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THE NOVA SCOTIA MEDICAL BULLETIN

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Laughter is the Best Medicine

There are few more favourable places in the world of contemplation than that behind the scenes of a vigorous stage production. Seated behind the band as a member of a melodious choir, poised in anticipation of the final curtain, I reflected my unusual and highly privileged position. . .

The atmosphere is charged with excitement. Although we are waiting behind the huge black curtain, we can hear the senatorial tones of the ex-President of Dalhousie and the outrageous suggestions of his psychiatric administrator, as they wrangle with a querulous old lady who somehow has contrived to come out of the audience. She admonishes them with vigour and their wits pit in defiance.

"I'll teach you to keep the show clean!"

The confreres and the clown hold time in abeyance whilst the band members moistens their lips. High above them stands another figure dressed as an old lady. She holds a long rope and will shortly swoop down across the stage in a flurry of confusion, into the arms of the two celebrated entertainers.

The Tupper band awaits this debacle with excitement. Their director is a well-known physician who has found solace in the sweet arms of music. He has gathered the talents for a score of physicians and students, and he welded them into a coherent medium responding to his whims. He has arranged a dozen widely different scores from "Joshua" to "Take back your mink". He has enticed, cajoled, instructed, until they reach such a pitch of perfection that they are able to render a very moving excerpt from "The Dream of Olwen" with the chief paediatrician, who surely is one of our most accomplished concert soloists. The band is vast. There are bassoons, French horns, and cornets, flutes, drums — seeming to extend like a gigantic army waiting before the field of battle.

Our choir — The Tupper Chorale — is unceremoniously seated or crouched behind this arena. Mostly we are students, struggling with physiology and anatomy, or entering the first foray of clinical experience. Physiology, nursing, pharmacy, journalism — we are enthusiasts for ideas and knowledge, storing up vital influences that will serve five, ten, twenty years from now. Some of us are reflecting the student days of yore. This choir has also been carefully honed. Fashioned in a few hours of intense relaxation each week by the superb direction of Jim Farmer and his talented accompanist, Mark Morash, we have become a formidable musical instrument and await our final musical climax with confidence.

As the "old" lady prepares to launch, the curtains fall back and reveal the full extent of the Medical School Band. Time hangs poised — who are all these elegant people thronging within the walls of such an acoustically majestic hall? How is it that such a wide spectrum of professional people are cavorting, prancing or displaying their extraordinary talents in the cause of Medical Research? How is it that the Dean of the Medical School has been able to initiate such a successful Research Foundation with the support of the University, and to light their imaginations with a spark of humour?

This *Bulletin*, in an oblique manner, reflects the pages of history — a small mirror with a microscopic attachment that can scan the broad picture and yet zoom down and discern small fragments of an ever changing scene.

The early beginnings of medicine and surgery were crude, empirical and largely unscientific. Dr. Alan Ernst in his excellent review of the history of urology refers to the origin of Barbers and Surgeons, who were submissive to the all imperious physicians. Even after the Surgeons officially split from their hair cutting colleagues and learned Latin, their role was largely limited to the act of carpenters in the field of Medical Science.

As Dr. Ernst points out, however, in the New World all French ships were compelled by law to have a complement of Surgeons and assistant Surgeons, so that this continent was blessed with a surfeit of surgical craftsman. Although their surgical scope was very limited they were experts in post mortem examinations, as the autopsy report on the Duc d'Anville reveals. The early history of medical care in Nova Scotia is complex and, although the French had a highly organized Medical Service at Louisburg, nothing much is documented about these practices. Much more has been described about the twenty-eight physicians and surgeons who accompanied Cornwallis and the subsequent development of medicine in the Maritimes.

An elegant presentation of the history of medicine in Nova Scotia from 1784 to 1854 was presented recently to the Nova Scotia Historical Society at Province House by its president, Dr. Alan Marble.

Dr. Ernst's paper widely complements this treatise and gives a vivid account of the more recent developments — the introduction of the cystoscope, the early history of prostatectomy and the curious association of dermatology with urology. The subsequent development of urology into a highly organized speciality has largely resulted from the efforts of Dr. Frank Mack and the organizing drive of Dr. Clarence Gosse. Tremendous credit is due to them and to their colleagues for forging an efficient service and for the subsequent development of modern urological techniques, teaching programs and research projects.

Nephrology has since developed as a speciality in its own right. Renal dialysis and kidney transplants have become accepted methods of prolonging life. Urodynamics has become a science which promises to solve some of the problems of incontinence and assist in the fundamental understanding of one of man's most basic functions.

What a different state of affairs from those early immigrants who succumbed to scurvy, coughed and choked with tuberculosis, or languished with the festering loins of venereal disease. Yet these dangers still lurk amongst us. Venereal disease has made a brisk resurgence, thanks to a change in morality and a more permissive society. Now instead of antimony and arsenic, or bismuth and mercury, at least we have efficient remedies such as penicillin and tetracycline. It is important, however, that this disease is treated seriously. It is an unfair twist of fate that 50 to 80% of women who have gonorrhoea are symptom free. All the more vital is it that every physician should be thoroughly familiar with Dr. Manuel's instructions on the management of this disease and to realize that nowadays this gram negative organism may be served up with its sister organism, *Chlamydia trachomatis*.

Poison can also descend from the clouds. Beside the acid rain that falls upon the Maritimes, millions of dollars worth of especially potent chemicals are being prepared to spray into the atmosphere, to try and exterminate the lowly spruce

budworm and other infestations that plague our forest and orchards.

Dr. W. Thurlow discusses the horrifying effects of these phenoxy herbicides in detail. They are mutagenic, cancer promoting, and initiating. They are incredibly potent. Furthermore, the various contaminants and breakdown products are even more devastating. 2,4,5-T is teratogenic in its own right, but is frequently contaminated by dioxins. To read the list of birth defects, leukemias, sarcomas and bone deformities is like reading a science fiction saga, written by some machiavellian inventor. Some of the breakdown products such as 2,3,7,8-TCDD is effective in part per billion. Imagine the effect on this audience of just a few drops poured into the air conditioning unit. Future generations will be stunted, have cleft palates, leukemia — we really would need a year for the disabled then!

Dr. Thurlow's article certainly startles the imagination, yet even the most mundane drugs can cause irreparable harm if taken over a long period. Dr. Honda records twenty-three patients who developed nephropathy after prolonged ingestion of phenacetin, as well as five who developed transitional celled carcinoma of the bladder. It seems unfair, too, that patients who have ceased taking the analgesic remain predisposed to cancer of the urological tract.

I gaze out beyond the dazzling lights, the bulging brass of the trombones and cornets beyond the wagging baton of the conductor, as he leads his troops through "Jesus Christ, Superstar" to the indiscernible sea of faces that comprise tonight's audience.

Yes, we have an organized literate society. We have a well established University. We have a medical profession that is regulated, responsible and eager to improve. We have a medical school where students can produce excellent papers guided by imaginative physicians, such as the paper Dr. Peter Poulos and Dr. J. Murray on Optic Neuritis. We have a Continuing Medical Education Program which sends out surveys and finds out what those doctors out there in Nova Scotia are wanting, and this is reported by MacIntyre and Curry. We have competent psychiatrists whose services are carefully reviewed by Dr. C. J. David.

What sort of society will survive? Who knows what computers and genetic engineering may bring? Surely acid rain and toxic herbicides will not prevail.

Its time for our finale:

*"If we only had love
Then tomorrow will dawn
and the days of our years
will rise on that morn —"*

Choir and band conjoin together in an ecstatic harmony. The feeling of goodwill is remarkable and as the curtains fall, the whole cast joins together in Auld Lang Syne. We're all students joined together — past, present and future. The conductor throws up his baton! The audience has gone home. □

B.J.S.G.

Highlights from the Second Year of Laughter is the Best Medicine



Music Director — Dr. Bernie Badley, Associate Professor of Medicine, Dalhousie University.



Compeers — Senator Henry Hicks, Past President, Dalhousie University and Dr. Fraser Nicholson, Former Assistant Dean of Admissions, currently Professor of Psychiatry, Dalhousie University.



Concert Pianist — Dr. Richard Goldbloom, Professor and Head, Department of Pediatrics, Dalhousie University and Physician in Chief, Izaak Walton Killam Hospital for Children.

A Few Words About The Dalhousie Medical Research Foundation

The Dalhousie Research Foundation was established in September 1978 out of necessity, and because a group of people became convinced that medical research faced a bleak future in the Maritimes.

The people who agreed to serve on the Foundation's Board of Directors accepted that medical research is an essential part of man's progress. They knew that investigators looking into the cause, treatment and prevention of many diseases were impeded by a lack of money.

They also knew that few students were being attracted to a career in research because it had such an unstable future.

The Foundation directors set a goal of \$10 million, interest from which would be used to promote research. It already provides scholarships for medical students wishing to enter research, and is being used to attract established researchers of excellence to the Faculty of Medicine, Dalhousie University.

The Foundation has raised \$2.5 million in the past two years. The show *Laughter is The Best Medicine* has contributed an additional amount of approximately \$8,000. to this fund.

The Foundation's Board of Directors includes William M. Sobey, Chairman, Stellarton; Mrs. Arthur Balders, Vice-Chairman, Halifax; H.R. Cohen, Moncton, N.B.; Gordon F. Hughes, Windsor, N.S.; Elliott Spafford, Halifax; and ex officio, Dr. J. Donald Hatcher, Dean of Medicine and Dr. Peter C. Gordon, Dalhousie University. □

Restoril.
Sleep that's close
to natural.



**Proven in the patient's own
sleep lab-his bedroom.**

Restoril. Sleep that's close to natural.

Action: Restoril (temazepam) is an active benzodiazepine with hypnotic properties. In sleep laboratory studies, temazepam decreased the number of nightly awakenings but had no effect on sleep latency. Rebound insomnia was not observed after withdrawal of the drug. Temazepam decreased stage 3, and combined stage 3 and 4 sleep, accompanied by a compensatory increase in stage 2 sleep, but did not alter REM sleep.

Orally administered temazepam is well absorbed in man. Temazepam has a half-life of about 8 to 10 hours in plasma (with considerable inter-individual variability). On multiple dosing, steady-state is reached usually within three to five days with excretion of the drug mainly in the urine in the form of the inactive 0-conjugate metabolite.

Indications and clinical use: Restoril (temazepam) is a hypnotic agent useful in the short-term management of insomnia. It has no effect, however, in shortening the time taken by patients to fall asleep.

Efficacy has not been established in children under 18 years of age. As with other hypnotics, Restoril is not indicated for prolonged administration.

Contraindications: Restoril (temazepam) is contraindicated in patients with a known hypersensitivity to benzodiazepines and in myasthenia gravis.

Warnings: Driving and Hazardous Activities: Since Restoril (temazepam) has a hypnotic effect, patients should be warned against driving, operating dangerous machinery or engaging in other activities requiring mental alertness and physical co-ordination after taking the drug.

Physical and Psychological Dependence: As with other benzodiazepines, Restoril should not be administered to individuals prone to drug abuse. Caution should be observed in all patients whose histories suggest that they may have potential for psychological dependence. Withdrawal symptoms which tend to occur after prolonged use of benzodiazepines are similar to those manifested by patients with excessive anxiety and may appear to justify continuation of drug use.

Potentiation of Drug Effects: Restoril may potentiate the effects of other central nervous system depressant drugs such as alcohol, barbiturates, non-barbiturate hypnotics, antihistamines, narcotics, antipsychotic and antidepressant drugs, and anticonvulsants. Therefore, different benzodiazepines should usually not be used simultaneously and careful consideration should be given if other CNS depressants are administered in combination with Restoril. Patients should be advised against the simultaneous use of other CNS depressant drugs and should be cautioned not to take alcohol because of the potentiation of effects that might occur.

Use in Pregnancy: The safety of use of Restoril in pregnancy has not been established. Therefore, Restoril should not be used during pregnancy. Several studies have suggested an increased risk of congenital malformations associated with the use of benzodiazepines, chlordiazepoxide and diazepam, and meprobamate, during the first trimester of pregnancy. Since temazepam is also a benzodiazepine derivative, its administration is rarely justified in women of child-bearing potential. If the drug is prescribed to a woman of child-bearing potential, she should be warned to consult her physician regarding discontinuation of the drug if she intends to become or suspects that she is pregnant.

Use in Nursing Mothers: Restoril is probably excreted in human milk. Therefore, it should not be given to nursing mothers.

Precautions: Use in Patients with Emotional Disorders: Restoril (temazepam) should be used with caution in patients with symptoms of depression or evidence of latent depression, particularly when suicidal tendencies

may be present and protective measures may be necessary.

Use in Elderly and Debilitated Patients: Elderly and debilitated patients, or those with organic brain syndrome, are prone to CNS depression after even low doses of benzodiazepines and may experience paradoxical reactions to these drugs. Therefore, Restoril should be used in these patients only in the lowest possible dose and adjusted when necessary under careful observation, depending on the response of the patient.

General: Temazepam is metabolised in the liver and is primarily excreted by the kidney. Hence, caution should be exercised in administration of the drug to patients who might have impaired hepatic and/or renal function.

Adverse reactions: The most common adverse reactions reported after administration of temazepam and other drugs of this class are, dizziness, lethargy and drowsiness. Confusion, euphoria, staggering, ataxia and falling are commonly encountered. Paradoxical reactions such as excitement, stimulation and hyperactivity and hallucinations are observed infrequently.

Other adverse reactions are, weakness, anorexia, horizontal nystagmus, vertigo, tremor, lack of concentration, loss of equilibrium, dry mouth, blurred vision, palpitations, faintness, hypotension, depression, shortness of breath, nausea, diarrhea, abdominal discomfort, genitourinary complaints, pruritus, skin rash, urticaria, and anterograde amnesia. Abnormal liver function tests have been reported occasionally with temazepam.

Symptoms and treatment of overdose: Manifestations of acute overdose of Restoril (temazepam) as with other benzodiazepines can be expected to reflect the increasing CNS effects of the drug and include somnolence, confusion and coma, with reduced or absent reflexes. With large overdoses, respiratory depression, hypotension and finally coma will result. If the patient is conscious, vomiting should be induced mechanically or with emetics (e.g., syrup of ipecac 20 to 30 ml). Gastric lavage should be employed as soon as possible, utilizing concurrently a cuffed endotracheal tube if the patient is unconscious, in order to prevent aspiration and pulmonary complications. Maintenance of adequate pulmonary ventilation is essential and fluids should be administered intravenously to encourage diuresis. The use of pressor agents such as levaterenol bitartrate or metaraminol intravenously, may be necessary to combat hypotension but only if considered essential. The value of dialysis in emergency therapy for benzodiazepine overdose has not been determined. If excitation occurs, barbiturates should not be used. It should be borne in mind that multiple agents may have been ingested.

Dosage and administration: An appropriate hypnotic dose should produce the desired effect while avoiding oversedation and impairment of performance the next day.

Adult dose: The recommended adult dose of Restoril (temazepam) is 30 mg before retiring.

In Elderly and Debilitated Patients: The initial dose should not exceed 15 mg before retiring (see section on "PRECAUTIONS").

Restoril is intended only for short-term use and, therefore, should not be prescribed in quantities exceeding those required for that cycle of administration. Prescriptions should not be renewed without further assessment of the patient's needs. It is not indicated in children below 18 years of age.

Availability: Is available in capsules containing 30 mg of temazepam (maroon and blue, imprinted Restoril 30 and Anca), and 15 mg of temazepam (maroon and flesh, imprinted Restoril 15 and Anca) in bottles of 100 capsules. The capsules should be protected from moisture and excessive heat. Temazepam (Restoril) is a schedule F (Prescription Only) drug.

NEW MEMBERS

The Physicians listed below have joined The Medical Society of Nova Scotia between October 1, 1980 and February 28, 1981. A most cordial welcome is extended by the Society.

Dr. H. D. Adams	Shubenacadie
Dr. S. A. K. Awad	Halifax
Dr. W. F. Barton	Dartmouth
Dr. A. D. Boettcher	Amherst
Dr. D. M. Bond	Elmsdale
Dr. S. F. Boudreau	Halifax
Dr. G. M. Burden	Elmsdale
Dr. R. J. Burris	Middle Musquodoboit
Dr. M. W. Butters	Dartmouth
Dr. M. W. Cook	Truro
Dr. N. I. Covington	Halifax
Dr. J. D. Crosby	Glace Bay
Dr. F. R. Doane	Bridgetown
Dr. J. A. Doane	Bridgetown
Dr. L. C. Dymond	Halifax
Dr. L. Ehrlich	Halifax
Dr. D. A. B. Fleming	Halifax
Dr. P. K. Foster*	B.C.
Dr. J. P. T. Graham	Halifax
Dr. T. A. Horan	England
Dr. S. M. Husain	Amherst
Dr. D. C. Knight	Halifax
Dr. P. M. Lavigne	Halifax
Dr. J. R. Leahy	Yarmouth
Dr. D. Lussier	Neil's Harbour
Dr. G. B. Mader	Halifax
Dr. J. J. Muggah	Sydney
Dr. C. A. Murchland	Halifax
Dr. J. P. McAuley*	Ontario
Dr. J. G. MacDonald	Neil's Harbour
Dr. D. A. MacKinnon	Middleton
Dr. A. W. Pollett	Sydney
Dr. M. L. Redmond	Halifax
Dr. E. D. Ross	Halifax
Dr. V. Saini*	U.S.A.
Dr. K. E. Scott	Halifax
Dr. J. A. Smith	Halifax
Dr. L. M. Smith	Halifax
Dr. F. G. Spencer	Antigonish
Dr. I. M. J. Szulzer	Halifax
Dr. A. E. J. Tweed*	Toronto
Dr. I. Verryn-Stuart	Pictou
Dr. J. P. Welch	Halifax
Dr. D. C. Young*	U.S.A.

*Recent Dalhousie Graduate

□

anca

Whitby, Ontario
Dorval, Québec

PAAB
CCPP



**June 3 is
Census Day**
Count yourself in

The History of Urology in Nova Scotia*

W. A. Ernst,* M.D., F.R.C.S.(C),

Halifax, N.S.

The dawn of modern urology began in 1877, in Dresden from the light of the incandescent lamp of Max Nitze's cystoscope. The incandescent lamp was cooled by water and it gave good illumination but the cystoscope had a limited field of vision. Nitze worked long and hard to perfect his cystoscope until he died in 1906. However, the genius of his invention was not reflected in the practice of urology in Nova Scotia until 1909, when in Amherst, Dr. John George MacDougall first used a lighted cystoscope.

Three hundred and seventy-five years is a minuscule period of time when we compare the history of North America with the much longer history of other continents. Modern urology began 100 years ago with the invention of the cystoscope, but the urologist as we know him did not emerge in Nova Scotia until the early 1930s. To appreciate the early development of urology, we must first look to the history of early medicine and surgery in Nova Scotia.

In the early part of the 17th century, when Port Royal was founded, physicians in France were identified as scholars and theoreticians, who assumed a noble role and would not demean themselves by carrying out a surgical procedure. They regarded with equal disdain the lowly surgeon who was an uneducated apprentice-trained craftsman. The harsh environment of the New World was no place for the pompous physician, but the surgeon and the apothecary came to this new land because early 17th century French law forbade a ship to leave France on a voyage to the colonies without a surgeon or an assistant surgeon on board. Many of these barber-surgeons remained in the colonies to establish a practice, something that they could not have done in France since many of them were not well qualified.

Because they were an uneducated lot and because of the limited surgical skills of the time, the surgeons of the 17th century gained little historical recognition. If they did merit recognition, it was usually because of some endeavor outside the field of medicine, particularly in the science of botany and agriculture. Champlain's surgeon, identified only as Bonnerme, obtained some notoriety, not because of his surgical skills, but because he was falsely implicated in a plot on Champlain's life. He was later exonerated but he died shortly afterwards of scurvy.

The emancipation of surgery and the surgeon in France corresponds with the final phases of French regime in Canada. A few of the highlights included the merger in 1656 of the College of St. Come with the Guild of Barbers, and in 1660, the Parliament of Paris declared that henceforth all surgeons were officially barber-surgeons and as such they were subordinate to the faculty of medicine. It took 83 more years, an operation on the anus of Louis XIV, and the combined persuasion of a series of first surgeons to the king

(one of whom was François de la Peyronie) before surgery emerged as a respectable and independent profession. Other milestones along the route included the establishment of five endowed teaching chairs in surgery by Louis XV at the College of St. Come in 1724; the achievement of the right of censorship of surgical publications by surgeons in 1730; and the formation of the prestigious Academie Royale de Chirurgie in 1731. The final triumph for surgery came in 1743 when Louis XV terminated the union of surgeons and barbers and defined the exclusive boundaries of the areas of activity of each group. He specified that the prospective master surgeon must first be taught Latin and Philosophy and acquire a Master of Arts Degree from the University, prior to becoming a Master Surgeon.

The treatment armamentarium of the early surgeon was indeed limited. He could bleed the patient, lance an abscess, bind a wound, cause the patient to vomit and to have diarrhoea but, if the patient died, he could perform a very good post mortem examination! Champlain's records include fairly detailed post mortem reports on patients who died of scurvy. The first post mortem to be performed in Nova Scotia on Royalty was performed on the shores of Bedford Basin on the Duc d'Anville. When Louisbourg fell to the English in 1744, France retaliated by sending a flotilla of 85 ships from France commanded by the Duc d'Anville. Unfortunately for France, the flotilla was almost completely wiped out by a very severe storm. Subsequently, the Duc d'Anville died shortly after his arrival in Halifax Harbour and he was buried in 1746 on George's Island.

Louisbourg was fortified in 1713 and it is certain that it had a substantial hospital and a well organized medical service for the military and navy as well as for the civilian population. It is quite possible that the better qualified surgeons staffed the hospital at Louisbourg when Halifax was founded by the Honourable Edward Cornwallis in 1749.

Among the 2500 settlers that Cornwallis brought to Halifax were 28 medical men. Such a large number of medical men, most of them surgeons, in the Halifax Settlement was probably explained by the fact that the war between England and France ended temporarily in 1748, leaving many of them in England demobilized and unemployed. Eleven brought their wives which meant that they came with the intent to stay. Many left and others were employed by Cornwallis, and, in fact, the home authority complained to him that he supported too many surgeons and apothecaries. The most outstanding feature about the history of medicine from 1750 to 1850 was that it was crude, very limited, and was practised by a variety of self-appointed surgeons, quacks and midwives, who lacked a licensing authority and had no regulation or control.

History has made reference to several early hospitals during the first hundred years of the Halifax settlement. In the 1840s a multi-purpose building, commonly called the Bridewell, was constructed on the corner of Spring Garden

*Presented at the Canadian Urological Association Meeting in Halifax, Nova Scotia, in June 1979.

**Assistant Professor, Department of Urology, Dalhousie University, Halifax, N.S.

Road and Queen Street. This served as a jail, and a home for sick prostitutes, as well as a hospital. Its reputation as a hospital deteriorated to a degree that it was scorned by the physicians of Halifax.

In 1844, the medical profession of Halifax declared itself in favor of some scheme to establish a city and provincial hospital. However, it was more than a decade before this recommendation was realized. This was the scene in 1855 when a young Scottish physician by the name of Charles Tupper, from Amherst, Nova Scotia (Fig. 1), was first elected to the House of Assembly. Dr. Tupper undoubtedly strongly supported the need for a hospital in Halifax.



FIG. 1 — Dr. Charles Tupper

A forty-bed city and provincial hospital was opened in 1857 (Fig. 2), and it had a stormy start. It was poorly heated, the stoves smoked and the drainage was inadequate. It was unpopular with the citizens of Halifax who were asked to pay for the necessary repairs. Consequently, it was practically vacant by the end of the first decade. The city and provincial members of the board of the hospital disagreed over the appointment of a house surgeon. The medical staff of the hospital became involved in the argument and the entire staff resigned. In the end, the province took over the hospital in 1867. In that same year, Dr. Charles Tupper attended the founding meetings of The Canadian Medical Association and became its first president.

The hospital was used primarily for the poor and it had a special ward for alcoholics. The rich alcoholics were treated at home. Anaesthetics were used occasionally in the early hospital, but it must be remembered that this was before Lister's influence so that antiseptics and asepsis were not given their rightful place in the early management of the city and provincial hospital.



FIG. 2 — Victoria General Hospital 1857 (officially named in 1887)

In the Confederation year of 1867, the leading medical men in Halifax requested Dalhousie University to create a faculty of medicine, which it did in 1868. However, this new faculty became very sickly due to the lack of co-operation of the involved parties and the faculty was relinquished by Dalhousie in 1873. In 1875, an Act was passed in the Assembly entitled, "An Act to Incorporate the Halifax Medical College". The petitioners of the Act were Dr. Alexander P. Reid, Dr. William B. Slater, Dr. Edward Farrell, Dr. Alfred S. Woodill, Dr. John Sommers and Dr. Hugh Gordon.

This time action was quickly taken and teaching was soon under way. A building (Fig. 3) was erected on the south-east corner of College and Carleton Streets and instruction began. At the beginning, there was a tradition that relations with Dalhousie were not very cordial but the need for a new Medical School induced a new warmth. For years, all chemistry was taught by Dalhousie. Then later, the Halifax Medical College reluctantly relinquished its degree granting power to Dalhousie. Finally, in 1911, its doors were closed forever and the University assumed the full teaching program.

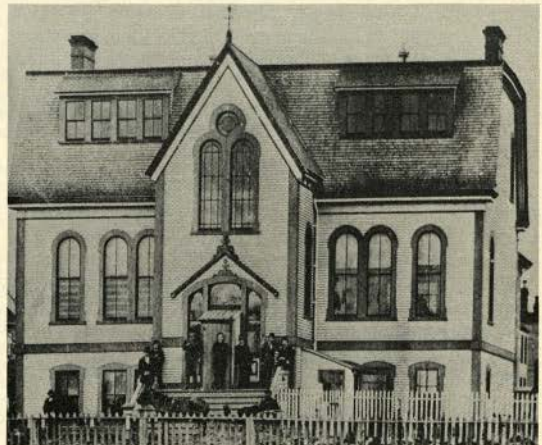


FIG. 3 — The Halifax Medical College

The Halifax Medical College, in spite of its small size and limited facilities, produced many excellent physicians, one of whom was Dr. H. B. Atlee (Fig. 4), a gynecologist who died in Halifax in 1978. Dr. Atlee was a devoted Dalhousian who had earned the respect and admiration of every physician in Nova Scotia, as well as many physicians in Canada and the United States. If the equipment at the Halifax Medical College was meagre, its clinical facilities were good and in time became better and better. But most of all its success depended on the interest and enthusiasm of the faculty and that was always present in full measure. When the College operated in the red, the faculty made up the deficit out of their pockets. The instructors of the Halifax Medical College were indeed dedicated men with high principles.

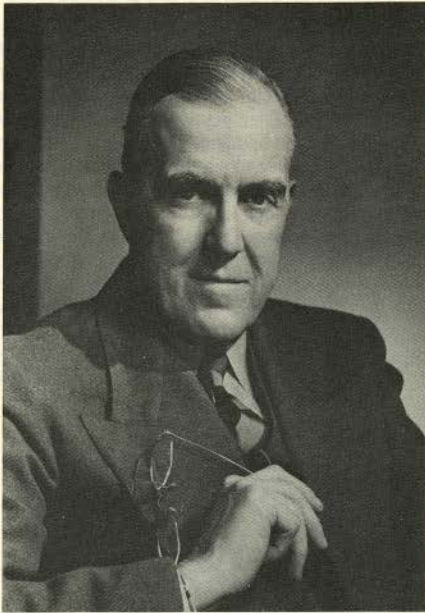


FIG. 4 — Dr. Harold Bengé Atlee

The Halifax Medical College continued to grow, with the city and Provincial Hospital undergoing a gradual "house cleaning", becoming the complete responsibility of the Province. It was named, in 1887 (the year of Queen Victoria's Golden Jubilee), the Victoria General Hospital.

It was about that time the historical fog lifted and we began to see our medical history more clearly. We can identify the surgeons with a flare for urology. One was Dr. Edward Farrell (Fig. 5) who was one of the petitioners of the "Act to Incorporate the Halifax Medical College." Dr. Farrell was born in 1842 and he died January 1, 1900. He graduated from the College of Physicians and Surgeons of New York in 1864, serving as a house surgeon in the Bellevue Hospital and the Charity Hospital in New York. He was a member of the surgical staff of the Victoria General Hospital and the Halifax Infirmary, and he was a frequent contributor to *Maritime Medical News*. He had been president of the Medical Society of Nova Scotia and the Maritime Medical Association. From 1874 to 1878 he represented Halifax County in the Nova Scotia Legislature. At the time of his death, he was President and Professor of the Halifax Medical

College and also Dean of the Faculty of Medicine of Dalhousie University.

Dr. Farrell was the first surgeon to publish in *Maritime Medical News*, a report of a patient treated by a suprapubic prostatectomy. To appreciate Dr. Farrell's report, I would like to briefly review a few of the highlights of the milestones in the profession's understanding of the pathogenesis and management of prostatism up to the late 1880s.



FIG. 5 — Dr. Edward Farrell

In 1788, John Hunter noted the obstruction caused by the lateral lobes and middle lobe hyperplasia and its effects on the bladder musculature, as well as dilation of the upper tracts. John Hunter was also accredited with the observation that hyperplasia of the prostate did not occur in castrates. It is interesting that his observation went unnoticed for almost 100 years.

About the time that Ed Farrell graduated in New York, in 1864, a few surgeons in New England had performed orchiectomies and/or vasectomies for the treatment of prostatism, but catheterization was the main method of management of patients with urinary retention. A few English surgeons in the late 1800s performed an occasional suprapubic cystostomy on patients with chronic retention.

The operation of perineal prostatectomy had its origin in the unintentional evulsion of the lobes or fragments of prostatic tissue encountered by surgeons during the performance of a lithotomy, following which the patient's bladder neck obstructive symptoms were markedly decreased. In 1891, George Goodfellow performed the first complete median perineal prostatectomy. It was about that time also that we began to see isolated reports from several countries of suprapubic removal of the prostate.

This is Dr. Ed Farrell's original report of a suprapubic prostatectomy, as it appeared in *Maritime Medical News*, in January 1895.

ENLARGEMENT OF PROSTATE PROSTATECTOMY

By E. Farrell, M.D., Halifax, N.S.

T. McL. aged 55, had been complaining for over four years of irritability of the bladder and frequent micturition. He went to the Halifax Infirmary in May 1891, when a stone in the bladder was discovered and the operation of lithotrity was performed. He left that institution early in August of that year apparently cured. He went to his home in Pictou County, and within six months all his old symptoms returned. Dr. Stewart then performed the operation of suprapubic lithotomy, when a number of calculi were removed. For a time he was fully relieved, his urine passing mostly by the suprapubic opening. In a few months this opening grew smaller and he gradually became as bad as ever. He was admitted to the Victoria General Hospital in Nov. 1893, it was then found he had a small opening at the seat of operation, through which some urine was constantly passing. He was suffering much from pain and irritability of bladder. His general health was fair. On Nov. 19th, an exploratory operation was made, the suprapubic opening was enlarged, and the bladder was found in a very dirty state, one large and a number of small calculi were removed with forceps, and in washing out the bladder with a strong stream of water and scraping, numbers of small stones and sand were removed. At this operation a small proportion of the third lobe of the prostate about the size of a small hazel nut, with a narrow base was found in front of the urethral opening. He was much more comfortable for two weeks after this operation, but in a month the urine was again alkaline and loaded with mucus and muco-pus.

December 19th, I determined to remove the projecting lobe of the prostate. Ether was administered and the operation of prostatectomy was performed. The growth was partly cut with a scissors and partly torn off by forceps. The bleeding was controlled by pressure and styptics. During the next month the bladder was washed daily, but in spite of all effort the urine became alkaline and turbid and a few small calculi were washed out occasionally. From January 23rd, to the end of February, he passed daily more and more urine by the urethra, and the abdominal wound was closing. Then for a time less and less passed by the urethra and in March ether was administered again and the abdominal wound enlarged and bladder washed out, quite a number of small stones came away in the washing. It was found that a small piece of mucous membrane in a sort of fold remained at the seat of operation, this was removed. Subsequent to this operation, after using sterilized water, weak acetic acid was used as a wash, from this time forward he began to improve, at first slowly, but the suprapubic wound gradually healed and the urethra began to perform its function until July 2nd, when all his urine passed per urethram. He was discharged from hospital July 16th.

In summary, Dr. Farrell's patient had "the operation of lithotrity", two suprapubic lithotomies, followed by a two-stage suprapubic prostatectomy.

Dr. Ed Farrell died on January 1, 1900. Eighteen months after his death, Dr. Peter Freyer of London, England published his famous paper on "Total Extirpation of the Prostate for Radical Cure of Enlargement of that Organ". Dr. Freyer's claim to the invention of the suprapubic prostatectomy aroused one of the famous controversies in urology. The evidence strongly suggests that Dr. Freyer was not the first surgeon to perform or to report in the literature, a suprapubic prostatectomy, but he talked about it so frequently that the name Freyer became synonymous with suprapubic prostatectomy. This was the type of early prostatectomy that would soon be performed in Halifax.

Dr. Norman E. MacKay, a senior surgeon at the Victoria General Hospital, reported in *Maritime Medical News*, that he had performed a suprapubic prostatectomy on October 23, 1906. Information about Dr. Norman MacKay is sparse. Physically, he was very obese with very hairy, chubby hands and he was an extremely good technical surgeon. He trained in London under Dr. Peter Freyer and he later returned to continue his practice in Halifax. He apparently jumped contract with Dr. Ed Farrell in the 1890s and he was criticized because he advertised in the local press. He gained further notoriety through a bitter debate over the famous MacKenzie case. This was a 21 year old female patient who developed an entero-vaginal fistula following abdominal surgery. The confrontation between Dr. A. I. Mader and Dr. MacKay in *Maritime Medical News* made interesting reading for several consecutive issues.

In 1894, the year that Dr. Farrell's patient was discharged from the Victoria General Hospital, a young Scottish boy by the name of John George MacDougall (Fig. 6) from Pictou, Nova Scotia had completed his first year of medical studies at McGill University. He had been a teacher prior to entering medicine at McGill. His academic excellence was recognized in his early student years and he graduated from medicine in 1897 with high honors, indeed, the highest in the class, for he was awarded the Holmes Gold Medal. He interned at the Royal Victoria Hospital in Montreal where he met and was befriended by Howard Kelley, a friend and colleague of Hugh Young, who had been invited to Montreal to demonstrate his aero-cystoscope. Kelley presented John George with an aero-cystoscope which John George took with him when he began practice of medicine in Amherst, Nova Scotia, in 1899.

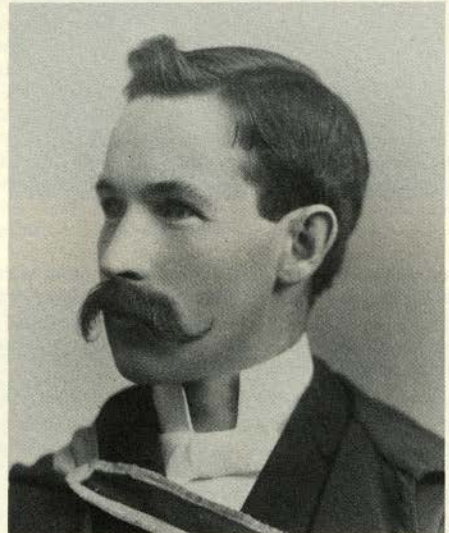


FIG. 6—Dr. John George MacDougall 1897

Dr. MacDougall practised in Amherst for 15 years during which time he developed a wide reputation as an excellent surgeon. He became proficient with Dr. Kelley's aero-cystoscope and he used it to successfully cauterize the bladder of the female patient who had a long history of hematuria. He is said to be the first surgeon to use the Brown-Buerger cystoscope in Amherst, in 1909.

John George MacDougall moved to Halifax in 1914. His exceptional surgical abilities soon became apparent in Halifax, for he developed a very active consulting practice and he was frequently called to the surrounding towns of Nova Scotia to see patients and to perform major surgery. He performed the first laryngectomy in Nova Scotia in 1907, and the first caesarian in 1908. He was, indeed, a very outstanding general surgeon with expertise in general surgery, gynecology, urology, chest surgery and E.N.T. surgery. He was brilliant and he apparently had a tremendous amount of physical energy. He constantly challenged his colleagues with a flow of new ideas and new concepts, and he was renowned for the surgical tips that he passed on to his medical friends. His "peculiar genius" led him to have no regard for specialization.

John George MacDougall (Fig. 7) and his surgical conferees, Vincent Hogan, H. K. MacDonald, Murdock Chisholm and Dr. George Murphy reigned over the practice of surgery in Halifax, in the early 1920s and 1930s. They controlled all the surgical practice at the Victoria General Hospital and at the University level, no doubt feeling that they themselves were best qualified to perform the major surgery required in this region, including urological surgery.



FIG. 7 — Dr. John George MacDougall 1935

This was the scene in 1917, when Dr. Frank G. Mack (Fig. 8) arrived in Halifax to begin practice. This was the year of the tragic Halifax explosion and undoubtedly he helped to treat the injured in a windowless Victoria General Hospital. The Victoria General Hospital (Fig. 9) had undergone a number of structural changes during its first sixty years of service. A third storey and a new north and south wing had been added, with the original entrance incorporated into the east wing.



FIG. 8 — Dr. Frank G. Mack

Dr. Frank Mack was appointed Professor of Dermatology in 1919, and he was assigned a special ward at the Victoria General Hospital for patients with venereal disease. These were the days when syphilis was treated with mercury, potassium iodide and organic arsenic. It was a time when urethral strictures were far more common than they are today. In those early years of his practice, Dr. Frank Mack was the "clap" doctor in Halifax and, like many urologists of that era, he had an interest in dermatology — an interest that he maintained throughout his professional life. The most popular journal for urologists of that era was entitled *The Urological and Cutaneous Review*, which also reflects the interest in dermatology by urologists. However, future urologists would soon direct their attention to a new journal founded by Dr. Hugh Young in 1917, entitled *The Journal of Urology*.

Dr. Frank G. Mack was born in Bridgewater in 1889, and he graduated from Dalhousie in 1910 with a B.A. He received

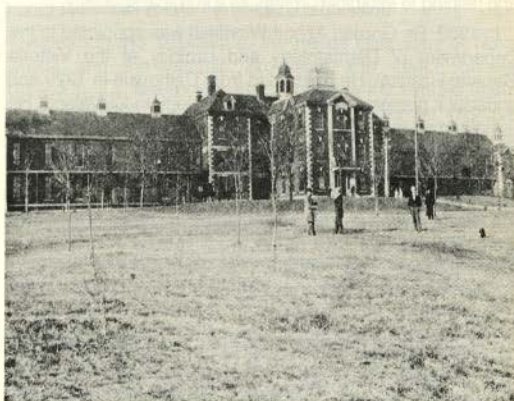


FIG. 9 — The Victoria General Hospital 1917

his Bachelor of Medicine from the University of Toronto in 1914 and underwent postgraduate training in Toronto and Montreal. He was a Fellow of the Royal College of Surgeons in Canada and a Fellow of the American College of Surgeons. In 1952, he was made Professor Emeritus. I would like to quote what Dr. H. B. Atlee, a confrere, said about Dr. Mack in 1958. "Dr. Frank Mack inherited from his predecessors a peculiar clinical service, a combination of urology and dermatology — but only part of the former. He did the cystoscopies and made the diagnosis and the general surgeon performed the operation."

"A similar situation had existed in gynecology, until the Rockefeller gift made a properly combined obstetrical and gynecological department a 'must'. Frank was a very skillful cystoscopist and like Jacob, he served many cystoscopic years before winning the surgical Rachael. The big four, perhaps, understandably considering their outstanding abilities, felt that they had been especially called upon by God to perform all major surgery at the Victoria General Hospital. It took many years of effort, helped undoubtedly by the ravishes of anno Domini, to persuade them that their delusion was being carried to excess. Eventually, Frank was given the full rights and privileges of his department, which he organized on its present advanced lines. He was a very modest man who kept constantly and humbly questioning himself. Because of his avoidance of anything suggesting the limelight, he was a very much bigger and better clinician than he seemed to be."

Dr. Frank Mack did suprapubic prostatectomies and undoubtedly he performed many two-stage prostatectomies in the years prior to the antibiotic era. When he was given major surgical privileges at the Victoria General Hospital, it is unlikely that general surgeons referred him urological patients. When the Stern-McCarthy resectoscope was introduced in the 1930s, Dr. Frank Mack visited Dr. Stern in New York to learn first hand, the technique of transurethral surgery. He was probably the first urologist in Canada to use the Stern-McCarthy resectoscope which gave Dr. Mack and other urologists expertise not enjoyed by the general surgeons. The concept of specialization in medicine and surgery was strongly established and it was growing rapidly, so that by the late 1930s Dr. Frank Mack's practice was similar to that of a modern urologist. Sulphas and penicillin became available in the late 30s and early 40s, greatly reducing the mortality and morbidity of the urological patient, and helping to establish urology as a surgical specialty.

In 1932, Dr. Gordon Abbott Windfield was appointed to the Department of Dermatology and Urology at the Victoria General Hospital. He graduated from Dalhousie in 1929 and undertook postgraduate training in urology in Cleveland. He remained on staff of the Victoria General Hospital until 1939, when he joined the Canadian Armed Forces. Following the war, he accepted an administrative position in Ottawa with the Federal Government and later retired to Bermuda. While in Ottawa, he and an Irish nobleman by the name of Sir Torey were divorced from their respective wives. Sir Torey and Dr. Winfield were later remarried to each others first wife. Gordon Windfield and his second wife are both alive and live in Bermuda.

The war years between 1939-1945 must have been very busy years indeed for Dr. Frank Mack, but relief was on the way. In 1945, Dr. C. L. Gosse, (Fig. 10) was demobilized and returned to Halifax to begin practice in the specialty of urology.



FIG. 10 — Dr. Clarence L. Gosse 1943

Dr. C. L. Gosse was born in Spaniard's Bay in Newfoundland, in 1912. His father, Dr. Norman Howard Gosse, moved to Canning, Nova Scotia in 1922 where he practised for several years before he moved to Halifax. Dr. C. L. Gosse received his B.Sc. from Dalhousie and worked for a finance company for a year prior to entering medicine at Dalhousie University. During his student years he was president of his class and he was, with Dr. C. B. Stewart, the co-founder of the *Dalhousie Medical Journal*. He graduated in medicine from Dalhousie in 1939 and he undertook post-graduate training in surgery and urology in Cleveland, Ohio. He returned to Halifax in 1942, where he joined the Royal Canadian Army Medical Corps and married an attractive Halifax girl by the name of Elizabeth Carten, before going overseas. On D-Day, 1944, he was in charge of a surgical unit that landed on the beaches of Normandy. (Fig. 11) It was during his stay in England that he learned of Dr. Terrance Millin's retropubic prostatectomy.



FIG. 11 — Dr. Clarence L. Gosse 1944



FIG. 12 — Dr. F. Gordon Mack

Dr. Gosse returned to Halifax in 1945 to begin the practice of urology, entering a partnership with Dr. Frank Mack in 1946. The partnership was soon expanded in 1949 by the addition of Dr. Frank's son, Dr. Gordon Mack. (Fig. 12) For the next three decades the names of Gosse and Mack became synonymous with urology. In the early years of this partnership, the new Victoria General Hospital (Fig. 13) played an important role in the development of Urology. In 1952, Dr. Frank Mack was made Professor Emeritus and Dr. Gosse was appointed Professor of Urology.

In 1945, Dr. C. L. Gosse and the specialty of Urology were both young and both were destined to grow together. Dr. Frank Mack had established modern urology in Halifax and Nova Scotia and Dr. C. L. Gosse would direct its growth for the next three decades, expanding the department of Urology from a staff of two to a staff of nine. Dr. Gosse had the foresight to see the urological needs of the Atlantic Provinces and the University, and he had the aggressiveness required to take charge of its needed development. His reputation as an excellent technical surgeon was established early in his career and his capabilities in this area and the excellent results of his surgery contributed to the closing of the urological doors to the general surgeon.

Dr. Gosse made a major contribution to the development of prostatic surgery in Nova Scotia with the introduction of the retropubic prostatectomy. The technique that he introduced in the early 1950s is the technique used today by all the urologists in this region. He also performed the first total retropubic prostatectomy in Halifax. As a teacher, he was always sensitive to the needs of the University and indeed of Nova Scotia. He was active in the undergraduate teaching but was particularly interested in the teaching of the interns and the residents. He initiated, developed and contributed to the present resident training program.

Dr. Gosse developed expertise in other areas of endeavor. He became a recognized administrator, politician and businessman. He was an influential member of the building committee of the last addition to the Victoria General Hospital, when he convinced the committee of the future needs of the Department of Urology. Much to the envy of some of the other surgical departments, the Department of Urology obtained what seemed at the time a very elaborate suite of operating rooms. His estimate of predicted growth of urology in this area was accurate. These same facilities would now be regarded as adequate for our present and our early future needs.



FIG. 13 — Victoria General Hospital 1952

When the Medical Staff of the Victoria General Hospital or The Medical Society of Nova Scotia were faced with a particular difficult problem, it was often Dr. Gosse who chaired the Committee. He is a past President of The Medical Society of Nova Scotia and a past President of the Canadian Urological Association. In 1967, he challenged a strong Conservative for a seat in the Provincial Legislature but was unsuccessful. However, he continued to exert political influences behind the scenes. His appointment as Lieutenant Governor, (Fig. 14) in 1973, was indeed unique, for he was the first physician to be appointed to this very distinguished position. He was a very popular Lieutenant Governor and he performed his duties with dignity, grace and charm, bringing honor to himself and to the medical profession.

Again, always sensitive to the needs of urology of Nova Scotia and the Atlantic Provinces and needs of the University, Dr. Gosse was instrumental in the establishment of a \$250,000 Ann Cameron Memorial Renal Disease Research Fund in 1978. This fund will be very significant to the development of urology in Nova Scotia, assisting the department of Urology to embark on a sustained and meaningful research program. Dr. C. L. Gosse retired as Professor of Urology in 1971.

The contribution of the current members of the Department of Urology have not been included in this review of the history of urology, since their contributions are not complete. However, I would like to list the present members of the Department in the order in which they began to practice in this area: Dr. F. Gordon Mack, Head of the Department of Urology; Dr. R. Wentzell; Dr. W. A. Ernst; Dr. S. G. Lannon; Dr. O. H. Millard; Dr. S. Yoon; Dr. P. Belitsky; Dr. R. Schwarz;



FIG. 14 — Lieutenant Governor C. L. Gosse, M.D., 1973

and Dr. B. Auld. Dr. Bob Wentzell undertook part of his urological training at the Victoria General Hospital, but he is not a member of the active staff of the Victoria General Hospital and he confines his practice primarily to the city of Dartmouth.

Much of the material for this paper was obtained from *The Provincial Medical Journal*, *The Maritime Medical News*, *The Nova Scotia Medical Bulletin* and *The Dalhousie Medical Journal* and is by necessity, heavily Halifax orientated. I apologize for the conspicuous absence of the contribution of many very competent surgeons in the smaller towns of Nova Scotia.

A second look at the history of urology in Nova Scotia in the year 2000, a mere 20 years from now, will be indeed interesting. The contribution of the increasing sophistication of radiological techniques alone will make an interesting tale. Tomorrow's historian will record the cystogram explosion of the 60s, the introduction of renal angiography, radionuclide imaging and scanning, and non-invasive methods of ultrasound and CT scanning. The role of urodynamics in the practice of urology will become better established and advances in immunology will undoubtedly contribute to longer survival of the transplanted kidney and hopefully will lead to improved treatment of carcinoma of the prostate, bladder and kidney. The 'yet to be discovered', I will leave to your imagination. □

An extensive Bibliography is available from the author.



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	Digby	New Glasgow	Yarmouth

Diagnosis and Practical Management of Uncomplicated Gonorrhoea in Private Practice — 1981

F. Russell Manuel,* M.D., M.Sc.,

Halifax, N.S.

DIAGNOSIS OF GONORRHOEA

SIGNS AND SYMPTOMS

IN WOMEN:

The prime characteristic of gonococcal infection in women is no signs or symptoms whatsoever because 50 to 80% of women are asymptomatic.

A woman with a gonococcal cervical infection may have a vaginal discharge but the discharge is at least as likely to be due to concomitant trichomonas infection.

If lower quadrant abdominal pain or tenderness is present tubal involvement should be suspected.

IN MEN:

A copious yellow-green urethral discharge is the hallmark of gonorrhoea. However, it is estimated that about 20% of men infected with the gonococcus are asymptomatic. The appearance of the discharge may range from being clear, thin and mucoid, through whitish to frankly purulent.

Dysuria is usually experienced and ranged from severe burning through a tingling or itching to no symptoms on urination.

PROCTITIS:

In both men and women the anal and/or rectal mucosa may be infected.

In women with gonococcal cervicitis, 40 to 65% have a gonococcal proctitis and in some women this is the only site from which the gonococcus is cultured.

Proctitis is also common in homosexual males.

Symptoms of proctitis are uncommon but when they occur they consist of complaints of anal burning or irritation and sometimes anal discharge.

EXAMINATION AND LABORATORY TESTS

WOMEN:

Four tests are advisable.

Insert a cotton tipped swab in the cervical os after it has been swabbed clean of external mucus and discharge. With this swab do 2 procedures:

1) Make a smear to be air dried and sent for a gram stain. The lab will examine this for gonococci and trichomonads.

2) Send the swab in transport media to be cultured or roll it on to a gonococcal culture media immediately.

*Associate Professor, Department of Preventive Medicine and Lecturer, Department of Urology, Dalhousie University Halifax, N.S.

3) Next, a wet film should be made mixing a drop of material from the posterior fornix with normal saline and applying a cover slip. This is examined immediately for motile trichomonads and is more reliable for this purpose than the smear mentioned above.

4) Then an anal swab is inserted 2 cm. up the anal canal and pressed against the wall of the canal (to express pus from the crypts). If the anal swab has feces on it the swab should be discarded and the procedure repeated. Send to the lab for culture in separate transport media.

Finally, a bimanual exam is done in women to rule out tubal involvement. This is most important because P.I.D. requires additional treatment and possibly hospital admission.

MEN:

Two tests are advisable — both a smear and culture.

Use a cotton tipped swab to take *freshly expressed* urethral discharge material and make a smear and culture as described for cervical swabs above.

If Calgiswabs (wire with calcium alginate tip) are available these should be used and inserted 2 cm. up the urethra. These swabs are particularly valuable in asymptomatic men who are being examined because they are named as contacts.

MEN AND WOMEN:

Enquiry should be made concerning oral sexual contact in both and pharyngeal cultures taken if relevant.

ADDITIONAL NOTES

1. Survival of gonococci in transport media are time and temperature dependent. There is commonly a 10% loss and as much as a 30 or 40% loss of the viable gonococci during transportation. Hence the importance of sending smears as well.

2. In males the smear is 95% reliable while in females about 60% with gonococci cervicitis have positive smears.

3. When gonorrhoea is suspected in a woman at least two cervical and anal cultures should be done on separate days to rule out infection. If she is a suspect and only one culture is done then she should be treated as though she had gonorrhoea.

4. Serologic tests for syphilis to be done at the first visit (for past infections), at one month, and at three months to rule out syphilis acquired at the same time as gonorrhoea.

PRACTICAL MANAGEMENT FOR UNCOMPLICATED GONORRHOEA

INTRODUCTION

There are many different antibiotics available for the treatment of gonorrhoea but the vast majority of infections can be managed with a few antibiotics. These suggestions concentrate on the use of a few tried and proven antibiotics for uncomplicated gonorrhoea.

The first decision the physician has to make is whether his patient can be relied upon to take a multiple dose oral treatment or not.

SINGLE DOSE TREATMENT

1) **AQUEOUS PROCAINE PENICILLIN G (APPG) 4.8 MILLION UNITS I.M.**, 5cc in each buttock at one visit along with probenecid 1.0 Gm by mouth. This regimen is slightly more effective than (2) below but is impractical for routine use in private practice. However, it is recommended for ano-rectal and pharyngeal gonococcal infections.

2) **AMPICILLIN 3.5 Gm p.o.** with probenecid 1.0 Gm p.o. or **AMOXICILLIN 3.0 Gm p.o.** with probenecid 1.0 Gm p.o.

These may be given in a stat dosage as seven (ampicillin) or six (amoxicillin) 500 mg capsules along with two 500 mg tablets of probenecid or in powder preparations where the same dose is mixed with two ounces of water and taken all at once. Either treatment results in a better than 95% cure rate in uncomplicated gonorrhoea.

3) **SPECTINOMYCIN 2 Gm I.M.**: This should *not* be given routinely but reserved for patients who fail to respond to primary treatment with penicillins or tetracycline.

MULTIPLE DOSE TREATMENT

1) **TETRACYCLINE HCl 0.5 Gm p.o.** four times a day for five days (10 Gm total).

This is the drug of choice where the patient can be relied upon to complete the five day course within the prescribed time. This antibiotic is also effective against *Chlamydia trachomatis*.

At least one third of men and women infected with the gonococcus are also infected with *Chlamydia trachomatis* so that the use of this antibiotic for the initial treatment of gonorrhoea will help control the spread of non-gonococcal urethritis. These should be taken 1 hour before or 2 hours after a meal.

2) **OTHER TETRACYCLINES**: These are no more effective than tetracycline HCl and are more costly but may be preferred because of the convenience of a twice daily dosage. Until controlled trials of these alternative tetracyclines have been done they are considered second best to tetracycline HCl. All should be given for *at least* 5 days to provide minimal coverage for a concomitant *Chlamydia trachomatis* infection. Some clinicians think that a two or three week course of tetracycline should be given for *Chlamydia* infections. Usually the dose is reduced to half during the second or third weeks.

Examples:

a) **Doxycycline** 200 mg stat then 100 mg bd for 5 days (total of 1.2 Gm). Preferably given with or after food to minimize GI upsets.

b) **Minocycline** 200 mg stat then 100 mg bd for 5 days (total 1.2 Gm). May be given with food but preferably not with dairy products. Antacids containing aluminum, calcium or magnesium and iron salts should not be given with any of the tetracyclines.

PHARYNGEAL INFECTION

This is difficult to treat. Both ampicillin and spectinomycin have high failure rates so should *not* be used. APPG or Tetracycline HCl in the above dosages should be used. At least one follow-up culture is important.

PROCTITIS

Preferably treated with APPG. A minimum of two follow-up cultures required.

FOLLOW-UP OF TREATED GONORRHOEA

First cultures taken a week after completion of treatment. These are becoming much more important because an increasing number of penicillin resistant organisms are being found in the U.S.A. and may become a greater problem here. Post treatment cultures will identify treatment failures promptly and allow the rapid institution of adequate alternative therapy so that spread of these resistant organisms will be curtailed.

MALES:

One repeat intraurethral culture and smear using a calcium alginate tipped swab (if available).

FEMALES:

At least two cervical cultures taken a few days apart. Also a rectal culture at one visit.

MALES AND FEMALES:

At least one serological tests for syphilis to be taken 3 months after treatment. It may take up to 3 months for incubating syphilis to show a positive serologic test.

CONTACTS OF GONORRHOEA PATIENTS

All contacts of patients with proven or suspect gonorrhoea should have relevant smears and cultures taken. In males one smear and culture is sufficient to diagnose gonorrhoea in most cases. In women at least two smears and cultures are required to rule out gonorrhoea and where a transport media is used a third culture test is advisable. Practically speaking, most contacts will prefer treatment after one smear and culture is taken at their first visit and then should be followed up as for treated gonorrhoea (see above). □

A Review of the Newly Recognized Potential Health Hazards of Phenoxy Herbicides

William H. Thurlow IV, M.D., F.R.C.S.(C),

Digby, N.S.

Since the introduction of the first phenoxyacetic acid herbicide 37 years ago these "hormone" weed killers have enjoyed increasingly wider use by more industrial, government, and farm users. Their principle use is against broad-leaf weeds and trees and they are generally translocated throughout the plant. The mechanism of action is believed to be the effect of the herbicide on cellular division, as well as the ability of these chemicals to activate phosphate metabolism and to modify nucleic acid metabolism.

Part of their commercial success is related to the relatively low acute toxicity in laboratory mammals.¹ However, it has only been in recent years that pesticides have been found to have the potential for mutagenic, carcinogenic, teratogenic and embryo-toxic effects on laboratory animals and human beings. This recognition led to the establishment of the United States Environmental Protection Agency

GLOSSARY:

- 2,4-D** — 2,4-Dichlorophenoxyacetic acid
2,4,5-T — 2,4,5-Trichlorophenoxyacetic acid
Dioxin — (1) a group of 75 chemicals with the polychlorodibenzo-p-dioxin structure
 (2) when used to refer to one chemical, it always refers to 2,3,7,8-TCDD
DCDD — dichlorodibenzo-p-dioxin
Tri-CDD — trichlorodibenzo-p-dioxin
TCDD — tetrachlorodibenzo-p-dioxin
HCDD — hexachlorodibenzo-p-dioxin
HeptaCDD — heptachlorodibenzo-p-dioxin
OCDD — octachlorodibenzo-p-dioxin

(U.S.E.P.A.), which began requiring extensive data in these areas on pesticides beginning 11 years ago. The Canadian Government has since reorganized its pesticide regulations and has started requiring more data on these pesticides; however, its progress in reconsidering pesticides adequately has lagged far behind that of the U.S.E.P.A. This is particularly true in the case of one phenoxyacetic acid herbicide which has been banned in the United States but is still permitted in Canada (although three Provinces have specifically banned it).

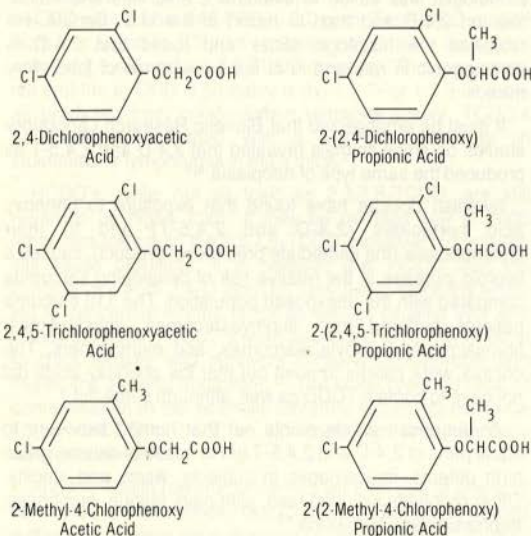
During 1980, 2,4-D was proposed for use as an aerial spray to control hardwood growth on a 500 acre woodlot in Cape Breton Island. A temporary court injunction forced its use to be cancelled until a Nova Scotia Supreme Court hearing is held in 1981. In addition, 2,4-D is used by some blueberry growers who also burn their fields. A number of Nova Scotia farmers also use 2,4-D and there are some Nova Scotia industrial applications as well. Because of the potential health hazard of the exposure of innocent people who may live or travel near areas of aerial application of these herbicides, a brief review of potential problems is in order for Nova Scotia physicians.

The more commonly used phenoxyacetic acid herbicide are summarized in Table I. Laboratory and experience data indicate that their effects on mammals and humans are all similar and differ from one another only in degree. As the two most commonly used pesticides of this group are 2,4-D and 2,4,5-T, most of the literature reviewed will concern these two chemicals, with emphasis on the former since that is the herbicide which is of most interest in Nova Scotia.

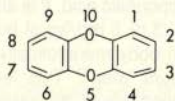
As "Agent Orange" in the Vietnam War, 2,4,5-T and 2,4-D were used together in a one: one mixture. Most of the Agent Orange used was heavily contaminated with an extremely harmful contaminant called "dioxin" (meaning specifically 2,3,7,8-TCDD). The TCDD was an unavoidable contaminant of 2,4,5-T but has never been found as a contaminant in 2,4-D. Many industrial and Canadian governmental agencies have claimed that the teratogenic effects of 2,4,5-T were in fact caused by the contaminating TCDD. However, the

TABLE I

THE SIX PHENOXY ACID HERBICIDES



Dibenzo-p-Dioxin Structure



Mailing Address: McCleave Medical Centre, St. Mary's Street, Digby, N.S. B0V 1A0

U.S.E.P.A. has successfully separated the teratogenic effect of the two chemicals and has demonstrated that each is teratogenic *per se* at low levels. The results of the United States work are summarized in Table II and demonstrates that the 2,4,5-T is teratogenic in ordinary usage irrespective of TCDD contamination. For calculated scenarios of exposure, the U.S.E.P.A. usually tries to have a 1,000 to 1 safety factor and normally a pesticide which can maintain this ratio will be permitted to continue to enjoy registration in that country.

TABLE II

EXPOSURE ANALYSIS FOR	2,4,5-T	TCDD
Human Teratogenic Effect	20 mg/kg	0.03 mcg/kg
Dermal Exposure (Backpack)	6.8 mg/kg UNSAFE	0.0007 mcg/kg UNSAFE
(Tractor Mounted)	1.8 mg/kg UNSAFE	0.00018 mcg/kg UNSAFE
(Aerial Application*)	0.051 mg/kg UNSAFE	5×10^{-6} mcg/kg SAFE
Inhalation Exposure	0.023 mg/kg UNSAFE	2×10^{-6} mcg/kg SAFE

*Assumes 4 lbs./acre active ingredient per 10 gallons water/acre.

The recognition of the danger of 2,4,5-T led to the same suspicions of 2,4-D and evidence has been gathering concerning the latter. 2,4-D has no 2,3,7,8-TCDD contamination; however, a number of other dioxins frequently do contaminate it. 2,4-D has been shown to cause mouse teratogenicity including:²

- Cleft Palate
- Anophthalmia (no eyes) or microphthalmia
- Agnathia (no lower jaw)
- Exencephalie (brain outside cranium)
- Cystic Kidneys
- Club Foot
- Encephalocele
- Hydrocephalus

The U.S. National Institute of Environmental Health Science (N.I.E.H.S.) holds that both 2,4-D and 2,4,5-T were found to be teratogenic. It would appear that their 2,4,5-T was contaminated with up to 30 ppm of TCDD, a chemical which everybody agrees is extremely teratogenic.³

A Dow Chemical Company study on rats revealed that unusually low doses of 2,4-D cause acute toxicity, denying "teratogenicity" but admitting "embryo-toxicity". This embryo toxicity included⁴:

- Delayed ossification of breast bone, skull bone, wavy ribs and (miscellaneous) lumbar ribs
- Hydrocephalus

Even the Canadian Food and Drug Directorate (Department of National Health and Welfare) found 2,4-D to be teratogenic. They found that all derivatives of 2,4-D were associated with significantly increased teratogenicity, including wavy ribs, additional ribs, retarded ossification (especially in skull bone), sternal defects and, in postnatal studies, a non-dose dependent low but persistent incidence of hydrocephalus, corneal opacity and other problems with significant results at 25 mg/kg.⁵

Another Swede found that 2,4-D induced mutations in *Saccharomyces cerebifiae* RAD18 cultures.¹²

Not only do small animal mammalian studies indicate possible danger of carcinogenicity and mutagenicity. Insect mutations are also reported, as in *Drosophila melanogaster* (2,4-D caused mutations where 2,4,5-T did not at the doses employed).¹³

2,4-D frequently contained 2,4-Dichlorophenol not only as a contaminant when manufactured, but also as a breakdown product when the 2,4-D enters the biological system. An interesting study showed that at levels where the 2,4-D and the 2,4-Dichlorophenol were causing no effect separately, they acted in a synergistic manner when applied together, causing increased levels of internal pathologic changes in fetuses.¹⁴ This is particularly significant since it is probable that 2,4-D is always present with its primary breakdown product. This may explain why some low doses laboratory tests have been "negative" but may explain the many "anecdotal" harmful effects reported by people.

2,4-D will definitely enter fetus even in low dose as demonstrated when rats fed 0.05 mg/kg of 2,4-D had 16.8%

Ulland, working for Bionetics Research Labs, tested 2,4-D on two strains of mice and found the following neoplasias:

- Leukemia
- Reticulum cell sarcoma
- Pulmonary carcinoma
- Hepatoma
- Benign tumors.⁹⁷

Dr. Melvin D. Reuber, a National Cancer Institute pathologist was called to evaluate E.P.A. files and F.D.A. files on 2,4-D and then to report to the U.S. Senate. He reviewed the histologic slides and found that 2,4-D is carcinogenic in rats and in at least one strain of laboratory mice.⁸

It must be emphasized that Bionetic Research Laboratory studies on small animals revealed that 2,4-D and 2,4,5-T all produced the same type of neoplasia.^{4,5}

Swedish doctors have found that exposure to phenoxy acid herbicides (2,4-D and 2,4,5-T) and to their chlorophenols (the immediate breakdown product), causes a fivefold increase in the relative risk of developing sarcomas compared with the unexposed population. The 110 sarcoma patients suffered from leiomyosarcomas, liposarcomas, fibrosarcomas, synovial sarcomas, and many others. The doctors were careful to point out that the phenoxy acids did not have to contain TCDD as well, although some did.⁹

An American article points out that human exposure to equal parts of 2,4-D and 2,4,5-T led to cases of cancer, gross birth defects, miscarriages in subjects' wives and sterility. Other problems included rash, joint pain, fatigue, numbness, depression and hematuria.¹⁰

It should be noted that many lipophilic acids are potent inhibitors of mammalian cell replication and are also teratogenic. 2,4-D is a lipophilic acid. It is also interesting that one dose of 2,4-D at 2,3 or 5 mg/kg of body weight will be excreted by the human body metabolically unchanged, with 25% remaining 96 hours later.¹¹ This lengthens the time when a pregnant woman could be exposed and have a miscarriage or a deformed child. She does not have to be exposed on the critical day of embryonal development; exposure of up to 4 days earlier could cause it.

penetrate the placenta and was equally distributed in the uterus, fetuses and amniotic fluid.¹⁵ In addition there is evidence that 2,4-D is a strong promoter of cancer and also a weak initiator of cancer.¹⁶ The primary breakdown product of 2-D, 2,4-Dichlorophenol was also found to be a strong promoter of cancer as demonstrated in skin tests,¹⁷ as well as a teratogen.²

No consideration of phenoxy herbicides is ever complete without also considering their contaminant as well as their byproduct — the dioxins. Before 2,4,5-T was found to be a teratogenic, its ever present contaminant, 2,3,7,8-TCDD was found to be the most poisonous and most teratogenic non-radioactive chemical known to man. Symptoms of poisoning have been known to occur at dosages of 0.1 mcg/kg in some species,¹⁸ and its human teratogenic effect is estimated to occur at a dose as low as 0.03 mcg/kg.¹⁹ Cleft palate, kidney abnormalities, visceral hemorrhages, were among the abnormalities reported in mice and rats.²⁰

In addition, immune suppression was observed in both guinea pigs and mice at doses as low as 0.2 mcg/kg.²¹ It would appear that it is not possible to supply 2,4,5-T in commercial quantities without at least a minimum of TCDD contamination.

2,4-D is not plagued by contamination from 2,3,7,8-TCDD; however, it is contaminated by a number of other dioxins. 2,4-D has been found in association with various dichlorodioxins, trichlorodioxins, hexa-CDD's (HCDD), hepta-CDD's, and octa-CDD's.²²

Current Canadian supplies of commercial formulations of 2,4-D have a demonstrated association with levels of 2,7 or 2,8-DCDD's ranging from 104ppb to 4.2 ppm. Levels of tri-CDD varied from 346-PPB to 2.0 ppm. Tetra-CDD ranged from 2 to 6 ppb to 1.7 ppm (analysis peaks were consistent with the 1,3,6,8 and 1,3,7,9-TCDD isomers). These scientists felt that the tri-CDD is probably is the 1,3,7- or 1,3,8-isomers as predicted from condensation reactions theory. TCDD's have been associated with a significant increase in leukemias or lymphomas in male mice.²³

HCDD's, while not as toxic as 2,3,7,8-TCDD, are still regarded as highly toxic. It may be perhaps 100 to 1000 times less toxic than the 2,3,7,8-TCDD. However, 10 ppb can still cause problems. It is believed that HCDD was the contaminant from 2,4-D used on corn fed to chickens which led to pericardial edema factor as well as causing liver and kidney damage.²⁴ HCDD's were also found to be highly lethal to chick fetuses with survivors showing considerable soft tissue and skeletal anomalies.²⁵ The worst reported case of contamination in the scientific literature would appear to be 10 ppm HCDD in 2,4-D, an extremely high and potentially dangerous level.²⁶

Another health hazard concerned with the use of phenoxy herbicides is this: phenoxy herbicide, when burned or heated sufficiently, creates large amounts of various dioxins. It would appear that any chlorophenol, heated sufficiently, can be converted to a dioxin.²⁷

CONCLUSION

When phenoxy herbicides were first introduced, the acute toxicity appear low and the potential effects of mutagenicity, carcinogenicity, teratogenicity and the problems of dioxin contaminants in minute amounts were not even dreamed of.

Since then the potential health hazards of these sublethal effects have become apparent. The uses of these herbicides in situations, such as aerial spraying of large areas of forest lands and of fields (such as of blueberries) which are going to be burned at a later date, should be prohibited until further scientific experiments justify these uses. Other uses of phenoxy herbicides need to be considered very carefully to discover whether the potential future risk justifies the current advantages in vegetation management □

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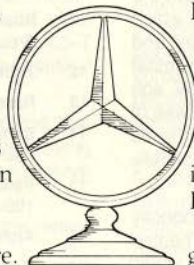
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Urinary Tract Complications Including Transitional Cell Carcinoma of Bladder in Patients with Analgesic Nephropathy

S. Paul Handa,* M.D., F.R.C.P.(C) and H. D. Tewari,** M.D., F.R.C.S.(C),

Saint John, N.B.

Recent reports have shown that more urothelial tumors occur in patients who ingest large amounts of Phenacetin containing analgesics.¹ Phenacetin has also been associated with the development of papillary necrosis and interstitial nephritis in these patients.²

Since the inception of the nephrology service at our hospital in 1970, 219 patients with renal failure (including 151 on dialysis transplant program) have been seen at regular intervals. All patients had impairment of their renal functions with serum creatinine exceeding 2 mg/dl and/or creatinine clearance less than 45 ml/minute. From this patient population, 23 patients (10.5%) were found to have analgesic nephropathy by history, relevant biochemical and radiographic studies.³ Renal biopsy was performed in nine patients. These patients, 5 male and 18 female) with mean age fifty-nine (range 47-76 years) had an average follow-up period of 4.7 years (0.5 to 9.8 years). The urologic complications in patients of this group included, hematuria [3], urinary tract infections [5], passage of papillae with colicky pain [3] and transitional cell carcinoma of renal pelvis [1] and bladder [2]. Two additional patients showed positive urinary cytology but the tumor sites have not been detected.

higher than would be expected. Clinical characteristics of these patients are given in table. None of the patients with renal failure of other etiologies has developed positive urinary cytology or clinical evidence of transitional cell carcinoma.

Despite the fact that Phenacetin, an oft-reported nephrotoxin, was removed from analgesics on the market in Canada in 1973, previously undiscovered cases of analgesic associated nephropathy in our community continue to present at an average rate of two patients per year. Females outnumber males 3:1 but unlike previous studies both in Sweden and United States,^{1,5} the transitional cell carcinoma of urinary tract has not been seen in females at Saint John. This is probably attributable to a shorter follow up they have had in contrast to the males. The development of a tumor in one patient initially at the renal pelvis was treated by nephrectomy, and then recurring in the bladder four years later during a period the patient had abstained taking analgesics, supports others observations that the patients with analgesic nephropathy remain predisposed to urinary tract carcinoma even after its abuse has been discontinued.² □

CLINICAL DATA

Patient	Age/Sex	BUN (mg/dL)	Creatinine	Site of Tumor	Phenacetin Consumed (Estimated)		Intravenous Pyelogram	Comment
					Yrs.	Kg.		
1.	51 M	73	5.3	Left Renal Pelvis, Bladder	30	30	Papillary Necrosis	Died 1977
2.	65 M	70	4.5	Bladder	25	26	Papillary Necrosis	Alive on Dialysis
Urine-Cytology								
3.	64 F	21	2.3	Positive	11	35	Chronic Pyelonephritis	Alive
4.	61 M	84	9.6	Clumps, Class 111	25	20	Papillary Necrosis	Alive on Dialysis

Ten patients were placed on dialysis, this suggesting analgesic nephropathy, a prominent cause of end stage renal failure (6.6%).

Within the past decade, the annual incidence of bladder carcinoma for the province of New Brunswick (gathered by Provincial Tumor Registry) has been recorded as 5.5 cases/100,000 adult population in the age range of 40-70 years. The finding of positive urinary cytology in four, including two developing carcinoma of the urinary tract, in a population of 23 patients with renal failure secondary to analgesic abuse suggest an association.⁴ When the binomial test was applied, the incidence of urinary tract cancer was

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*Assistant Professor, Department of Medicine, Dalhousie University, Saint John Regional Hospital, Saint John, N.B.

**Lecturer, Department of Urology, Dalhousie University, Saint John Regional Hospital.

Optic Neuritis and Multiple Sclerosis

Peter Poulos* and T. J. Murray,** M.D., F.R.C.P.(C), F.A.C.P.,

Halifax, N.S.

INTRODUCTION

Optic neuritis, an important cause of acute visual loss, has a characteristic clinical picture. Usually, the prognosis for visual recovery is excellent but the long-term prognosis is less certain. Most patients with multiple sclerosis develop evidence of lesions in the anterior visual pathway at some time in the course of their disease, usually expressed as optic neuritis. Thus, a present or past episode of optic neuritis may indicate future development of multiple sclerosis (MS); identification of such an episode is, therefore, very helpful in diagnosis of MS. This paper discusses the clinical features, diagnosis and management of optic neuritis as well as the controversy over whether patients with diagnosed optic neuritis have an increased risk of developing MS.

PATHOLOGY

Optic neuritis may be due to inflammatory, demyelinating or vascular changes in the optic nerve; each of these changes results in variable loss of vision. When the lesion lies anteriorly in the nerve, there is swelling of the optic disc (papillitis). When the lesion lies posteriorly in the optic nerve, the ophthalmoscopic appearances initially are normal (retrobulbar neuritis).

The usual pathological feature of optic neuritis is demyelination, with focal loss of myelin and preservation of the axon. A few fibers may undergo complete Wallerian-type degeneration;¹ thus, in mild attacks of optic neuritis, the nerve fibers are preserved with a minimum amount of scar tissue formation. When nerve tissue is permanently destroyed, as in the chronic lesion, astrocytic gliosis is present. The plaque of demyelination may appear to remain even though the patient improves clinically; it can be made symptomatic by raising body temperature. Remyelination may be limited in extent and usually is not complete, although the symptoms may have disappeared.²

CLINICAL FEATURES

Symptoms

The most common presenting symptom is the sudden onset of blurry vision, and another prominent symptom is pain in or around the eye, especially when looking to the sides. Pain may precede the loss of vision by a few days and persist until maximal vision loss is reached. The blurring of vision tends to increase over several days; the peak deficit is reached within a week. The patient may recognize that the deficit is in the center of the field and may report that when he looks at an object he cannot see it distinctly but that things around it seem clear.³ The patient may also notice that his colour perception is impaired. Occasionally there are

problems in judging distance.¹ Another less common symptom is flashes, or streaks of light in the periphery of the visual field, which are precipitated by eye movement (phosphenes).

Signs

The extent of impaired visual acuity depends on the severity of the attack and how long after onset the sight is tested. Often tenderness is elicited by pressure applied to the eyeball. Characteristically, the reduction of vision affects the centre of the field, although a wide variety of visual field defects may occur.³ The central scotoma is best tested by using a red object.

In most cases of optic neuritis, the ability to perceive and distinguish colours is affected on the involved side. The direct reaction to light is impaired, causing a sluggish pupillary response, but the consensual response is preserved. The degree of afferent pupillary defect can be illustrated by eliciting a Marcus Gunn pupil (This is accomplished by shining a light in the normal eye and then moving quickly to the affected eye). When the light is transferred to the involved eye, there is paradoxical dilation of the pupil because slowed conduction delays the light response.

If the optic nerve head becomes inflamed, as in papillitis, the ophthalmoscopic findings closely resemble those of papilledema. The disc is swollen and hyperemic, the margins are blurred and the vessels are dilated. Unlike papilledema, however, the abnormality is unilateral and disc elevation rarely exceeds two diopters in optic neuritis. The physiological cup is obliterated and fine diffuse opacities frequently appear in the overlying vitreous. There may be edema of the retina, particularly in the macular region.

If the lesion is more posterior, as in retrobulbar neuritis, the funduscopic examination will be normal (thus the statement, "The patient sees nothing and you see nothing"). Later evidence of this lesion behind the optic nerve head is the gradual development of pallor of the optic disc as scar tissue forms.⁴ If the lesion is sufficiently severe to destroy nerve fibres, optic atrophy can ensue. In mild cases, degeneration involves a pallor of the disc, limited to its temporal aspect (corresponding to the papillomacular bundle). In more severe cases, optic atrophy with a pale, flat, avascular disc appears, accompanied by loss of the physiological cup.

Temporal pallor of the optic disc is often regarded as a sign of previous optic neuritis. It is important to remember, however, that the normal optic disc is slightly paler on the temporal side and that this pattern is exaggerated in myopia. So nasal or whole pallor, when present, is a more reliable sign of past optic nerve damage.

INVESTIGATIONS

Examination of the optic disc and careful visual field testing are the most important procedures in optic neuritis diagnosis.

*Third-Year Medical Student, Faculty of Medicine, Dalhousie University, Halifax, N.S.

**Professor, Department of Medicine, Dalhousie University.

Mailing Address: Dr. T. J. Murray, Clinical Research Center, 5849 University Ave., Halifax, N.S. B3H 4H7

Demonstration of a decrease in acuity, a field defect or scotoma, or an enlargement of the blind spot is helpful in confirming the diagnosis. Measuring the visual evoked potential is a sensitive way to demonstrate a conduction disturbance, caused by demyelination in the optic nerve. Delay in the visual evoked potential is characteristic of optic neuritis, but is not specific to this condition or to MS. It merely indicates abnormality of the optic nerve which could be explained by other lesions, such as compression of the optic nerve. Lumbar puncture in isolated optic neuritis need not be performed since an elevation of cerebro-spinal fluid IgG is present only in about one third of patients.⁵

DIFFERENTIAL DIAGNOSIS

Characteristics of optic neuritis are: sudden onset of visual loss, ocular pain, central scotoma and a tendency for spontaneous visual improvements.

Several other diseases, however, must be differentiated from optic neuritis. Vascular diseases should be considered in patients over 40 years of age. Ischemic optic neuropathy presents with a swollen optic disc surrounded by linear hemorrhages; the visual field defect, however, is usually sectorial and this fails to improve spontaneously.⁴ Papilledema, due to increased intracranial pressure, usually produces only minor changes to the visual field, bilateral enlargement of the blind spot and slight constriction of the periphery. This is in sharp contrast to the significant unocular reduction of acuity and central scotoma of optic neuritis.

Leber's optic atrophy is an inherited disorder that may present acutely in a form indistinguishable from optic neuritis. It does, however, have several characteristics which may help in its identification: it is usually bilateral; it lacks spontaneous improvement; and a positive family history of the disease is usually found.

At times, compression of the optic nerve by a neoplasm may present with acute central visual field loss. However, improvement in visual acuity, usually within three weeks of onset, differentiates optic neuritis from a tumor.⁶ If visual impairment fails to improve after six weeks, a CAT scan should be performed to look specifically at the optic nerve-globe area, in order to rule out the possibility of a tumor.

Vitamin B₁₂ deficiency and alcohol-tobacco amblyopia produce a form of optic neuropathy, but in both cases the onset is more gradual than in optic neuritis and usually bilateral.

MANAGEMENT

After optic neuritis is diagnosed, the dilemma is then whether the patient should or should not be treated with systemic steroids or adrenocorticotrophic hormone (ACTH).

Patients with optic neuritis recover their vision more quickly if ACTH is administered. ACTH frequently produces striking relief of retrobulbar and ocular pain during the acute stage of the illness. There is, however, no evidence that treatment with ACTH prevents a subsequent episode of demyelination of the optic nerve.⁷ It is also unclear whether such treatment produces any significant difference in the degree of visual recovery.⁸

Some clinicians feel that the use of ACTH is justified because it shortens the recovery time and produces prompt

relief of pain, making the patient more comfortable.⁷ Others feel that treatment is not required since the majority of patients have an excellent prognosis for regaining their vision.⁹ Only a small number of individuals experience permanent visual deficit, and there is no evidence that treatment alters this outcome; this suggests that the use of ACTH may not have any long-term benefit.

One compromise is to refrain from using ACTH therapy when the condition is mild or when signs of spontaneous recovery are already evident. ACTH therapy is, however, recommended if both eyes are affected simultaneously, if the visual loss is very severe, or if a patient has unilateral optic neuritis and the vision in his other eye is poor.⁷ 80 units of ACTH should be administered intramuscularly or intravenously daily for 4 days, 60 units for 4 days and then 40 units for 4 days.

If patients with optic neuritis, who are selected for treatment with ACTH, decline to have this preferred ACTH therapy because they dislike the pain or the inconvenience of intramuscular or intravenous injections, then a short course of high-dose oral corticosteroids can be used. The dose of prednisone is 80 mg. daily for 4 days and then reduced by 5 mg. per day.

COURSE AND PROGNOSIS

Visual recovery usually begins within a few weeks after a visual loss and is complete within a month. Full recovery of vision occurs ultimately without treatment in more than 75% of patients.¹ It appears that the older the patient is at the onset of the disease, the less chance he has of a complete recovery.¹⁰ While the general prognosis for visual recovery is good, a certain degree of visual impairment may remain. This impairment, however, may be noticed only by careful examination. When the macular fibres are affected, a severe degree of visual incapacity may result. After recovery, a patient may notice that his vision becomes worse with exercise or when he takes a hot bath, although this is uncommon.

The risk of a recurrent attack of optic neuritis in the same or other eye is about 20%.¹¹

MULTIPLE SCLEROSIS AND OPTIC NEURITIS

About 40 to 50% of MS patients have a clinical episode of optic neuritis during the course of their disease.³ Patients who do not have such an episode, often show ophthalmoscopic evidence of damage to the optic nerve (optic atrophy). In 90% of clinically-definite MS patients, there is electrophysiological evidence of past optic neuritis.¹² Autopsy investigations have shown that almost all MS patients eventually have lesions in the anterior visual pathway.¹³ Optic neuritis may be the presenting symptom in 20% of cases of MS.¹⁴

An important aspect in the long-term prognosis of optic neuritis, therefore, is the likelihood of developing MS. There is great disagreement in the literature on the reported incidence of MS after an isolated episode of optic neuritis. Published incidence figures have varied from 13%¹⁵ to over 85%.¹⁶ Several factors may account for this variation, such as diagnostic criteria for MS and optic neuritis, length of follow-up used by the study and geographic differences in MS.¹⁷ The definition of optic neuritis appears to be the most important factor. In studies of patients with acute optic neuritis who show no evidence of lesions elsewhere in the

central nervous system suggesting MS, the reported rates are about 30%. In studies that consider all cases of optic neuritis, however, the percentages rise to 70%. In other words, if all patients presenting with optic neuritis were examined closely, up to 40% would have neurological evidence to suggest MS. There is evidence supporting the view that there is a benign form of MS which is more common in patients presenting with optic neuritis.^{1,18}

At present, there is no way of predicting whether a patient with isolated optic neuritis will develop MS. Recent studies have shown that patients with optic neuritis may have a genetic predisposition to MS. Typing of human leukocyte antigen (HLA) tissue has shown that MS is associated with the presence of HLA BT 101, HLA-Dw2, HLA-A3 and HLA B7.¹⁹ A recent report identified three factors significantly associated with the development of MS after optic neuritis: the presence of HLA BT 101, the recurrence of attacks of optic neuritis and the onset of optic neuritis in the winter months.²⁰ An individual possessing genetically predetermined antigens may have an impaired ability to handle infection by the possible MS causative agent. Most reports agree that factors such as age, sex, degree of visual loss and bilateral lesions do not alter an individual's chances of developing MS after optic neuritis.²⁰

SUMMARY

Optic neuritis causes visual loss or scotomas in one or both eyes and, in 75% of cases, may be part of a more diffuse demyelinating process (MS). Most individuals suffering from this disease improve spontaneously; ACTH therapy, however, may be helpful in clearing the symptoms faster if the vision is markedly involved or not improving. Every patient with optic neuritis should have a detailed neurological examination to determine whether this condition represents a presentation of MS. □

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Learning Survey of Maritime Physicians An Analysis of Comments

A. MacIntyre,* B.Sc., and L. Curry,** Ph.D.,
Halifax, N.S.

SUMMARY

A categorization and summary were undertaken of responses in a comment section of the Learning Survey of Maritime Physicians. The survey was mailed to all practising licensed physicians (N=2173) in the three Maritime provinces. The overall response rate was 62.1% or 1350 respondents. Of the respondents, 30.7% made comments which are content analyzed here. Comments clustered into two major types — one group supporting current CME programming levels, and a second group providing suggestions for improvement. A third and smaller group supported an increase in CME programming levels. All comments are currently being reviewed by the educational planners in the Dalhousie Division of Continuing Medical Education.

INTRODUCTION

Physicians should be able to choose the continuing medical education (CME) method most compatible with their own learning style. In order to ascertain what learning methods are preferred and practised by Maritime physicians (Nova Scotia, New Brunswick, and Prince Edward Island) a double blind learning survey¹ was conducted in the fall of 1979 by Dr. L. Curry and Dr. R. W. Putnam, Division of CME, Dalhousie University. The study was funded by grants from the Provincial Medical Board of Nova Scotia, the Medical Society of New Brunswick, and the Medical Council of Prince Edward Island. The overall response rate to the survey was 62% (N=2173).

The survey questionnaire consisted of three sections: the first focused on the learning method used to update knowledge and skills, methods preferred, and sources of information involved in altering patient management; the second elicited a range of demographic information: age, sex, type and amount of practice, size of community, and year of graduation. Analysis of these two sections has been reported elsewhere.^{2,3}

The third section of the learning survey asked physicians to list any comments and suggestions concerning CME, including any new and innovative ideas. Summarization and content categorization of these comments was undertaken and is reported here.

PROCEDURE

Out of the 62% (N=2173) of the Maritime physicians who responded to the questionnaire, 30.7% listed comments which are listed in Tables I. This represents 414 making comments from the 1350 who returned questionnaires. A

*Second-Year Medical Student, Faculty of Medicine, Dalhousie University, Halifax, N.S.

**Assistant Director for Research, Division of Continuing Medical Education, Dalhousie University, Halifax, N.S.

random sample of the responses (N=120) were analyzed individually in order to prepare a draft categorization system. Upon complete analysis of all the responses, the draft scheme was modified to become the categorization scheme as outlined in Table I. The purpose for this modification was to focus on areas pertinent to CME. While striving for a brief categorization scheme, all efforts were also made to create a comprehensive system that would reduce the number of comments appearing in the "other categories in Table I. All components of the individual responses were then placed into the appropriate categories and subcategories. The total number of the responses in each category and subcategory was determined and expressed as percentages of the total number of questionnaires returned (Table I). A large percentage of those making comments gave more than one comment.

All returned questionnaires were identified by code numbers, representing a physician in the double blind study. The key, matching physician to code number, was and is being held by the accounting firm contracted for this service. None of the researchers had or will have direct access to the code. This elaborate system of insuring continued confidentiality was made clear to participants at the time of response to the questionnaire, perhaps encouraging further candor in replies.

CONTENTS OF THE CATEGORIZATION SCHEME

Section 1 and 2 of Table I presents responses relating to the programming levels of CME. Section 1 contains responses which support the current programming levels of CME. The categories in this section correspond to the various programs presently offered by CME. For clarification, category (d) refers to any library services currently available including audio-visual tapes. Category (e) contains all responses which state satisfaction with present CME without mentioning any particular programs. Section 2 deals with comments suggesting an increase in current programming levels of CME.

Section 3 contains general complaints in categories relating to the survey questionnaire, CME, barriers to organized CME, and miscellaneous complaints.

Sections 4 and 5 attempt to categorize specific suggestions where possible. Section 6 contains comments dealing with the medical specialities.

RESULTS

Most of the comments offered about CME tend to be supportive of current programming levels with the exception of community based individual sessions (library services), where a slight majority of comments suggest increased quantity and access to audio-visual tapes. Some suggestions included more tape monitors at local hospitals and a cable

TV (private circuit) CME channel with daily lectures and clinical conferences.

Complaints about CME ranged from being simply against the idea of CME to the comment that CME facilities are poorly used. Barriers to CME functions including cost, time,

and travelling distances were stated by only 1.8% of respondents. Poor symposia and conventions, overly specialized clinical days, and lack of knowledge concerning drug uses by detailmen, were among the miscellaneous complaints offered. Complaints about the survey itself were made by 2.9% of questionnaire respondents.

TABLE I
SUMMARY OF COMMENTS

	Number of Comments	% of questionnaires Returned (1350)
1. Supporting Current Programming Levels:		
(a) University based group sessions (refresher courses, short courses).	55	4.1
(b) University based individual sessions (clinical traineeships).	33	2.4
(c) Community based group sessions (Community hospital programs)	32	2.4
(d) Community based individual sessions (library service)	28	2.1
i. Audio-visual tapes	(23)	(1.7)
(e) Satisfied with present CME	15	1.1
TOTALS:	163	12.1
2. Increase Current Programming Levels:		
(a) University based group sessions (refresher courses, short courses).	11	.8
(b) University based individual sessions (clinical traineeships)	4	.3
(c) Community based group sessions (Community hospital programs)	13	1.0
(d) Community based individual sessions (library service).	34	2.5
i. more audio visual tapes	(11)	(.8)
ii. more access to tapes	(11)	(.8)
iii. other (concerning tapes)	(7)	(.5)
iv. closed circuit or cable T.V.	(5)	(.4)
TOTALS:	62	4.6
3. Complaints in General:		
(a) About the survey	39	2.9
(b) About CME	6	.4
(c) Barriers to organized CME (cost, time, distance)	24	1.8
(d) Other (miscellaneous)	11	.8
(e) Irrelevant	2	.2
TOTALS:	82	6.1
4. Facilitative Suggestions:		
(a) Financial	84	6.2
i. Tax deductability	(53)	(3.3)
ii. Financial assistance (unexplained)	(12)	(.9)
iii. Allotments and reimbursements	(9)	(.7)
iv. Specific suggestions	(10)	(.7)
(b) Locums (Exchange or Replacement Programs)	12	.9
i. Specific suggestions	(6)	(.4)
TOTALS:	96	7.1

5. Suggestions:

(a) Teaching sessions		
i. Content in general	24	1.8
ii. Specific courses or topics	33	2.4
iii. Duration	16	1.2
iv. Quality of lecturing (Complaint)	2	.2
v. Small groups	12	.9
vi. Request foreign lecturers	9	.7
vii. On weekends	7	.5
viii. Other	20	1.5
(b) Clinical traineeship		
i. Shorter	9	.7
ii. Longer	3	.2
iii. Other suggestions or complaints	12	.9
(c) Self Assessment	7	.5
i. Specific suggestions	(5)	(.4)
(d) Re-examination program	6	.4
i. Specific suggestions	(3)	(.2)
(e) Newsletters	7	.5
(f) Journals	6	.4
(g) Other	80	5.9
TOTALS:	253	18.7

6. Specialist:

(a) More specialist CME in Maritimes	39	2.9
i. State specialty requested	(25)	(1.9)
ii. Other suggestions	(4)	(.3)
(b) In favour of obtaining specialist CME outside Maritimes	6	.4
TOTALS:	45	3.3

Most facilitative suggestions concerned finances. Tax deductibility was the primary concern, but government allotments and reimbursements were also mentioned. Specific suggestions included a tax shelter fund for sabbaticals and the setting up of a foundation to cover the cost of visiting specialty speakers. Locum suggestions included a CME sponsored list of replacements for those wishing to attend sessions, and residents exchanging temporarily with local physicians.

Suggestions about the content of CME teaching sessions were to increase the emphasis on unsuccessful cases rather than "slick cases", preventive medicine, and on basic medicine. The most requested courses were ophthalmology, psychiatry, and occupational medicine. The suggestions on duration of teaching sessions ranged from three days of lectures to 6-12 months in academics every 5-7 years. Most suggestions ranged from five days to two weeks. Better lecturers, smaller groups, foreign lecturers, and weekend lectures were mentioned. Other suggestions included evening courses, better advertising, and more lectures outside of Halifax.

Requests for shorter clinical traineeships ranged from 2-7 days while requests for longer traineeships ranged from 30 days to one year. Specific comments included better advertising, better organization, that traineeships were a waste of time, and that department heads make entry into the program difficult. One comment stated that there should be mandatory clinical traineeship (3-6 months every 10 years)

for those who practice in small and medium sized cities where either they are alone or work with one or two others.

Mailing medical questions with answers and regular examinations to show weaknesses were suggestions about self-assessment. Only six comments related to any compulsory re-examination or recertification programs.

Other specific suggestions represented a wide diversity: more involvement of Provincial Specialty Societies in CME, more resource personnel to help physicians get information, "call consult" service, home computer programmed learning, compulsory CME, more contact with active researchers and research facilities, and less advertising on audio-visual tapes. Suggestions pertaining to newsletters and journals included: circulation in abbreviated form of materials presented by guest lecturers, newsletters on latest drugs and management, the idea of local journal clubs, improved specialty review journals, and an improvement of journal articles.

Most specialists requested more specialist CME in the Maritimes with a few in favor of obtaining their CME outside the Maritimes. More workshops and short intensive courses were suggested by specialists for their own CME.

DISCUSSION AND CONCLUSIONS

A summarization and content categorization of the Learning Survey comments were possible. The results can be separated into three response groups with a large group

supporting current CME programming levels. A second large group of responses give their personal suggestions for CME improvement while a third and smaller group support a general increase in CME programming levels. A large number of responses show concern about CME teaching sessions and tax deductibility. This latter concern should be ameliorated by the recent change in the Federal Income Tax Act which allows greater tax deductibility for involvement in CME programs.⁴

The comment section of the Learning Survey was entirely open-ended and did not inquire about any particular CME program. Therefore this comment compilation cannot be accepted as conclusive or exhaustive but rather as suggestive of the views taken by the general population of the Maritime physicians regarding CME programs. However, nowhere else in the Learning Survey was there an outlet for qualitative information involving personal opinions and suggestions. We, therefore, found it valuable and instructive to conduct a serious content analysis of these unsolicited opinions. All categories of comments are currently being reviewed by Dalhousie CME planners in an effort to translate their significance into policy. □

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Is fitness Important? Ask any body.

Maritime Organ Retrieval and Exchange Programme

The Victoria General Hospital together with the support of the Kidney Foundation of Canada has recently started a programme called Maritime Organ Retrieval & Exchange. The prime objective of the programme is to make more kidneys available for more people. A Co-ordinator, Gillian Houghton, has been appointed to administer the programme and the aims of the co-ordinator are to assist all hospitals in:

1. Providing more kidneys for more people.
2. To facilitate organ donation by non-transplant centres.
3. To maximize utilization of available organs for transplantation.
4. To facilitate donor investigation for live donor transplants.
5. Increase physician awareness.
6. Increase public awareness.

The above programme should enable a better liaison between hospitals in the Maritimes and the Victoria General, plus great hopes of being able to encourage all physicians and nursing staff, together with hospital administration to participate in the encouragement of families to donate their kidneys, by the signing of drivers licence (all drivers licences issued within the next three years will have an organ donation section included), the Kidney Foundation donor card, or the hospital donor forms.

The Victoria General Hospital has been performing kidney transplants since April 1969, and has carried out 300 transplants to date. Since January of this year (1980) the hospital has performed 43 transplants. The list of recipients does not seem to get any smaller, and it appears more and more people are being admitted to hospital with end-stage renal failure. Some patients are not potential transplant candidates because of their age, desires, or other extenuating medical factors. □

More kidneys are required now for transplantation than ever before. The population base of dialysis patients is constantly growing. While the number of transplants have increased, they have not kept pace with demand.

The need for cadaveric kidneys in the Maritimes is critical — we urge you to give this programme your full support so that many of these people on the waiting list may be able to lead a more normal life — a life free from the medical, social and financial restrictions of the artificial kidney, and be able to participate in the every day pleasure of living that we as healthy people take for granted.

A series of visits is currently being planned with regard to the above in the immediate future.

The Co-ordinator and staff of the Maritime Organ Retrieval & Exchange Programme are available 24 hours a day and may be contacted through locating at the Victoria General Hospital switchboard (428-2220)

Alternatively I am available at the following numbers:

Telephone 428-2637
Air page 453-2640 Beeper #174

Ms. Gillian Houghton,
Transplant Co-ordinator,
Maritime Organ Retrieval & Exchange Programme,
Renal Transplant Unit,
Victoria General Hospital,
Halifax, N.S.
B3H 2Y9 □

Length of Stay on a Psychiatric Unit*

Charles J. David,** M.B., F.R.C.P.(C). and Kenneth Hall,† M.D., F.R.C.P.(C),
Halifax, N.S.

The availability of hospital beds in urban areas is a constant problem not peculiar to Canada or Nova Scotia. In keeping with what is commonly found on other services and in other hospitals, we have a very large waiting list for hospital admissions. The recognition of this problem led us to undertake a study of bed utilization on the Psychiatric Unit of the Victoria General Hospital (VGH), which is a major teaching hospital in Halifax. It is affiliated with Dalhousie University Medical School and functions also as the central referral hospital for the Province of Nova Scotia, which has a population of approximately 800,000. Referrals are made either directly by the family doctor, psychiatrist, or from the outpatient clinic and Regional Mental Health Clinics. There are nine of these clinics serving various county areas and their location in relation to Halifax is shown on Fig. 1.

In considering the matter of bed utilization we asked ourselves several questions: 1) What is the relationship between ambulatory psychiatric services and inpatient bed

utilization? 2) Is it possible to define the standard length of stay for all common conditions? 3) Do the patients who are admitted to the hospital with specialized personnel and facilities require this kind of care? 4) Does the teaching role of the large general teaching hospital affect bed utilization? 5) What types of problems are encountered by the geographically more peripheral general hospitals or mental health clinics making it necessary for them to refer their patients for this special kind of care?

THE STUDY

A study of bed utilization was carried out on the Inpatient Psychiatric Unit for two consecutive months. The VGH Inpatient Psychiatric Unit has 31 beds of which 16 are "service" and 15 are "semi-private". Approximately 28 to 32 patients are admitted to the ward on a monthly basis, and approximately a similar number are discharged. All patients are considered "teaching cases" and they are treated by a

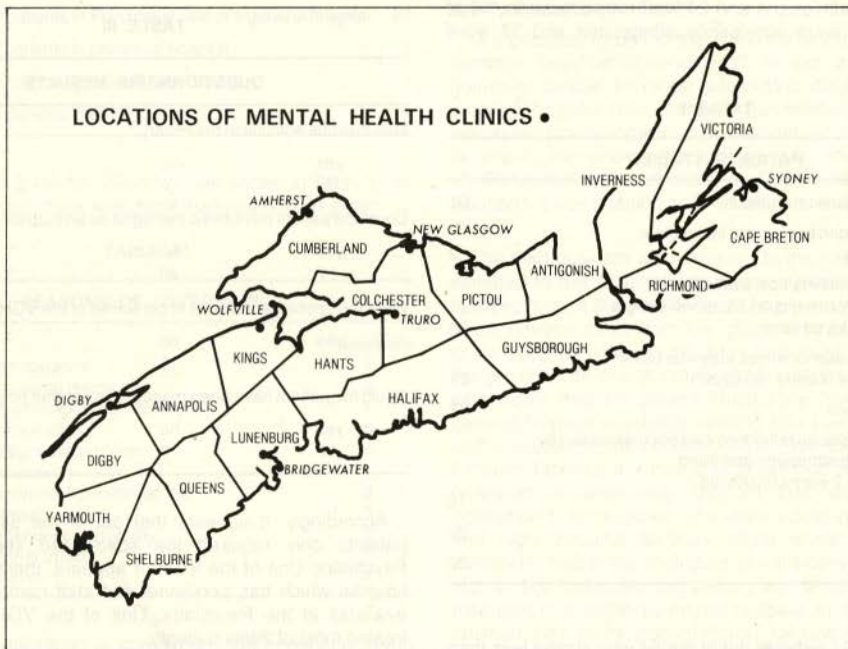


FIGURE 1

*Presented at the World Psychiatric Congress in Hawaii, September, 1977.

**Associate Professor, Department of Psychiatry, Dalhousie University, Victoria General Hospital, Halifax, N.S.

†Associate Professor, Department of Psychiatry, Dalhousie University, Victoria General Hospital, Halifax, N.S.

staff psychiatrist and one house staff who is either a clinical clerk (4th year medical student), an intern or a resident. Additional members of the team include members of the nursing staff as well as social workers, psychologists, occupational therapists and recreational therapists.

A form was used to collect information relevant to each patient admitted from the first day of January through to the last day of February, and contained the identifying and other data which was felt relevant for our study. The staff psychiatrist was required to complete this form for each patient on the day of admission, estimating the length of stay in days that the patient would likely remain in hospital and noting pre-admission investigation that had been completed. At the end of the patient's stay in hospital, the staff psychiatrist was required to complete the form relating to those patients for whom he had responsibility. This was done as candidly and honestly as possible, stating the reasons for overstay cases where appropriate and whether this was indeed "over utilization", and giving reasons for re-utilization where such was the case. The psychiatrist was also asked to note the reasons for overstay in days which could be ticked off on the form in area B, for example, investigation delay or weekend inactivity, or delay in decision making, delay in arranging discharge, etc. In addition to the study, every psychiatrist was required to complete an overstay form for every patient who remained in hospital beyond 28 days. The completion of this form is part of hospital policy.

THE DATA

The total number of cases admitted during the study was 56. Two of these patients were not included in the study because data provided by their forms was incomplete. The breakdown of this data is given in Table I. 29 cases out of the 54 were new admissions and 24 were re-admissions; 16 of these patients were emergency admissions and 37 were elective.

TABLE I

PATIENTS STUDIED	
Total number of patients studied	56
Patients not included because of incomplete filling out of forms	2
Total number of patients now studied out of which 11 cases were overstay cases involving a total of 456 overstay days	54
Total number of patients whose stay was below the estimated time (saving "80 days")	21
Elective admissions	37
Emergency admissions (after they had been assessed by the psychiatrist on admission and filling out the form, only 2 were considered emergency)	16
New admissions	29
Readmissions	24

There were 21 patients out of the 54 who stayed less than the estimated time, "saving 80 hospital days". A total of 22 patients were clear overstay cases involving "451 overstay days". Two of these cases did not have an estimated stay clearly stated so we selected the maximum length allowed by the hospital, namely, 28 days. According to the completed forms, only four patients had had pre-admission investigations. On the other hand, all patients had had some investigation performed while in hospital.

TABLE II

INVESTIGATIONS

a) Pre-Admission Investigation:	
Total patients who had complete investigations (according to completed forms, out of which 1 had social service; 1 had x-ray, and 2 "not elaborated on".)	
b) Hospital Investigations:	
When committee surveyed the charts, we found that all 54 had been investigated while in hospital. The following is the breakdown of the testing:	
Psychological Tests	18
Social Service	18
E.E.G.	18
X-ray	30

The opinion of the staff psychiatrists indicated that 50 patients required admission to hospital. In 11 instances, it was felt that the patient could have been managed as an outpatient and, in three cases, it was not clear in what facility they could best have been managed. The interesting part of the study was that while in 46 instances the psychiatrist felt the patient should have been admitted to the VGH, it was felt that in 44 instances these patients could have been managed in another facility, the commonly listed one being a psychiatric unit in a general hospital in the community.

TABLE III

QUESTIONNAIRE RESULTS

Was hospital admission necessary?	yes	no	
	50	4	
Could the patient have been managed as an outpatient?	yes	no	?
	11	40	3
Were the special techniques of personnel of the VGH needed?	yes	no	?
	46	8	—
Could the patient have been managed in another hospital?	yes	no	?
	44	7	3

Accordingly, it appears that out of the 54 patients, ten patients only required the specialized services of the Psychiatric Unit of the VGH. It appears, therefore, that any hospital which has personnel and staff comparable to that available at the Psychiatric Unit of the VGH, could have treated most of these patients.

PATIENT DISTRIBUTION

The patients involved in the study came from the following geographic areas: 18 came from Halifax, four came from Dartmouth, 14 were from surrounding county areas, while 18 were from areas further afield — generally in excess of 75 miles. In the two months of our study, there were no admissions from outside the Province of Nova Scotia.

TABLE IV

DISTRIBUTION OF PATIENTS	
Halifax City	18
Dartmouth	4
Halifax County	14
Other Parts of N.S.	18
Outside of N.S.	None

WHERE SHOULD PATIENTS BE TREATED?

In the opinions of the psychiatrists, 27 patients could have received care on a psychiatric unit of a general hospital, whereas in five cases the best facility for patient care could have been the provincial hospital. At least one patient required the services of a rehabilitation centre and one case required long term physiotherapy. From these data it appears that 19 patients required the special techniques and services provided by the psychiatric unit of a general teaching hospital.

TABLE V

ALTERNATE TREATMENT CENTRES	
What Other Facility in N.S. or V.G.H. Could Have Provided the Psychiatric Care?	
Total number of patients in Psychiatric Unit of a general hospital	27
Total number of patients in provincial hospital	5
Total number of patients in rehabilitation centre	1
Total number of patients in physiotherapy	1

The reasons given for "overstay" are shown in Table VI. In several instances, there was more than one reason given.

TABLE VI

REASONS OF "OVERSTAY"	
Reason	Numbers
1. "Sicker than apparent"	8
2. Delay in arranging discharge	4
3. Delay in Psychological testing	1
4. Delay in consultation	4
5. Complex diagnostic problem	4
6. Failure of treatment	5
7. Reaction to drugs, flu epidemic, etc.	6
8. "Severe illness"	3
9. Marked dependency on facility	2
10. Reasons, other, misc.	5
11. No reason given	4

As far as re-utilization is concerned, the commonly given reason was "recurrent illness".

DISCUSSION

Alex Richman and Henry Pinsker¹ state that psychiatric hospitalization is intended to achieve many complex objectives: "treatment goals may include improvement of symptoms, evaluation of current social and therapeutic options, and preparation of a sound plan for continuing care after

discharge. Personality change and complete rehabilitation are not expected, but patients are involved in an extensive programme of therapeutic activity while they are hospitalized". It is within this general context that we wish to discuss the results of our study and attempt to answer the questions that we have raised.

The results of our study indicate that some of the problems are related to ambulatory services. Only four of the patients who were admitted to the ward had pre-admission investigations. Our evaluation sheets suggested that 11 of the patients who were admitted to the hospital could have been managed as outpatients. The implications of this statement are not obvious but one suspects that a primary reason may be a deficiency of ambulatory care services available through the outpatient and other available community facilities. In relation to our patients again, we have reported in Table II that all admitted to the Psychiatric Unit were investigated in some way while in hospital. This suggests there should be a pre-admission outpatient assessment as a requirement for admission in elective and semi-urgent cases. It appears that a weak ambulatory care centre will put additional loads on the inpatient psychiatric unit. If the ambulatory care unit facility provides only an initial assessment and little active treatment or therapy programmes, the load again will be even greater; conversely, an improved ambulatory centre involved in assessment, chemotherapeutic programmes, ECT, lithium clinics and various modalities of psychotherapy, will improve the "sorting out" of patients who need psychiatric hospitalization.

Is it possible to define the standard length of stay for all common psychiatric conditions? In our study we were generally unable to relate psychiatric diagnosis with the length of hospital stay. Rather, it was related to a number of individual, psychological, interpersonal, and environmental factors. An exception to this finding existed with the diagnosis of Endogenous or Involutional Depression. With these disorders it was possible to forecast reasonably the length of stay.

The third question we asked is: Do the patients who were admitted to this hospital with its specialized personnel and facilities require this kind of care? As previously indicated, 14 of our patients came from the county area in close proximity to the hospital, whereas 18 came from more distant parts of the province. In many instances, it was the opinion of the psychiatrist that the patient could have been treated in a general hospital psychiatric setting that had personnel and staff equivalent to those in the VGH. This suggested a need for such facilities in other county general hospitals, or the provision of community facilities that would allow the admission to be avoided. The latter would include day care and night hospital facilities which would offer different treatment modalities including electro-convulsive therapy, etc. In five instances the patient would have been better managed in a provincial mental hospital. In one instance the optimum care for the patient could have been carried out at a rehabilitation centre and in one instance the patient needed ongoing physiotherapy.

Further to the question of providing similar staff and facilities in county hospitals, it is generally considered highly advisable to treat the patient in his own community. General hospitals in the various counties have as yet not initiated movement in the direction of planning psychiatric units. Where such units exist they are not adequately staffed by

psychologists, social workers, psychiatric nurses, etc. If one is to prevent over-utilization of existing services of a large teaching hospital, the needs of psychiatric patients in the various counties need to be recognized and appropriate measures taken to introduce facilities which will best fulfill these needs. We have found that in spite of our being aware of the admission of many patients from various counties, we have been able to do little to prevent this. Further, we would be failing as psychiatrists if we were not to continue to provide this service to the community.

In considering the role of the Psychiatric Unit of a large general teaching hospital, it was felt that a very important consideration in a study of bed utilization in this type of facility is the matter of the provision of the teaching material itself. Another consideration is that the teaching role is in direct conflict to the service role, where the expectation is for the most rapid and efficacious treatment possible. It is at best an extremely complex area and the solutions are not simple. Some hospitals have attempted to deal with it by defining administrative policy governing admissions to psychiatric units in a teaching hospital. Henry Pinsker *et al*² state, "Administrative decisions are often based on sound clinical experience or desire to improve patient care. At times, however, they are based on controversial or undocumented theoretical assumptions".

CONCLUSION

The utilization of general hospital beds in a Psychiatric Unit is only one facet of a larger problem of psychiatric services available in a given community. Appropriate ambulatory facilities in the various areas, and inpatient facilities in the more peripheral geographic areas, are significant factors that affect utilization. When these facilities are not provided or the provision of facilities is inadequate, then undue strain is placed upon the bed complement of the teaching hospital. Patients with complex problems involving emotional and physical ill health require unique services. These involve consultations with other specialties and sub specialties which may help in the diagnosis and treatment of some of the more obscure and difficult problems. A teaching service in a university centre can meet the health care needs of these patients.

It would be useful to develop a systematic procedure for stating attainable therapeutic goals, attempt to make predictions about the time required to obtain them, and to evaluate care in terms of whether they have been met.

Strengthening the ambulatory component of the hospital facility will most certainly decrease the demand particularly if pre-admission assessment criteria are better developed and all modalities of therapy are available with the extended facilities of observation units in emergency rooms and day and night hospitals.

Most authorities agree that utilization is not the same as an audit of the quality of care. Utilization review is intended to reveal whether the hospital policy is being carried out with regard to efficient use of the facilities.

Our efforts at evaluation of utilization have led to the development of a pre-admission assessment form that has to be completed by the psychiatrist and practitioner who refer patients to our facility. This has allowed us to screen the patients better and has provided important communication about the patient prior to his or her admission. It helps us to

predict the amount of time required in many instances and is merely one method of attempting to deal with this extremely complex issue.

In attempting to solve the problem of "bed utilization" it would be more productive if efforts were made to strengthen those links in the chain of psychiatric and health services which are presently weak. Focus must be placed on the services provided by ambulatory centres, county mental health centres, general hospitals in the province or state and the types of community services available. □

ACKNOWLEDGEMENT

The assistance of Ms. Ruth Sutherland, R.N., is gratefully acknowledged.

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To the Editor:

Most of us are probably aware that both sides of our bodies are not completely symmetrical. I myself am especially aware of this when it comes to buying shoes in that the left consistently feels tighter than the other. This is a fact of life that is accepted but what of the person who for one reason or another has feet that differ enough that two pairs of shoes must be purchased. It is my understanding that shop owners are not sympathetic to this problem and reluctant to sell unmatched shoes so that the buyer ends up with discarding two perfectly good shoes.

It would seem logical to compile a list of people that have feet of unequal sizes and attempt to match individuals that require the same combination but for opposite feet. Persons matched on the basis of age, life style and type of footwear could make arrangements to shop together or simply exchange shoes. I could envision this as being particularly useful to parents of small growing children who frequently have to buy shoes.

My purpose in writing this letter is to get an idea of just how many people in the Nova Scotia area would benefit from such an organization. If response is favourable efforts will be made to begin such a programme. All replies may be addressed to:

Mary Jane Henderson
Second-Year Medical Student
Box 135
Sir Charles Tupper Building
Halifax, N.S. B3H 4H7

To the Editor:

The last Federal budget extended the MURBS program, which was previously due to come to an end. This program allows investors to write off any capital depreciation and other losses on multi-unit residential buildings, such as duplexes and apartment buildings, against their earnings from other sources.

While I claim to have no particular expertise in this area, as a member of the Membership Services Committee of the Medical Society of Nova Scotia during the past two to three years, and from a number of other sources I have gained some information. It seems to me that the rental housing market is at present in a somewhat tenuous state. The cost of construction is such that the profitability of some apartment buildings is, at the best, frequently marginal. Rent controls, where these apply, also do not help. I would therefore suggest that physicians exercise *extreme caution* before investing in this program. They should make quite certain that they get adequate independent professional advice before allowing themselves to become involved. I think that a number of physicians have invested money in these projects, assuming that this would be their only commitment. It is only later that they find that they are called upon to make additional contributions to keep the building financially viable. Often they were not told of these possibilities when they were originally approached.

Many factors apply in the rental situation — the location of the building, the calibre of the property management, etc. Even with well located and well managed buildings, it would seem that with the present economics of rental housing an unduly high occupancy rate has to be maintained even to break even.

It is important to realize also that an investment should be made, at least in part, on the business prospects of the project, and never entirely because of tax savings. This is well illustrated in the case of films, where a 100% tax deduction can be made in the year of the investment. Suppose the taxpayer invests \$1,000 in a film which flops completely. He has lost \$1,000. Assuming a tax rate of 50%, he can console himself by the fact that in any case he would otherwise have had to have paid \$500 in tax on this \$1,000. On the other hand, had he not made the investment, while he would indeed have had to pay \$500 in tax on his \$1,000 income, at the end he would at least have had \$500 in his pocket.

Obviously, individual circumstances will vary. It is therefore not being suggested that no physician should ever invest in any MURBS program. However, he is advised to do so only with great caution and with adequate independent professional advice.

Yours sincerely,

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In 1978, a number of American, British and Canadian editors of medical journals met in Vancouver, to establish a common format for the submission of papers, and their deliberations resulted in the "Declaration of Vancouver". The Editor and the Editorial Board of the *Bulletin* have decided to adopt this new format, beginning in 1981, and the changes are chiefly in the style used for citing references.

The entire manuscript should be typed double-spaced on one side only, with generous margins on all four sides. Tables should not be included in the text but typed on separate pages, as should the references and the legends for any figures and illustrations.

Non-metric units should not be used in scientific contributions. Parts of the SI system are controversial or unfamiliar, especially concentrations of substances, gas tensions, blood pressure and radiological units, so that authors should provide conversion factors. Abbreviations should be defined when first mentioned and, if numerous, the author should provide a glossary which will be printed separately in a prominent place in the article.

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e) **Discussion** — emphasize new and important aspects, and the conclusions that follow from them. Recommendations, when appropriate, may be included.

f) **Acknowledgements** — only those persons who have made substantial contributions to the study.

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Personal Interest Notes

Medical Researchers at Dalhousie University are getting help from former graduates of the Faculty of Medicine. A cheque for \$50,000, subscribed by members of the Dalhousie Medical Alumni Association was presented by Association President, Dr. Douglas C.S. Brown, Halifax, paediatric orthopedic surgeon to William M. Sobey, Chairman of the Board of Directors of The Dalhousie Medical Research Foundation, early in March.

An appeal to help the ailing body of medical research in the Maritimes was launched late in 1980 through a letter from Dr. Carl Tupper, obstetrician and gynecologist, then President of the Alumni Association. He wrote: "In recent years, Dalhousie University has lost a number of excellent, highly motivated research workers, either for 'greener pastures' elsewhere, or out of research altogether. The loss to Dalhousie of this manpower is tragic, but often understandable. You are probably aware of the drastic cuts in federal funding of medical research over the past several years, but perhaps you do not know that Dalhousie is the only Canadian medical school which receives no provincial funds for medical research."

The \$50,000 given to the Foundation represents the sum of early donations; money is still being received. The Foundation was established in 1978 with a vigorous Board of Directors under the Chairmanship of Mr. Sobey, former Mayor of Stellarton and a member of the Sobey business empire. The Foundation aims to raise \$10 million and has already raised \$2,560,000 towards that end.

In March, the Foundation awarded scholarships to three first year students of merit amounting to \$7,000 each over a two year period; and made its first major awards of associateships to two world class research scientists. They are: **Dr. Hinrich Bitter-Suermann**, a transplant surgeon at Georgetown University, Washington, D.C. and **Dr. Max Cynader**, Associate Professor in the Departments of Psychology, Physiology and Biophysics, Dalhousie University.

Dr. Bitter-Suermann has a special interest in the field of immunology and in grafting spleen, pancreas, lungs and heart. He receives the Bruce and Dorothy Rossetti Scholarship for Cancer Research bequeathed to the Foundation by the late Sydney, Cape Breton engineer. He will be associated with staff members of the recently opened transplant unit at the Victoria General Hospital, Halifax.

Dr. Cynader is engaged in research into the problems of strabismus and amblyopia, and he receives the first Dalhousie Medical Research Foundation Associateship to be awarded.



Dr. Douglas C. S. Brown, president of Dalhousie Medical Alumni Association (right) presented a cheque for \$50,000 subscribed by the Alumni to William M. Sobey, chairman of the board of directors of The Dalhousie Medical Research Foundation which in two years, has reached \$2,560,000 towards its goal of \$10 million. Miss Barbara Blauvelt, secretary treasurer of the Association looks on. (Photo by Castle). □



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