through clinics, group practices, health centres, community hospitals, district hospitals, up to the referral centre in Halifax. This permits examination of ambulatory services and allows planning to exploit this economical feature. In addition, this approach would indicate levels and degrees of co-ordination of health services required.

9. Management System

The Society supports the adoption of Nova Scotia as a single region administered by a single commission with District Boards having responsibilities as set out earlier. In designing this part of the organization great care must be exercised to avoid bureaucratic layering.

The proposal by Government to co-ordinate all health services into a single system lends itself well to the adoption of the project as a "program" utilizing the Plans Program Budget System (PPBS) of management. One excellent feature of this system is that it requires specific objectives to be set against time and estimated costs. This, of course, is the well recognized and widely adopted concept of Management By Objectives (M.B.O.). The Federal Government has employed this technique for some time. It is understood that a number of major hospitals are already adopting it as well. And as a consequence, there is a continual cost/benefit analysis and measuring of actual productivity. Thus PPBS, comprised of a closely inter-related Management Information System and Financial Management System, will provide a continual process of measuring the cost effectiveness of our complete health system.

A high level of productivity is essential to success in achieving the objectives of cost control and quality control. The means for measuring productivity is also essential. Maritime Medical Care, in administering M.S.I., has developed a relatively sophisticated capability in this area. It is recommended that:

XVI. The Province adopt the concept of PPBS and assign high priority to the introduction of a Management Information System, Financial Management System and Management By Objectives.

XVII. M.M.C. be recognized as an integral and vital element of this management and administrative system and that it be retained in its present (or expanded if necessary) capacity to satisfy the demands of the co-ordinated health system.

XVIII. It is recommended that the Health Council give this project its full support.

Of significance in the area of modernizing our system is the National Health & Welfare project to develop the computerized medical record system for physicians' offices, which is underway in Nova Scotia at this time.

The two physicians in charge of the project have expressed optimistic views on the developments to date.

It is recommended that:

XIX. The Health Council give careful consideration to this project and its wide range of potentially beneficial effects as it prepares its report to the Minister of Public Health. □

"A man is helpless and unsafe up to the measure of his ignorance".

M. F. Tupper

AIR-PAGE ANSWERING SERVICE LTD.

2979 Oxford St., Halifax

Ph. 453-2640

HAVE YOU
EVER SEEN
A DOCTORS
BEEPER?

DO YOU WANT
TO EXAMINE
ONE?



For details contact Rick Norman anytime – No obligation

NEW MINI PAGER NOW AVAILABLE: 4½" x 1 1/3" x 4/5";
4.8 cubic inches Weight 3.9 ounces

City wide radio paging frees up your "on call" time.

We want you to get your money's worth.

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

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



Bank of Montreal

The First Canadian Bank

Collecting agents for the
Canadian Medical Retirement Savings Plan.

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

FOR GROWTH OR INCOME
NO LOADING/WITHDRAWAL FEES



Call 429-2700
Mr. Fox or Mr. Moriarty

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

Test Case

"What is it?" asked the doctor who had been hurriedly summoned at midnight.

"Nothing this time, doc.," answered Newlywed, looking at his watch. "My wife just wanted to find out how soon you could get here in case the baby was suddenly taken ill." — *American Legion Weekly*.

ADVERTISERS INDEX

Air Page Answering Service	138
Atlas Travel Service	112
Bank of Montreal	138
Cameo Restaurant	119
Connaught Laboratories Limited	127
Mahon's Stationery Limited	143
Medical Estate Planning	112
Medical Society of N.S. Insurance Plan	112,113,114
Parke Davis & Company	O.B.C.
Robins, A. H. Company of Canada Limited	I.B.C.
Royal Trust	138
Schering Corporation Limited	120,121,122
Upjohn Co. of Canada, The	I.F.C.
Classified	112, 141

Baddeck — 45 Years of Medicine

Dr. C. "Monty" MacMillan

"I came to Baddeck on August 17, 1928. Got here at five o'clock in the afternoon and had my first baby that night before twelve."

Rural and decidedly scenic, the lakeshore Cape Breton community had, in fact, enjoyed local physicians' services since 1850 but Dr. Carlton Lamont MacMillan's first delivery marked both the passing and the beginning of a new age. Now, 45 years and one Order of Canada later, "Monty" MacMillan can look back on a career which combined all the attributes and problems of the classical country practice.

What were the greatest problems in those early days?

"Well, that's quite a question. Probably the fact that we didn't have antibiotics, antihistamines or other modern drugs at all, except for a few things like digitalis. But, then, we didn't know the difference. When people got old they generally died of pneumonia and it carried off a lot of the young as well. Before antibiotics the linseed poultice was the main stand-by for pneumonia. It was of great value and probably saved a lot of lives."

But new life placed its demands on a country doctor too, and childbirth in the home took time.

Dr. MacMillan said, "Oh, I did about 2000 in the home before we had a hospital here and some of them would take you two or three days. Once you got down in the country you couldn't very well leave until the baby was born. Times have changed now, though, and the hospital is the place if people are very sick and need supervision."

But in those pre-hospital days the precedent of service came what may set a tradition which is hard to break. Dr. MacMillan admitted, "People complain now that they don't get the doctors in the country like they used to, but the fact is the doctor today can do a lot more for his patients than he used to be able to and if there is a doctor in the community you can be sure he'll be available when you need him."

Geography and the elements played important roles in the round of house calls Dr. MacMillan undertook.

"If it was winter, or the spring of the year, with bad ice, there were some danger spots, but the problems were accepted as necessary.

"In the summertime things were very much as they are now, except that the roads were much poorer. In the spring we worked with a horse and wagon and in the winter with a horse and sleigh. When the roads were healed up and you started to use a car, you'd have to put her in low gear and drive at about 50 mph so when you hit a hole you'd bounce out — otherwise you'd be there a long while.



"The way of life in those days was for the doctor to go see the patient. It had to be that way. You couldn't take a baby or even a man with lobar pneumonia and drive about 40 or 50 miles in a horse and sleigh to see the doctor. The patient wouldn't have been able to take it and there was no hospital here anyway. So if they did drive up very sick, they'd just have to drive back again. It often happened that the patient was a hundred miles from your office and you'd be between two and three days away from home on a call . . . and on the way back you'd be making house calls. Incidentally, those were two dollar calls."

By today's standards and considering the time, distance and effort involved, two dollars doesn't seem very much but, Dr. MacMillan was quick to note, other, very real considerations were involved.

"The original call down in the country would probably be more than that, if the patient had it. But in the early years the average income per family in this area was about \$300 a year. They did their best to pay the doctor for his efforts, but they very often couldn't make it."

And the average physician's income?

"It depended on how good you were on the business side. If you were too busy to look after your bookwork all the time, then it probably wasn't very much. In the years between 1928 and 1930, it wasn't much over \$2-3000. There was no industry here, of course, and the fishermen only made about \$300. The farmers wouldn't have made even that. The fishermen are better off now, but the farmer has almost disappeared and there aren't as many people living in this region as there were then."

Geographically, Dr. MacMillan had a large practice.

"Normally, I'd cover from Smokey Mountain to Iona. I was pretty well in the middle of that area. Smokey Mountain's 45 miles north and Iona is about 35 miles in the other direction from Baddeck. There were times, however, when I'd have to cover more than that. Prior to 1942, when Dr. Ross came north, many's the time I'd answer calls all the way to Meat Cove. On the other hand, there were times when no doctor was available in Whycogomagh and I'd have calls half way between there and the Strait."

But Dr. MacMillan maintained an office in Baddeck as well and — "unless road conditions made it impossible" — those with minor ailments came to see him. But, like the home, an office has its limitations and serious problems could present themselves when a patient had to be transported to hospital for surgery. The improving technology of aviation was called into play on several occasions, "but many times I accompanied them myself, maybe 40 or 50 miles in a sleigh with straw around them and lots of blankets, all the way to North Sydney. The straw kept the drafts out from underneath and, with the blankets, the patient could be kept quite warm, even in icy weather."

And there were hazards aplenty on many of Dr. MacMillan's service forays.

"Bad ice was always a worry and I made a lot of calls across the lakes north of Ste. Anne's harbor. You'd generally drive across the Bras d'Or Lakes when you couldn't use a car on the roads.

"I told the story on television this winter about the time I went across a lake with another chap and we went through the ice with our horse. We were stranded there for about half an hour and the horse finally went under the ice and drowned before we got out. I often went through with a horse or car close to shore, but that was the only time I lost a horse."

Forty-five years of country practice adds up to a lot of experiences, of course, and Dr. MacMillan has been putting them down on paper with the March, 1974, publication of his book "Hang The Lantern On The Gate" in mind.

"I've completely re-written it four or five times and the whole thing has taken me about six winters and a couple of summers. It covers very little science, only mentioning occasionally what was wrong with somebody — if I could remember. What your memory brings forth is mainly the trouble you had trying to get to see the patient and the

book deals more with the way of life of a country doctor and his patients in the early days. I called the book 'Hang The Lantern On The Gate' because those were the directions I gave to people when they called me out shortly after I first got here. I thought I was being original, but I wasn't.

"When telegraph and telephone systems began operating out here in the country, a person calling the doctor out would put a lantern on the gate so the doctor would know where to turn in. The telegraph arrived here before 1898 and every little district had its telegraph office. Even when I came here, many of my calls came by telegram."

Years of not letting the climate, geography or poor communications stand between him and his patients have committed "Monty" MacMillan to a life of continued activity.

"I'm busy all the time. I spend my summers in the mountains with a prospecting licence. It's good exercise."

And what is he looking for?

"Anything I can find. I've opened up an old gold mine and I go underground and look around some. I've also got some surface rights on the mountain tops. But last year I didn't do as much as the year before. Of course, I'm 70 years old now."

In spite of the chuckle, the Order of Canada has meant a lot to Dr. MacMillan.

"I guess I'll take anything I can get. No, really, I was quite proud to receive it. People have been very good to me here. They've honored me several times in the local area. I've a boat named after me — the ferry "C. Monty MacMillan" running between Iona and Grand Narrows. I was honored by that and by the many other favors I've received in the last few years."

The combination of retrospect and current experience has given Dr. MacMillan his own slant on medicine, particularly where medicare is concerned.

"I got sick and knocked out of work before MSI (Medical Services Insurance) started, but it's good for people because they don't seem to notice the costs so much now that they are covered through sales tax . . . and it certainly makes life very comfortable for the doctors."

Of course, family medicine has changed and, according to Dr. MacMillan, not necessarily for the better.

"The younger doctors don't have much time now to spend with the patient, to communicate with him like the older doctor did. With MSI, the waiting room's full all the time now and doctors just don't have as much time to spend with the individual and to talk over home conditions as they might apply to his or her health."

But, Dr. MacMillan pointed out, there are some worthwhile improvements at both the physician and patient level.

"In my days we didn't have time for vacations at all. I started practice in 1928, had my first vacation in 1934, had

another in 1939, and no more until the late '40s. We worked seven days a week, and often 24 hours a day. Medicine today is more of a cooperative thing than it was in my early days and this is to the patient's advantage. There's a tendency now to get into a family practice with two or three doctors in the scheme and people can always get service.

"In those early days, there were certain rules you tried to follow with respect to your patients and other doctors . . . but there was not the cooperation we see today.

"Then, too, there were no specialists. You retained more patients under your own direct care than you do now. The only patients we sent away in the early days were those who had to have surgery. There were very few specialists then, even in Halifax, and there were none in Cape Breton when I started out."

What about personal satisfaction?

"Yes, there was more personal satisfaction in the way medicine was practiced earlier on than there is today. You see a patient today and you get their story, then send them

on for tests here, there and somewhere else. There's a tendency now, when there's so much to assist you in your diagnosis, not to rely on clinical examinations. There was a time, of course, when a doctor had to rely almost entirely on the clinical examination. This had its disadvantages, of course. You couldn't expect to come up with the correct diagnosis as often as you can today with x-rays, blood, blood chemistry and biological testing to help you. Previously the accuracy of your diagnosis depended a lot on the guess and God."

But MSI, the group practice, and medicine's enormous technological advances aren't likely to take the country out of the boy or the essential humanness out of the doctor, no matter where he practices. Dr. MacMillan summed it up.

"I've noticed in the younger doctors coming into a country practice that the longer they're here and the more they get acquainted with everyone, the more human interest they find in their work and the greater the satisfaction. I expect this can also be found in the city when you establish a regular group of patients and come to know them well." □

NEW MEMBERS

The Physicians listed below have joined The Medical Society of Nova Scotia between January 1, 1973 and April 30, 1973. A most cordial welcome is extended from the Society.

Dr. S. Ashfaq	Truro, N.S.
Dr. P. H. Clark	Halifax, N.S.
Dr. J. D. Gray	Halifax, N.S.
Dr. O. A. Hayne	Halifax, N.S.
Dr. O. Ikejiani	Glace Bay, N.S.
Dr. W. L. Johnson	Dartmouth, N.S.
Dr. C-Y Khor	Amherst, N.S.
Dr. R. Loebenberg	Halifax, N.S.
Dr. D. F. Maynes	Baddeck, N.S.
Dr. T. B. Murphy Jr.	Halifax, N.S.
Dr. I. M. MacDonald	Fredericton, N.B.
Dr. G. S. MacLean	Tatamagouche, N.S.
Dr. J. U. MacWilliam	Shelburne, N.S.
Dr. D. P. Petrie	Halifax, N.S.
Dr. B. R. Steeves	Antigonish, N.S.
Dr. Hilda Tremblett	North Sydney, N.S.

ANNUAL SUMMER MEETING

The Medical Society
of Nova Scotia
will be holding its
Annual Summer Meeting
at **Digby Pines**
on September 6, 7 & 8

which is the
Thursday, Friday and Saturday
following Labour Day Monday.

PRELIMINARY PROGRAM

Thursday evening
Guest check-in
Reception

Friday morning
Executive meets
Friday all day
Golf Tournament
Friday evening
Lobster Festival

Saturday morning
Executive meets
Saturday all day
Golf Tournament
Saturday evening
Dance or Social
Golf Prizes

DOCTOR WANTED

Doctor for summer camp in South Shore area of Nova Scotia. All or part time July 5th to August 20th, 1973.
Call Dr. M. Burnstein, 429-4884, 429-6777 or 429-5820.

Astronomy

R. M. Cunningham,* M.D.

Halifax, N.S.

Do you recall the last time you were out in a clear moonless night in the open country and saw the awesome spectacle of the starry heavens? Do you remember as a child when you got your first star map and learned some of the names of the constellations and brighter stars? This story of mine goes back to such memories and the early opportunity to meet a number of distinguished astronomers when I was a teen-ager. Astronomy became something real and alive for me and has stayed that way and it is some of this enthusiasm for it that I want to convey.



Inspecting my little Maksutov Telescope before going out to observe the sky.

Astronomy of all the sciences welcomes amateurs. In the nineteen thirties, groups of us would sit out all night and observe and plot meteors and from this came much information about our upper atmosphere. A very large body of amateurs known as the American Association of Variable Star Observers (AAVSO) have contributed a tremendous amount of data that has led to our knowledge of the nature of star development and star distances.

*Dept. of Radiotherapy, Victoria General Hospital, and Dept. of Radiology, Dalhousie University.

A crude example of how enthusiasm carried me on to a "Great Expedition" happened in 1968. The moon in its path across the sky passes in front of a star and this is called an occultation. If the moon just grazes a star on it's upper edge or lower edge, this is called a "grazing occultation". Oddly enough this does not occur all that frequently, but is of great value in giving a precise value for that dimension of the moon. This event was going to occur at about 11:00 p.m. on a little road in Lunenburg County. I organized a group of about twenty of all ages, some with telescopes, some with binoculars. We had shortwave radio for the time signals, and we had tape recorders to record verbal signals, and an intricate system for correlating all our observations. This was a major observation we would make as that particular occultation would also be observed in southern California. But, then it rained and this points out the other observation I have made which is that astronomers tend to be philosophers!

So what do I do now as an amateur astronomer? Groups of us made several observations on the last two solar eclipses which were reasonably successful. Unfortunately, I will not be on the shores of Lake Rudolf next July for the



At the Burke-Gaffney Telescope, St. Mary's University.

next one. For those of you fortunate enough to be in Kenya next June 30th this will be a magnificent spectacle. Other astronomical activities are less dramatic, but with a certain amount of background are very rewarding. There are many beautiful objects to be seen with a small telescope. Most work now-a-days requires some photographic equipment, but this is not outside the capabilities of the serious amateur.

The lonely sitting outside in the cold dark perhaps makes astronomers that much more gregarious when they meet. Professionals and amateurs alike can share the enthusiasm of the wonder of this, the prime science. In Canada, the organization is The Royal Astronomical Society and this has made many notable contributions to astronomy in Canada. Beyond Canada astronomers meet in international organizations to compare notes and again amateurs are welcome.

Perhaps one of the principal reasons I have for my enthusiasm is because astronomy appeals to all ages. Young people come and demonstrate that they know a great deal about our universe. In most centers the principal focus of this community education is the planetarium. In Halifax we have a small Zeiss planetarium, but with the move to the new Nova Scotia Museum, there is no room for this very valuable instrument. Most of the major cities in Canada have large instruments and they are very popular with all ages. We hope we can get enough support to mount our planetarium again. □

Correspondence

To the Editor:

The summary report on Medical Manpower presented in your last issue had a few minor but embarrassing errors.

During the process of preparing the material, my research assistant had to modify some of the tables after a re-check of the computer statistics. When I received an urgent request for a brief summary for the **Bulletin**, I was, unfortunately, given the first draft rather than the final draft of the report. In basing my comments on this, I used figures which had differences of one or two persons in several categories. In other words the table showed a different figure from the paragraphs which I wrote as a description of these tables.

To anyone who noticed this error, may I state that the tables themselves were accurately reproduced. The error was in my initial comments. I apologize for letting such a mistake slip through.

Yours very truly,

C. B. Stewart, M.D.
Vice-President (Health Sciences)
Dalhousie University.



Office Supplies and Printing
Social Stationery

5476 Spring Garden Road

Halifax Shopping Center

Scotia Square

Halifax, Nova Scotia

FOR ALL YOUR OFFICE NEEDS

To the Editor:

Just a short note to congratulate you on the April 1973 issue of the Nova Scotia Medical Bulletin. I have lots of material to read and it's seldom that I read any publication from cover to cover — but that's exactly what I did with the April issue that I received today.

The issue contains an excellent mix of several very good articles. There should be at least three or four articles of interest to every physician practising in Nova Scotia.

As one who plays a small role in the composition of another Canadian medical journal, may I offer my congratulations.

Yours sincerely,

D. A. Geekie, BPHE, CPH
Director of Communications
The Canadian Medical Association

APPRECIATIONS

*"For their work continueth, and their work continueth,
Broad and deep continueth, greater than their knowing."*

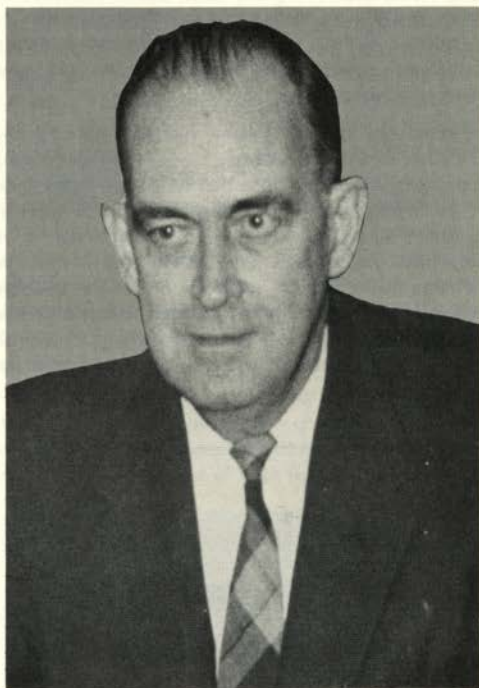
Rudyard Kipling

Joseph A. McDonald



December 29th 1972 marked the passing of Dr. Joseph A. McDonald, one of the province's most respected senior physicians. He was born in Iona, the son of the late Honorable John A. McDonald. In a manner for which Cape Bretoners have become famous, he had a distinguished early academic career graduating from High School at age thirteen then proceeding to St. F. X. University for his B.A. The teaching profession next attracted his interest. He taught for several years at Iona High School and at Sydney Academy. These formative years gave him a love of knowledge and a precision of thought which were to mark his future career in medicine. He received his M.D., C.M. from Dalhousie in 1933. His thirst for knowledge continued. He proceeded, therefore, to the Cleveland Charity Hospital for post-graduate training in Internal Medicine.

John R. Macneil



After 40 years of medical service to his community "John R", as he was affectionately known to his colleagues, died at the age of 70.

Born in Port Hastings, Cape Breton, he received his early education in Inverness and his pre-medical training at St. F.X.

He graduated from Dalhousie in 1930, did post-graduate work in England, and finally came home to Glace Bay where he practised with Dr. M. G. Tompkins, then with The Bay Medical Group of which he was a founding member.

"John R" was a member of the Glace Bay Knights of Columbus and of the fourth degree Father William B. MacLeod General Assembly.

He was a member of The Canadian Medical Association and The Medical Society of Nova Scotia.

Joseph A. McDonald

He returned to his native Cape Breton where he initially set up practice in the town of New Waterford. Glace Bay then claimed his services where he practiced for the remainder of his days.

He was active in his community as well as in his profession. He was interested in sports but his particular love was the search for the trout in rivers and streams of his beloved Cape Breton. He served well on the Executive of The Medical Society of Nova Scotia, The Canadian Medical Association, The Nova Scotia Hospital Commission, The Canadian Heart Foundation, The Mental Health Society and Maritime Medical Care. He was a past President of the College of Family Physicians. Dr. McDonald was one of the leaders of the Medical Profession of Glace Bay. He was one of the founding members of the Bay Medical Group, one of his first co-practices in Nova Scotia. A respected consultant in all phases of internal medicine, he was especially regarded as a Cardiologist. He was also one of the leading Tuberculosis consultants in the area.

For thirty-six years Dr. McDonald served the town of Glace Bay. His legacies are many. He is warmly remembered for his kindness, his brilliant incisive wit, and his inspiring mind. Those who knew him were aware of his noble spirit. Though racked by painful disease in his later years, he continued his practice and his active life. With the passing of "Joe A." an era ends, an era that will be remembered with love by his friends and his colleagues.

To his family: — his wife Monica, his daughter Joan, his sons Dr. Allan McDonald and Gregory, his brothers Dr. Martin McDonald, Major Leo McDonald and Sylvester McDonald as well as his sisters Mary, Mildred, Cecilia and Colette and to his grandchildren we extend our sincere sympathies as well as our message that we are proud of Dr. Joseph A. McDonald.

A.R.M. □

John R. Macneil

Recognizing that "continuing education" was a "must" in the provision of a high standard of medical care, "John R" was a regular attendant at Dalhousie Refresher Courses, and took advantage of every facility to further his medical knowledge for the benefit of his extremely large number of patients.

He was a charter member, in 1954, of The College of General Practice, as it was then called, and among the first to receive an Honorary Fellowship from that body in 1971, in recognition of his devoted services to the community in which he lived.

His code of ethics included honesty, integrity, tolerance and understanding, and a dedication to his youthful ideals of medical practice.

"John R" was a quiet man, never a seeker of the limelight. One had to earn his friendship; and it was a proud man who could say: "John R" — he's a friend of mine."

Typical of the region in which he was born and reared, his sense of humour was delightful, and many a joyous evening, following daytime meetings, was spent in gaiety and mirth, as the wine poured in and the stories poured out of the mouths of the group of friends by whom invariably he would be surrounded.

"John R" was one of that fast vanishing breed of family doctor, unable to say "no", and putting his patients' interests and needs beyond any thought of self, an attitude which undoubtedly hastened his death.

To his son, Dr. Arthur, his daughter, Delores and his three sisters, the members of The Medical Society of Nova Scotia offer their sincere sympathy in the passing of this gracious, gentle and dedicated physician.

"My works shall live on, and I in them." □

F.M.F.



Nothing in life is more wonderful than faith — the one great moving force which we can neither weigh in the balance nor test in the crucible . . . To each one of the religions, past or present, faith has been the Jacob's ladder. Creeds pass; an inexhaustible supply of faith remains with which man proceeds to rebuild temples, churches, chapels and shrines . . . Christendom lives on it, and countless thousands are happy in the possession of that most touching of all confessions, "Lord! I believe; help Thou my unbelief." But, with its Greek infection, the western mind is a poor transmitter of faith, the apotheosis of which must be sought in the religions of the east. The Nemesis of faith is that neither in its intensity nor in its effects does man find any warrant of the worthiness of the subject on which it is lavished — the followers of Joe Smith, the Mormon, are as earnest and believing as are those of Confucius!

Sir William Osler





THE GREAT ALEXANDER GRAHAM BELL

David Shephard's timely story of this great inventor's life must have rung a note of enthusiasm in many readers' ear. Not only doctors, but all aspiring scientists cannot help feeling envious of this genius who could conceive such a wide variety of ideas, and achieve such spectacular success in their evolution. It is not surprising, therefore, that 50 years after his death, three countries claim him as their own hero; Canada because he spent his summers experimenting in Cape Breton and his youth inventing the telephone in Ontario; the United States because he lived there and became a naturalized citizen and Scotland because that was his birthplace, and that was where he acquired his fine Scottish brogue.

Doctor Bell was awarded an honorary medical degree by Heidelberg University for his wonderful work with the deaf. He never practiced medicine but there was a critical moment when his medical qualifications proved invaluable.

Douglas McCurdy, an engineer who played a vital role in the development of aircraft, had a very severe accident when he was 8 years old. He had done some homework with a little dynamite and was preparing for some spectacular fireworks, when it exploded prematurely. His right arm was severely injured and proceeded to get infected and appeared gangrenous. Despite every effort by his doctor, there seemed no way to save his life, except by amputation, and the date and time were set. Just before the appropriate hour, Alexander Bell arrived and after judicious appraisal, advised that operation be deferred. Another consultation followed the next day, and eventually the condition completely resolved. McCurdy later became Canada's first aviator and steered the Silver Dart in its early flights. He subsequently became Premier of Nova Scotia.

Doctor Bell was not the best organizer in the world, and his wife played a vital role in establishing the Alexander Graham Bell Club, and the Aerial Experiment Association. Baldwin, McCurdy, Selfridge, and Curtiss joined with Bell to design and fly Canada's first aircraft. Bell's vehicle was complex and bore pilots into the heavens precariously. Cygnet, a giant honeycomb, nearly killed Selfridge when it dived into a lake.

The Associations' real achievements, of course, culminated in the Silver Dart which McCurdy flew on February 23, 1909. Later they went on to demonstrate the potential of aircraft to the reluctant Canadian military authorities.

Alexander Graham Bell made many other fantastic discoveries and inventions from genetics to hydrofoils, the sonic exploration of icebergs, to the distillation of sea water.

It is this application and integration of genius to humanitarian needs that is so rare and so vital for the future development of man.

We should be grateful to Dr. Shephard for his excellent résumé.

Pause a while

To think;

To thank

this gracious genius.

A Scottish scientist

We claim our kin.

Humanity

Pervaded all his works;

Searching for the undiscovered,

Seeking by relentless analysis

Keys to nature's laws.

Deafness

He understood;

He transformed

the human force into a scientific symbol

searing across the land

Welding

Comprehension with compassion.

Thought

He assembled

He garnished

Ideas into a seraphic angel

Flying around the heavens

widening

horizons beyond convention. □

— B. J. S. Grogono

Source of Reading

The Silver Dart, H. Gordon Green, Public Press Ltd., Fredericton, N.B. Alexander Graham Bell Museum, Baddeck, Nova Scotia. Minister of Indian and Northern Affairs.

Physician Self-Assessment — ANSWERS

Question No.

Correct Answer

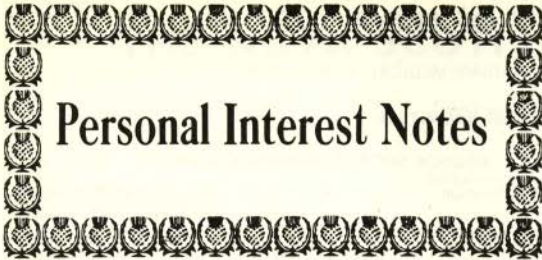
324

C

327

C

NS 013 1973, 52, 147



Personal Interest Notes

Dr. Lloyd B. Macpherson, Dean of Medicine at Dalhousie University, received an honorary degree during Acadia University's spring convocation.

Dr. Donald Rice, formerly of Halifax, was made an Executive Director of the Foundation Council Award at a recent congress on family medicine. This is an honor given by the Royal College of Family Physicians (RCFP) for exceptional service in the field of general practice.

Dr. C. L. MacMillan Sr. of Baddeck was invested as a member of the Order of Canada by Governor-General Roland Michener at a ceremony in Ottawa.

Dr. C. B. Stewart, Vice-President (Health Sciences) of Dalhousie University received an honorary doctor of laws degree from the University of Prince Edward Island at convocation exercises in May.

Dr. B. K. Doane has been appointed Assistant Dean of Medicine (Inter-departmental Affairs and Research). He will continue his duties as associate professor of psychiatry.

The kidney research team at the Izaak Walton Killam Hospital for children, under the direction of **Dr. John Crocker**, has become the recipient of the first grant issued by the Kidney Foundation of Canada.

The \$1,958 award was presented by foundation president David Ornstein of Montreal at the annual meeting of the Nova Scotia branch of the foundation.

The grant will be used for studies into the cause, cure and prevention of kidney disease.

OBITUARIES

Dr. Aksel Laretei, 59, of Kentville died on March 22, 1973 in Kentville. Dr. Laretei emigrated to Canada in May, 1949 from Estonia and has been on the staff of the Nova Scotia Sanatorium, Kentville, since 1950. He is survived by a son, Martin, Montreal; two daughters Tiiu-Pia Ann Laretei, Halifax, Mrs. Mary Allisma, Chicago; two grandchildren and a sister, Mrs. Linda Pepper, Halifax.

Dr. Daniel F. MacInnis, 84, of Shubenacadie died May 16, 1973. A graduate of Dalhousie University, he was made a Senior member of The Medical Society of Nova Scotia in 1960. He is survived by his wife, the former Ann Morrison; a son, Dr. D. Ross MacInnis, Shubenacadie; a daughter, Mrs. Ruth Smith, Halifax. Our sympathy is extended to his family.



HONORED — Three Dalhousie University faculty members were honored by the institution's department of medicine as they retired as departmental heads. Discussing the event prior to a special dinner were university president, Dr. Henry Hicks; Dr. C. E. vanRooyen,

retiring head of microbiology; medical dean, Dr. L. B. MacPherson; Dr. J. S. Hammerling, retiring head of otolaryngology; and Dr. R. L. Saunders, retiring head of the department of anatomy. □