

THE NOVA SCOTIA MEDICAL BULLETIN

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The Physician and Accessibility

A recent short article in the *Bulletin* by a rather angry consumer was a demonstration of the increasing expectations of a rather disenchanted public. Most of the article dealt with our inability to run our offices on time, but was also an example of a public that has been led to expect "what they want, when they want".

The government, in more prosperous times had attempted to give the voter or patient just this wish. With increasing budget restrictions, both we the physicians and the government are left to seek other alternatives. Interestingly, no Nova Scotia doctors wrote to object to the demand of a strictly scheduled office by the irate writer. Perhaps, we recognize the basic courtesy of respecting the time of our patients and realize it to be part of the contract we have when we organize our appointment system. Surely, some explanation and apology is deserved to our patients who are made to wait. We must remember that it is only recently that demand and "free physician time" allowed most offices to be run by appointment only.

Also, we might tend to forget that our contract with patients and society is much more complicated than running our office on time. Babies don't come by appointment (most anyway) and often force rescheduling or at least some patients to wait. Emergency visits and detentions in hospital, while rare, must take priority over the walking well on our appointment calendar. Also the nature of the practice of medicine itself must be taken into account, in that we are attempting to meet a broader range of needs and a broader range of the public than has yet been met by such as lawyers and dentists. They have not been "given" to the public as we have been.

A large part of that public is still not able to cope well with the strict appointment system. Industries attempting to employ poorly educated, lower socioeconomic groups have great trouble demonstrating to those people the need to show up on time and regularly. Why then are we surprised that a number of people in our office booked for 9:45 a.m. show up at 11:00 a.m.? (Usually the same time as the more demanding punctual person who then becomes sure you are double booking patients for your own economic end). More numerous than we would like to believe, this subculture of people have often been forced to our Emergency Departments or Walk-In Clinics. We thus deny them the same continuing relationship we deem valuable for our other patients.

If it is true that up to 10% of the public is illiterate, we must understand what disadvantages these people might have with appointment times and planning for basic medical needs. The appointment system rapidly self selects for a relatively educated, responsible, appointment oriented practice, with people capable of postponing immediate needs or who have control over their own time. The depressed, anaemic, welfare mother, who brings two sick children to see you in a ten minute appointment, is not trying to drive you crazy or ruin your office. She has needs.

The actuality and the tragedy found in family practice is difficult to schedule. Patients die at home, threaten suicide, attempt to leave hospital before treatment is complete, usually just before or during a fully scheduled office. A routine Pap smear may turn into a crisis with the patient relating sexual abuse, a dissolving family or severe depression. Attempts to push these people into time spots in the future often isn't good medicine or even efficient, let alone possible. No apology is really necessary for the inconsistencies in practice, but polite explanations are not to be neglected. Patients should see that we are concerned about their time, and that we make every effort to meet our appointment schedule. Long ago we discovered that one doctor cannot meet all the needs of all the people, and by grouping together, and with proper organization, needs can and should be met efficiently.

At the present time the evidence suggests we are not doing this as well as we could. Our Emergency Departments are seeing the walking well that we fail to see in our "by appointment only" offices. Walk-In Clinics and house call services are springing up to meet the need for convenience that patients are

demanding and often not getting. The home care "non system" of the province documented in the Home Care Report in this issue, has been difficult to mobilize in the past. Perhaps this report will help solve some of those problems. The establishment of the newer Walk-In Clinics also deserves some comment.

Appointment Only, 9 to 5 offices, have left a gap in the health care delivery system. The governments have not pushed us to fill this gap perhaps because the more available we make ourselves to the public, the more the system costs them. There will be more people seen for more minor problems more frequently if access and availability are increased. Convenience then has a price which should be monitored, not only in monetary terms but in quality of care. Our present inability to monitor this quality is what leads to the evolution of a system, stressing convenience rather than complete primary care services. Quality, while difficult to measure and explain to patients should include follow-up of simple and complicated problems, complete examinations, screening procedures, preventive care, supportive psychotherapy and hospital care. Without all these, continuity of care is discouraged and duplication of services and increased health care costs can result. Fragmentation of the patient's medical records, and weakening of the important physician/patient relationship may also result.

One cannot condemn Walk-In Clinics that attempt this full range of services to patients. The challenge however is to meet patient demands and also our own professional standards and personal needs. It would be unfortunate if we were to sacrifice some of the quality in our medical system for the convenience our patients seem to desire. □

J.F. O'C.

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YOUR GUIDE TO FINANCIAL FREEDOM

Banting and Insulin: A Personal Appraisal of the Bliss Books*

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Since the discovery of insulin in 1921-22, numerous articles and news stories have recounted the history of that event. Four books recorded the story in detail, Seale Harris¹ and Lloyd Stevenson², both in 1946, and recently Michael Bliss in two volumes: *The Discovery of Insulin* in 1982³ and *Banting, A Biography* in 1984.⁴

After a mildly favourable comment on the books of Harris and Stevenson — “neither was a bad book for its time” — Bliss says that they were “seriously incomplete” because the authors did not have access to documents available to him. William French, reviewer for the *Toronto Globe and Mail*, calls Bliss’s second book “the definitive biography”.⁵

How does Banting fare in this Bliss biography? To quote the review by William French again:

“Frederick Banting was not a great scientist or even a very good one. . . wife beater, compulsive drinker, paranoid, a prickly driven man whose emotional life was a mess. . . At times Banting’s capacity for being a horse’s ass seemed almost unlimited”.

Ken Adachi described the Bliss biography thus in the *Sunday Star*:

“A succinct, honest appraisal of Fred Banting, a complex man who was as troubled, paranoid, and vain as he was honest and sensitive. . . *The Discovery of Insulin* clearly demolished the myth — public perception to the contrary — that Banting single-handedly was responsible for the monumental discovery”.⁶

These are only two of many reviews of Bliss’s books. They tend to highlight the “warts” rather than the whole portrait painted by Bliss, but most of the reviewers’ descriptive adjectives and phrases are taken directly from the books themselves. Bliss also says:

“As a biographer, I found Banting sometimes to be silly, childish and pathetic; I also found him extraordinarily complicated, refreshingly honest and deeply moving, as he struggled to cope with pressures and situations that continually threatened to overwhelm him. . .”.

“For all his veneer of down-home simplicity, Banting was an extraordinarily complex man, very difficult to categorize easily. We see a little of this complexity in pictures of him, I think, for his face is so expressive that it reveals a different Fred Banting every time the camera clicks.”

My personal evaluation, in a nut-shell, is that the vain, paranoid boozier, with communist leanings, the prickly, driven man who frequently made an ass of himself was definitely *NOT* the Banting I knew and worked for from 1938 until his death in 1941.

This wide divergence of viewpoint led me to analyse Bliss’s books very carefully in an effort to determine how he had reached his conclusions and, more important, the extent to which his sources of information supported his views, particularly the records which had not been available to Stevenson and Harris. By far the most important of these was Macleod’s memorandum of 1922 to Colonel Gooderham, Member of the Board of Governors of the University of Toronto, published by Stevenson only in 1978.⁷

To criticize the works of a Professor of History of the University of Toronto is a formidable task. Nevertheless, I *did* know Banting personally and Bliss did not. Moreover, I think my experience in medical research helps in the interpretation of the scientific evidence and the evaluation of its significance.

My association with Dr. Banting came about almost accidentally. I graduated in Medicine from Dalhousie University after completion of the mandatory fifth year internship, in the spring of 1938. It was not yet obvious that the Great Depression was about to end, and it was almost impossible to find a practice anywhere in the Maritime Provinces. No doctor below the age of ninety could afford to retire or take on a junior assistant. Many had collected no more than ten percent of their fees for the last nine years. When an advertisement appeared in *The Canadian Medical Association Journal* that the newly established Associate Committee on Medical Research of the National Research Council in Ottawa was seeking a physician for the position of Assistant Secretary, I applied and received the appointment, probably because I had done additional work in medical research during the first three years of medicine in order to complete the necessary credits for a B.Sc. degree.

*Based on a lecture to the Dalhousie History of Medicine Society, November, 1984.

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The Chairman of the new Associate Committee on Medical Research was Sir Frederick Banting. One of his first projects was a survey of medical research in all Canadian Medical Schools and the major hospitals and public health laboratories. I travelled by train with Sir Frederick from Ottawa to Halifax, to Vancouver and back, and prepared the report on the rather skimpy research programmes of the day. It was a unique opportunity for a "green" medical graduate to meet almost all of the leaders of the Canadian medical profession, but, above all, it provided me with an unusual opportunity to get to know Dr. Banting. One does not travel across Canada by train without getting some fairly clear and lasting impressions of the character, habits and philosophy of one's travelling companion.

Of course, I did not know Banting in the 1920s, when he and Best conducted their world-renowned experiments. I was a ten year old school boy in Prince Edward Island. Bliss and I are equally dependent on the early records, but I also heard much of the story from Banting himself and from some of his associates of the 1920s, including Collip.

The main features of the insulin story are, no doubt, known to all of you, and some may also have read Bliss's books, but a brief summary seems desirable.

The story began in London, Ontario, in the autumn of 1920. Dr. Frederick Banting, a graduate of the University of Toronto, had just begun to practise medicine and surgery. He was not very busy — to put it mildly. He once told me that he had a marvelous increase in his practice, one hundred percent improvement in the second month compared with the first. In the second month he saw two patients!

To occupy his time — and pay his bills — he obtained part-time appointments as a demonstrator in the Departments of Surgery and Anatomy of the University of Western Ontario Medical School. He also volunteered to help Professor F.R. Miller with his neurological research in the Department of Physiology, and Dr. Miller also assigned him responsibility for giving a few lectures. One was on the physiology of the pancreas.

Banting's training and military experience in the four years since his graduation had been mostly in wartime surgery, followed by post-graduate work in orthopedics. In his own words, he had to do a lot of reading to keep one jump ahead of the medical students. In preparation for a lecture on the pancreas he reviewed the role of the digestive enzymes, which are discharged through the pancreatic duct into the small intestine (the so-called "external secretion"). It was known then that there were also nests of cells called the Islets of Langerhans which were not involved in the production of digestive enzymes. Removal of the pancreas in experimental animals had been shown to cause diabetes. Some authorities believed that the

islet cells produced a secretion that was concerned with the metabolism of sugar. No one had yet proved this hypothesis, although several medical scientists had tried to do so during the previous twenty years or more.

His lecture notes prepared, Banting turned to his own continuing education and began to read the last issue of *Surgery, Gynaecology, and Obstetrics*. By sheer chance one article was a case report by Dr. Mose Barron, describing a patient whose pancreatic duct had been blocked by a stone. The pancreas had atrophied, but the islet cells had apparently remained normal. This pathological evidence seemed to confirm in man the observations by experimentalists who had ligated the pancreatic ducts of animals.

Banting mulled the subject over as he lay in bed that night. He wondered whether the previous failures to obtain an extract containing an active principle might be due to the digestive enzymes destroying the secretion of the islet cells. If so, it might be possible to obtain the internal secretion from an atrophied pancreas. He made a note:

Diabetes: [sic] "Ligate pancreatic ducts of dogs. Keep dogs alive until acini degenerate leaving Islets. Try to isolate the internal secretion of these to relieve glycosurea [sic]".*

Banting talked his idea over with Professor Miller of the Department of Physiology. He was encouraging, but had no animal room for dogs and no experience in research on metabolism. He recommended that Banting see Dr. J.J.R. Macleod, Professor of Physiology at the University of Toronto who was expert in metabolic research. Within a few days Banting saw Macleod when on a visit to Toronto for a wedding. Macleod was discouraging, telling him that experts for twenty years or more had tried to establish whether or not the pancreas produced an internal secretion. However, he did not close the door completely, suggesting that Banting prepare a detailed program of experiments. According to Bliss, Macleod said in effect: "Think it over". But he really did not say that, and gave Banting no encouragement.

Banting was stubborn and came back to Macleod at Easter time in 1921, asking to be allowed to operate on a few dogs to test his idea. Macleod could not let him do any work at that time because the final examinations were to be held. Everyone was busy, and there would be no one to take care of the animals. However, he rather reluctantly agreed to let Banting work during the summer, while the Professor himself would be absent on his holidays in Scotland. He would assign a graduate student assistant to help with the determination of sugar in the blood and urine, since Banting did not seem to be experienced in those techniques.

*Diabetes and glycosurea illustrate that spelling was not one of Banting's strong points. Bliss tended to over-emphasize these mistakes.

Banting always credited Dr. Velyien Henderson, Professor of Pharmacology and his former teacher, with persuading the relative newcomer, Professor Macleod, to let this Toronto graduate try out his ideas.

During the summer Banting and Best, after a series of gory failures, fully described by Bliss, succeeded in keeping a diabetic dog alive by injection of an extract of the atrophic pancreas. By September they had obtained several active extracts — not on all experiments and obviously of varying activity when successful. Nevertheless, they had obtained an active principle from the atrophic pancreas, produced by tying off the pancreatic duct. They had also overstimulated the pancreas by secretion to deplete the digestive enzymes and remove or reduce the supposedly interfering agent. Later in the fall they had obtained an active extract from the pancreas of unborn calves. Banting, being a farm boy, had known that farmers sometimes had cows impregnated which were to be sold for beef. When he read that the foetal cells of the islets developed earlier than the cells concerned with the external secretion of digestive enzymes, he obtained calf foetuses from the abattoir and demonstrated the active principle again.

Macleod returned in September, and it seemed to Banting that he distrusted the results. He had Banting and Best go back and re-do the whole thing. At least, that is how Banting saw it. My own view is that Macleod was taking the reasonable precautions that any good Department Head would, knowing that scientists would examine every detail. Nevertheless he failed to explain his motives and to give the sensitive Banting and the graduate student, Best, the encouragement they both deserved — and needed. Perhaps this was because Banting annoyed Macleod by complaining about the stinking, over-heated and dirty attic he and Best had worked in during Toronto's hottest summer in 100 years. Certainly Banting was not the mild, gentlemanly graduate student assistant that the Scottish professor was accustomed to.

At this stage Bert Collip came to work with Macleod for one year from the University of Alberta. He was a Ph.D. in Biochemistry. He had passed through Toronto earlier in the spring on his way to a summer's work in Massachusetts, and had heard Banting's discussions with Macleod when they were planning the summer's work. He was obviously interested, but initially Macleod did not assign him to work with Banting and Best. It was only after repeated requests by Banting that Macleod allowed Collip to work on Banting and Best's extract because of his knowledge of biochemistry. The hope was that he could purify it and thus avoid the local lesions caused by injection of the crude extract, both in dogs and in human patients.

This seems to be a crucial point in the story. Macleod allowed Collip to join in the research to help purify

the extract, but Collip was working in another building, not with Banting and Best, and he reported directly to Macleod. Other members of the Department were also assigned to work on other aspects of the new extract under Macleod's direction. When Collip succeeded in finding a method of purifying the product, he came into the laboratory one day and told Best that he had found how to purify the extract but said he would not tell the secret. He and Macleod had agreed on this, he told Best, and they were going to patent the discovery. When Banting returned to the laboratory and was told this, there was an explosion. According to Best's account, Banting jumped on Collip, and they had a physical tussle in which Banting's size counted.

I well remember my surprise seventeen years later when, seated in Banting's room in the old Windsor Hotel in Montreal, Dr. Collip, Dr. Banting and Dr. Rabinowitch were chatting after dinner. Rab had been one of the first physicians in Montreal to use insulin in 1922. Suddenly, the irrepressible Rab said: "Do you remember, Fred, when you knocked Bert — here — down and thumped his head on the lab floor?" There were sheepish chuckles from the two friends and a murmur about stressful times. And I am sure my jaw was hanging open. Fisticuffs by two of Canada's most distinguished scientists! Unbelievable!

During that stressful time back in 1921-22, the situation was not assuaged by the publication of several stories in the *Toronto Daily Star*. One of the interviews with Macleod reported that he had been working on diabetes research for 18 years. Banting, who believed that Macleod had dropped his research in this field and took it up again only on Banting's urging, interpreted the newspaper story as an effort to take credit from him and Best. They persuaded a reluctant Macleod to prepare a statement for the *Star*. The paper used a headline saying Macleod gave Banting full credit. Macleod's carefully worded statement had not been that broad but did indicate that the work had been originated by Banting. Macleod then made the mistake of arguing with the *Star*. The squabble by the university scientists over who should get credit received sensational coverage.

Under pressure from the University authorities, all of the participants allowed the heat to die down but, when the Nobel Prize was awarded in 1923, it again flared up like a bonfire. Banting felt so strongly that Macleod had tried to steal credit for his and Best's work that he threatened to refuse the Nobel Prize, because it was awarded to Banting and Macleod. He thought Best should have got credit, not Macleod. He was only dissuaded by the intervention of the highest university authorities. Toronto must not be deprived of its first, and Canada's first, Nobel Prize. Banting immediately announced publicly that half of his share of the Nobel Prize money would go to Best. Macleod

later announced that he would give half of his award to Collip. In effect, then, the four shared equally in the money award, but Banting and Macleod were officially the Nobel Laureates.

Let us now consider some of the conclusions reached by Bliss and the adjectives used to describe Banting.

The major question, of course, is one of credit. Who should be given credit for the discovery of insulin? Bliss does not give a forthright answer. The jacket of the first book, *The Discovery of Insulin* shows four facsimile signatures — Banting, Best, Collip and Macleod, in that order. This seems to invite the reader to draw a conclusion regarding priority. However, in the book it is made clear that this alphabetic order was determined by Macleod at the height of the controversy. However, Bliss places great emphasis throughout both books on the purification of the extract, and he repeats this theme so often that he almost suggests that Collip's name should be first. He practically says so in the *Nova Scotian* of June 2, 1984, the weekend insert in Halifax papers — Banting and Best “completely failed in their investigations”, he wrote.⁸ This article is said to be based on the Banting biography but, it is not, in fact, a direct quotation from the book. It is a separate article, which is even more devastating than the *Biography* in its derogation of both Banting and Best.

“After showing him (Collip) their method of preparing the extract early in December, neither Banting nor Best contributed much of anything to the research”.

In fact, Banting and Best were working on the long-term survival of diabetic dogs, an experiment Macleod considered crucial. They were not then involved in the biochemical purification, which Macleod had assigned to Collip.

Bliss emphasizes again and again that purification of the extract was the essential element in the discovery of insulin, and also MacLeod's role in planning the earlier experiments in the spring, before going to Scotland. Certainly he gives Collip and Macleod more credit than they have usually received in most scientific and historical publications. On the other hand, Banting and Best are repeatedly scolded for their criticisms of Macleod or, as Bliss calls it, “their continued campaign of slander”.

Bliss derogates Banting's frequent emphasis in later life on the importance of an “Idea”, as the starting point for research. Also he seriously questions the validity of Banting's “idea”, since digestive enzymes are not present in active form in an extract of the pancreas, only their precursors. This fact was recorded in a critical letter to the *Lancet* shortly after the first papers on insulin were published by Banting and Best.⁹ But it is interesting to note that Macleod, in his own memorandum to Gooderham makes the same error, which Bliss neglects to mention.⁷ In any event, Banting

never suggested that an “Idea” was more than a starting point, to be tested and investigated, not necessarily to be proved. Collecting data to prove a pre-conceived theory is not the scientific approach.

To establish credit for the discovery of insulin, a scientist must ask what is meant by the “Discovery” of insulin? Was the “Discovery” the clear demonstration that the pancreas produces an internal secretion, that this can be extracted, and that the extract or principle will control the symptoms and lower the blood and urinary sugar in diabetic animals? Or was the discovery made only when that extract was purified for use in human patients — the insulin we know? Today a differentiation is usually made between Research and Development — R and D, as they are usually designated. Whether the Nobel Committee made this differentiation in 1923, is not known. I would place more emphasis than Bliss did on the significant fact that this committee of scientists later confessed in 1950 that a mistake was made in their decision of 1923 and the award should have gone to Banting and Best, not to Banting and Macleod.¹⁰ Although Bliss reported this change in viewpoint by such an august body — something unique in its annals — he still concluded that the credit was largely Collip's because he had purified the extract. I would suggest that today this might be classed primarily as “Development” and not the original research, the sort of investigation expected of pharmaceutical companies. Furthermore, although Collip did succeed in obtaining a purified extract in the laboratory and this was used in the dramatic treatment of the first diabetic patients at the Toronto General Hospital, he failed utterly to adapt this to mass production in the Connaught Laboratories.

It was Best who finally succeeded in that final phase of purification of insulin. Then followed a period which might be described as farcical, if it were not so sad. Best gave the new supply of purified insulin to Banting to treat patients in his office, who were then flocking to Toronto by the hundreds. The clinical unit set up at the Toronto General Hospital by Professor Duncan Graham, to test Collip's purified extract was then left without any supply of the new insulin. Professor Graham, who was a rather rigid and stern individual, had refused to give Banting an appointment to the staff of the Toronto General Hospital in the Department of Medicine, because he was not trained as a physician to treat diabetics. He was an orthopedic surgeon. Graham was now overruled by the Board of Governors of the Hospital itself. They *must* have a Diabetic Ward, and they *did*, with Banting included.

My own view is that there should be a differentiation between research and development, although the borderlines are rather indistinct. I think Banting and Best isolated the internal secretion and demonstrated its effect in the summer of 1921, when Macleod was

in Scotland and Collip was in the U.S.A. To me this is the "discovery of insulin". It was also the definite opinion of Dr. Feasby who died before he completed a biography of Best.¹⁴ Dr. William Franks, later one of Banting's associates in aviation medicine, met Banting during that period and has recently told me personally: "In my view, that was when insulin was discovered — while Macleod was in Scotland".

Of course, Macleod had helped in planning the summer experiments and provided facilities, animals and the student assistant. Stephenson described Macleod's role as follows in 1946, and I think it still holds true.

"But the helping hand was not the creative hand, and popular opinion has not been unjust to Macleod in reserving its greatest acclaim for his young colleague, who cannot be fairly designated, as he has been, Macleod's assistant".

Nevertheless, it must be admitted, that if Banting and Best's summer work had gone no further, the Nobel Prize would probably not have been awarded in 1923. It was the drama of the clinical results that hastened the Nobel Committee's action. Collip and Best, therefore, deserve important credit. Whether they should have shared in the Nobel Prize is a question which may still be argued in future years.

Only when I read the Bliss books did I become aware that the Nobel Committee had a rule that no more than three persons could receive an award. They did not include Collip in the initial award to Banting and Macleod, but, more significantly, they did not suggest that he should have been added in the 1950 report: *Nobel, the Man and His Prizes*, which concluded that an error had been made in 1923. The prize should have gone, they said, to Banting and Best. Bliss's comment on this is interesting.

He (Banting) could not have guessed how successful he and Best would be during the next sixty years in *unjustly* discrediting J.J.R. Macleod. Even the stewards of the Nobel Prize themselves *mistakenly* came to believe that the 1923 award should have gone to Banting and Best. (My italics - C.B.S.)*

"Mistakenly" in Bliss's view but not that of the Nobel Committee either in 1923 or 1950. Whose judgement should we accept, the scientists' or the historian's? Whether Banting and Best were "unjust" in their judgement of Macleod depends on whether he did aid and abet Collip in an effort to patent insulin or keep it a secret even from Banting and Best. Banting was determined that his discovery would aid diabetics, not make money for him or the manufacturers. The ethical implications are disregarded or minimized by Bliss, but they were vitally important to Banting. Furthermore, it seems unrealistic to blame

Banting and Best for discrediting Macleod during the next sixty years. Banting was killed twenty years after the discovery of insulin.

Let us now consider another judgement by Bliss, expressed in both of his books:

"Banting was not a great scientist or even a very good one".

Great by what standards — those of 1921-22 or those of today? These are, or should be, very different, because conditions are vastly different. More change has occurred in Medicine in the last 60 years than in all of preceding history.

The well-known American historian, Barbara Tuchman, in *Practicing History*, discusses the difference between history written by the participants (Churchill, Eisenhower, deGaulle, etc.) and that written by a historian from a review of the records.¹¹ Some would consider the latter to be more objective. Tuchman admits that they are different, but in no way would she grade the latter as being necessarily more objective. In fact, Tuchman says "There is no such thing as completely objective history, Gibbon was not objective about Rome". However, she also emphasizes that, in an effort to be as objective as possible, a historian should judge events by the standards of that day not those of society at the time when the historian is writing.

I score Bliss low on Tuchman's rule that the contemporary standards should be used, not the present ones. I suspect that Bliss and his scientific advisors disregarded the tremendous change that has occurred in medical science and medical education since the 1920s and particularly since 1950. Bliss criticizes Banting's lack of scientific training and praises Best for going to Britain to study under Sir Henry Dale and others after 1922. This completely ignores the fact that Best was still a graduate student and had to complete his education, while Banting was older and fully qualified as a physician and surgeon. He might, I suppose, have reverted to the graduate student level, but it would, without a doubt, have been considered quixotic in that day.

Banting was a self-made scientist, like Pasteur and Lister. Were any of them less than great for that reason?

My first doubts about Bliss's objectivity and judgement came in 1983 when I happened to turn on the TV at noon and saw Bliss being interviewed about his first book *The Discovery of Insulin*. Asked whether medical research received better support in Banting's day than "the rather skimpy funds provided today", Bliss replied in effect that things were much better in Banting's day! The University of Toronto was then developing as a national university with good research support, particularly in the medical school, unlike today when funds are "scattered all over the country" and there is no high quality national centre for medical research.

*Biography - page 135.

When I heard those remarks I wondered how anyone could have immersed himself in the study of Banting's life and have come to those conclusions. There had been *no* financial support for medical research in 1920. For example, when Macleod found Banting a bit upset on his return from Scotland, he belatedly paid him an honorarium of \$150 for his summer's work. Note that he gave Best his summer pay of \$250 as a graduate student at the same time. The relative value is clear. Well supported medical research in Toronto or in Canada, indeed! There was practically *no* support for medical research until Banting and Best made Canadian people realize its importance, and the Banting Research Foundation was endowed. And it was Banting who later got the National Research Council to support medical research in 1938, leading to the Medical Research Council of today.

Despite Bliss's eponyms about Toronto's stature as a national university and medical school, quoting as proof only one earlier article, written by himself, the facts are quite otherwise. The great professors, Duncan Graham in Medicine, Edward Gallie in Surgery, Alan Brown in Paediatrics, etc., were not known as researchers, they were great teachers, leaders and developers of specialty training — pioneers, all of them, and honored as such. There was a mere handful of research scientists in the medical science departments of the University of Toronto in 1920, including Macleod and Velyien Henderson. There were few trained research clinicians in the 1920s in any Canadian medical school. Almost no clinical specialist of that time was trained in research, and the few that had a modicum of experience or training would be considered woefully inadequate by today's standards.

This situation was almost unchanged in all medical schools except Toronto and McGill, when Banting did the first national survey of research in 1938-39. Different criteria are required to evaluate medical education and research at various stages of Canadian development. Bliss applies today's standard only, and of course 1920 looks very poor and Banting's research training inadequate. So were the 1938 levels of research, if I were to judge them by today's standards.

On another aspect of the subject — Bliss belittles the books of Stevenson and Harris as not having available the records he had access to. One of the chief ones was a memorandum written by Macleod in response to a request from Colonel Gooderham, a Member of the Board of Governors of the University of Toronto. He had demanded separate confidential reports from Macleod, Banting and Best during the controversy early in 1922. The University has kept these under lock and key ever since. Stevenson says he was threatened with legal action in 1946 if he did not desist from his efforts to obtain access to these records. Dr. G. Edward Hall, President of the University of Western Ontario, eventually had a copy of Macleod's mem-

orandum unearthed among Macleod's papers in Scotland after his death. This memorandum is worthy of more careful analysis than Bliss gave it. For example, Macleod gives Banting full credit for the idea of using extracts of pancreas after ligation of the ducts. "If he had not contributed this idea and undertaken to test it experimentally, the discovery of insulin would probably not as yet have been made". . . "To Dr. Banting and Mr. Best is also due credit for showing that extracts of foetal pancreas have a beneficial effect on experimental diabetes". In discussing the first news story, which precipitated the ugly and public quarrel, he criticized the introductory statement and headline because it said he (Macleod) gave Dr. Banting credit for "the complete discovery of insulin for the treatment of diabetes". Macleod did not imply, he said, that he gave them credit for the "insulin *as now used*". This had been a conjoint effort of several investigators of whom Dr. Banting was one. In other words, it is the developmental side, the purification of the extract, which he reserved for Collip's credit and his own — in my view the D of R and D, but nevertheless of vital importance. Macleod is right in reserving credit to Collip for working out the initial purification.

Let me now briefly cover a few of the descriptive and mostly derogatory terms used by Bliss to describe Banting, or by the reviewers of his books.

Compulsive drinker. Banting was a social drinker who had a glass of rye before dinner and sometimes one at bedtime. He took a great delight in joining a group of students to drink a few beers. He had been reared in a strict Methodist home in rural Ontario and sometimes worried about breaking the rules by drinking and smoking. Bliss makes too much of Banting's notes in his diary, worrying about breaking the rigid Methodist rules of his youth. Perhaps it takes a Prince Edward Island Presbyterian to understand!

Paranoid — so said most of the reviewers of the Bliss books. My dictionary emphasizes "unjustified suspicion" in its definition of paranoid. If someone kicks you on the shins or steals your girl friend, your normal resentment is not paranoia. Strange that Banting and Best were both considered paranoid, according to Bliss, but not Macleod or Collip, who did not behave any better. Or were they all just normally resentful?

Macleod ostentatiously wiped the dust from his shoes, as he left Toronto to return to Scotland. An amateur psychologist-historian might have interpreted that gesture as a "persecution complex". But this sort of guessing adds little to the characterization of either man.

Incidentally, the acid-tongued Velyien Henderson, whom I knew as a member of the first Associate Committee on Medical Research in 1938, could be counted upon to express his views, even though the authorities of the University of Toronto were

determined to stifle the controversy. (His students called him "Vermin" Henderson).

"Professor Henderson was willing to say that Macleod was at first somewhat unappreciative of Banting and Best, and that Banting had reason to be annoyed". (Stevenson).⁷

Finally — the reviewers comment: *The Discovery of Insulin* clearly demolished the myth — public perception to the contrary — that Banting single-handedly was responsible for the monumental discovery".

Has there ever been such a myth or is this a straw man? Banting's name has almost always been linked with Best's and, less commonly with Macleod's or Collip's. But he has been recognized as the pioneer investigator even by Macleod — "If he had not contributed this idea and undertaken to test it the discovery of insulin would not yet have been made".

Insulin would not have been discovered by any of the "co-discoverers" without Banting. It would not even have been sought, until some later date and by other research investigators. Macleod was not working on diabetes in 1920 but on other problems of metabolism. Best, as a graduate student, might have had another summer research project or none. Collip would not have had an active principle to purify, but would have contributed to many aspects of endocrinology — as indeed he did. Insulin would of course, have been discovered or Paulesco's extract rediscovered and purified, but where, when and by whom? Banting was the one man who had the "Idea" and the stubborn determination to investigate it. Even if, as Bliss and Roberts insist, the "idea" proved to be wrong, it led to a correct answer.

Bliss has probably said the last word on Banting and the discovery of insulin. Both books are well written, but I think most readers will be left in little doubt that Bliss came to dislike and in some respects to distrust Banting as he worked on the two books. Alternatively, Bliss may be one of the modern historians who believes in deflating popular heroes — the process of "de-bunking history". He denies this, but boasts that he believes in "letting the chips fall where they may". It is a long time since I chopped firewood as a boy, but I seem to recall how a chip flew away from the axe. Where it landed depended on which side of the V-shaped notch was hit. Chips can be directed in a general way by a skilled axe-man. I have greater respect for a less cock-sure biographer who comments:

"Someone's life is an elusive and relative matter. . . Increasingly I have felt that any person considering exactly the same set of documents, the same mass of correspondence, the same recorded interviews might have come to different conclusions".¹¹

As E.B. White observed: "All writing slants the way

a writer leans and no man is born perpendicular, although many men are born upright".¹³

No matter which side of the argument you accept on the discovery of insulin, it is an incontrovertible fact that the present Medical Research Council owes its birth in 1938 to Sir Frederick Banting. It now provides more than 150 million dollars to support medical research in Canada. He also established the first Associate Committee on Aviation Medical Research in 1939. The war-time projects of these two bodies not only contributed to research but served as a training ground for young investigators who, in turn, led the upward surge of the 1950s and 1960s, changes greater than occurred in any other period of history.

Banting was a great scientist and a great Canadian. □

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Physicians for Home Care

(A Report Urging the Implementation in Nova Scotia
of a Coordinated Comprehensive Home Care Program)

Section of General Practice of the Medical Society of Nova Scotia and Nova Scotia Chapter, College of Family Physicians of Canada November 12, 1985

This Committee recommends that the General Practice Section of the Medical Society of Nova Scotia and the Nova Scotia Chapter of the College of Family Physicians of Canada urge the Medical Society of Nova Scotia to press the government to accept the role of leadership so that a home care programme be the prime health care priority in this Province for 1986.

"We have moved so quickly, allowing science and technology to become our culture, that we have forgotten the very base from which we all grew. . . . government cannot fill that role, it will never fill that role."

(Williams T.)

"The family deserves to be given a central place in its capacity to promote and undertake care of the aged, children and the handicapped."

"Government may strengthen families by bringing scientific and technological aid to them and by promoting their self reliance and economic viability."

(Luthra P.N.)

INTRODUCTION

This Committee was formed at the joint meeting of the Section on General Practice of the Medical Society of Nova Scotia and the Nova Scotian Chapter of the College of Family Physicians, April 27, 1985. It was an ad hoc committee to review the situation of coordinated comprehensive home care in Nova Scotia and report back to the Section and Chapter concerning a position to be taken with the Medical Society of Nova Scotia. It was felt that family physicians in Nova Scotia should be stating through the Medical Society how they perceived the need for and manner of implementation (if needed) of home care in the province.

The Committee reviewed many documents and met with: representatives of the Departments of Health and Social Services of Nova Scotia; the Nova Scotian VON Director; the Executive Director of the New Brunswick Extramural Hospital Programme; and the Chair of the Committee on Comprehensive Co-ordinated Home Care for Nova Scotia of the Registered Nurses Association of Nova Scotia.

We recognize many limitations in our review including the obvious lack of scientifically credible studies upon which to base opinion. Nonetheless the Committee has reached a consensus position without difficulty. We have learned a great deal and are indebted to those who met with us for their frank and thoughtful input and to those whose reports we reviewed for lucid and far-seeing projections about health care.

We thank the Section, the Chapter, and the Medical Society of Nova Scotia for financial support.

Respectfully submitted,

Cathy Carton
Brian Hennen (Chairman)
Robert Mullen
Dinesh Sinha
Jack Sommers
Murdock Smith

WE ARE CLOSE TO HAVING A COORDINATED COMPREHENSIVE HOME CARE PROGRAM

1. We are closer to a coordinated home care programme in Nova Scotia than is apparent. Many services for helping sick or disabled persons to recover or be maintained at home already exist.
2. The Department of Health is well established in many parts of the Province with office and community based services and local Departments of Health are already aware of the existing resources.
3. The Department of Social Services is providing extensive home support services. For example, 78 homemaker service units are operating out of 43 agencies.
4. The VON provides home nursing services to 82 percent of the province and has considerable public support.
5. The local Departments of Health have an established computer system.

6. There is now an established experience with three ongoing pilot projects in the Province.
7. Other organizations such as the Red Cross, the Canadian Arthritis Association, Cancer Society, Alzheimer's Society, the Senior Citizen's Secretariat have significant contributions to make to a coordinated home care programme.

For example, in the Annapolis Valley region, there are Homemaker's Services, the Provincial Home Life Support Programme, The Canadian Cancer Society, The VON, Canadian Red Cross, Public Health Nurses, The Arthritis Society, Meals on Wheels and New Horizons Club.

At the recent Halifax Community Services Exhibition, "Share, the People's Fair", 75 agencies exhibited their resources for citizens of the Metro area.

8. In contrast, a community like Sheet Harbour has no VON, no full-time social worker, no Meals on Wheels, no functioning hospital auxiliary, no phone buddy systems of the elderly, no investigator for family violence, little or no coordination of volunteers.

Homemaking services are not available in Cape Breton County (excluding Sydney) and Victoria County.

VON services are incomplete in Shelburne, Guysborough, Cape Breton, Halifax, Antigonish, Cumberland and Colchester counties but in most of these areas Public Health services extend to provide home nursing.

9. There is then an unequal distribution of home care services in Nova Scotia.
10. Existing services are underused. We were told the very sparsely used meals-on-wheels programme in one city does not advertise or promote itself for fear of being deluged with requests it could not meet.

EXPERIENCE ELSEWHERE

We have reviewed reports from outside the province directly to do with home care and with future projections of health care in general. Those reports given special attention are listed in our references. Some brief comments on these reports are in order.

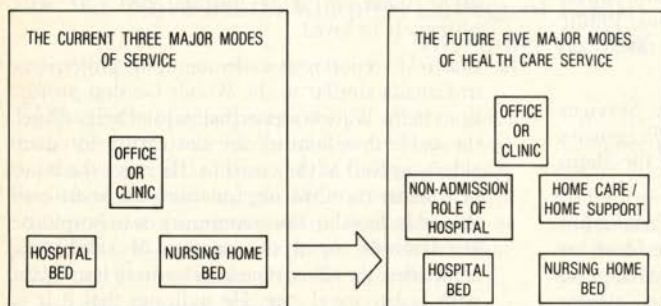
11. The concept of a *hospital without walls* is established as a reality in *New Zealand* so that all major metropolitan and many provincial centres have programs which facilitate alternatives to expensive and undesirable hospital admission. That country now has 25 years experience with "extramural hospitals".
12. *New Brunswick* has adopted the *extramural hospital* model and now has seven of twenty

planned extramural hospital units in place after four years from initiation. Forty percent of patients are admitted to the program from home and sixty percent from acute care hospitals. Approximately 69 percent of admissions are considered hospital replacement for at least some portion of their stay. One quarter of all physicians in the province have admitting privileges to the extramural hospital. It is estimated that for each dollar spent on the extramural program that four dollars otherwise to be spent on acute hospital bed care will ultimately be saved.

13. *Clarfield's* report reviews demographic projections in Canada similar to the Woods Gordon projections in the Watson report [below] and helps dispel the myth that families are not caring for their elderly as well as they used to. He raises the issue of whether coordinating functions for home care should be based in the community or in hospitals. He reminds us of the paucity of valid data comparing the effectiveness and costs of home care with institutional care. He indicates that if it is to be cost effective, home care must be carefully prescribed to specific levels of care.
14. The *Ottawa-Carlton Task Force report* emphasizes the need for closer integration of Health and Social services. It boldly recommends a gradual 30 percent reduction in long term care institutionalization of the elderly and a reduction in active treatment beds from 3.5 to 3 per thousand by 2001 on the absolute understanding that a comprehensive coordinated Home Care Programme be established coincidentally. It emphasizes that private initiatives should be encouraged. Three possible models are suggested: one based on a community multi-service centre, one based on a comprehensive health service organization, and one based on primary physician offices augmented under one roof by other health and social services. District health councils are advocated for coordination. Implementation is suggested in stages according to population growth. The plan includes integration of day care, respite care, and extended care along with home care.
15. The *C.M.A. Task Force on Allocation of Health Care Resources* (Watson J. et al.) recommends: reducing institutionalization of the elderly by one third, assuming that the "released" patients are admitted to home care; reducing institutionalization rates in mental health facilities; reducing average length of stay by one day per admission of non elderly patients in acute care hospitals; and increasing use of nurse-practitioners. It emphasizes that the first of these would have the largest financial impact. The task force also states, "Fragmentation and lack of coordination in the delivery of health services is the first major problem facing the health care system today" and

"Conflict prevents meaningful discussion and hinders implementation of changes in direction of policy that are so badly needed".

16. The Task Force of the College of Family Physicians points out that we are moving rapidly from a period of a 3-tiered health care system of the clinic or office, the hospital bed and nursing home bed into a 5-tiered system, including also a non-admission role for hospital* and home care.



17. The report also recommends that a home care/home support programme have six characteristics. It must be affordable, accessible, adaptable, comprehensive, continuous and coordinated. Elaboration of these characteristics are appended (Appendix X).

NOVA SCOTIA OPINION

We have reviewed many reports from this province and talked to Nova Scotians who are involved in the major fragments of the existing services. They are all of a single purpose.

18. In 1972, the *Nova Scotia Council of Health Reports* which recommended the basic organization of the provinces current health care system, had as background paper 6, Levels of Care in Nova Scotia (Gordon P., Weldon K.L.). Based on a review of admissions in 32 mainland hospitals, the authors reported that "given the availability of appropriate facilities and services, as well as favourable socio-economic and environmental circumstances", up to 30% of the patients could have been maintained outside the hospital facilities, "particularly on home care or as ambulatory patients". The report also indicated that the greatest impact on the total system by redirecting patients to home and ambulatory services, would be felt in the metro Halifax area. They emphasized the need for "a total systems approach to the provision of health services".

*i.e. making the unique diagnostic and therapeutic resources of the hospital available to as great a degree as possible to patients who need them but do not need to be admitted to a hospital bed.

19. As early as November 1983, the *Medical Society of Nova Scotia* declared its full support for a "medically supervised home care programme in which the VON would have an integral role in planning, provision and evaluation of nursing services".
20. Reports from *VON - Nova Scotia* to the Medical Society of Nova Scotia (1983,1985) have clarified the interest of VON towards home care emphasizing the need for maintaining high standards of home nursing care, and the importance of clearly established criteria of assessment for admission to a publicly funded home care program. As well, VON advocates specified terms of duration of admission to programmes with opportunity for review and readmission. Finally, it is difficult for VON to compete with privately paid fee-for-service home nursing services when their fee must cover a significant number of clients who make partial or no payment.

21. On May 17, 1984, the Executive Committee of the *Registered Nurses Association of Nova Scotia* in a document entitled "A Model for Home Care in Nova Scotia" stated that "government leadership is needed to implement a comprehensive, coordinated, home care programme for the Province of Nova Scotia". The Committee argues that there are economies to be made if home care is properly introduced and integrated into the health care system. It supports a policy of no fee for health care or social services provided and recommends use of carefully constituted admission criteria as a control mechanism. It recommends a balance of health related and social services be offered through three categories: professional services; support services; and volunteer services. Administered by a director in a central office for the province, the programme recommended would have six - eight regional offices and would have a professional advisory board representing medicine, nursing, social work, physiotherapy, occupational therapy, nutrition, pharmacy and homemaking services. A critical pathway for implementation is included.

22. *The Select Committee on Health* was established in April 1982 and in 1984 reported "more recommendations were made to the Select Committee regarding the development of a home care programme in Nova Scotia than for any other specific type of programme. . . . a coordinated home care programme involving health and social services personnel and other agencies represents significant savings while continuing to ensure high quality care for the patient. The Committee therefore urges the Government to implement a comprehensive coordinated home care programme

for Nova Scotia."

23. On May 9, 1985 a Think Tank on Mental and Physical Health Care for the Elderly held at the Holiday Inn in Halifax and sponsored by the *Metropolitan Mental Health Planning Board* recommended "home health care and home care services".

GENERAL CONCLUSIONS

24. In the immediate future we face a higher proportion of elderly and more medical technology. Rapid changes affecting the provision of health care are evident in the etiology of disease, geography, health science knowledge, health professional manpower, economics, societal expectations, management of disease and design of the health care system.
25. These changes all point to increased need for health care services. If we respond by simply adding hospital beds and nursing home beds we will bankrupt our society. If we integrate the essential hospital and institutional construction with a balanced home care program and expanded non-admission role for hospitals we may face the year 2000 more optimistically.
26. We believe that a coordinated comprehensive home care system is an essential component of a complete health care system. It is cost-worthy in its own right. In comparison with hospital care it is more flexible in its adjustment to changing needs, it involves the efficient use of family and community resources, and makes effective use of volunteer services.
27. Home care, as an integral component of the total health care system, is required to adequately meet today's needs in Nova Scotia. Its immediate introduction is an investment in tomorrow. Its further delay is a false economy and a threat to the quality of health care Nova Scotians may receive tomorrow.

CHARACTERISTICS OF A HOME CARE PROGRAM FOR NOVA SCOTIA

28. Coordinated home care, as suggested by the VON, consists of six components:
1. Administration (financial, directive, evaluative)
 2. Nursing services
 3. Social support services (homemakers, handymen)
 4. Therapy (physio, occupational, respiratory, nutritionist, speech)
 5. Medical services
 6. Volunteer services

29. Its effectiveness will be largely determined by the quality of coordination and the criteria of assessment on which case admission and management are conducted.

30. "Coordination can be divided into two domains: coordination of the primary care providers, funders and administrators in the areas of planning, implementation, expansion and evaluation, and comprehensive health care; and case coordination, regarding the assessment and plan for each client."

31. An Example of Criteria for Acceptance into a Home Care Programme includes:

1. Acceptable to the patient and responsible kin
2. Responsible caregiver(s) available
3. Family physician willing to accept supervisory medical responsibility
4. a) Progressive improvement expected
b) Maintenance of chronic condition
c) Palliative care
5. Two or more services required (some may be paid by insurance)
6. Insured services payments would be made into the Program, eg. Blue Cross, Workman's Compensation

32. We agree with Nestman who feels that the actual admission criteria are more important than whether they are applied to the individual case by an interdisciplinary team or an individual.

33. The criteria, however, should be established by an interdisciplinary group considering a needs assessment for medical, nursing and social support services.

34. Nestman also advised that an initial limit should be set on the proportion of long term patients admitted to the programme.

35. Admission to home care need not necessarily be only possible through medical referral so long as medical input goes into the setting of criteria for admission, and communication about all patients/clients admitted goes to the appropriate personal physician.

36. The home care system that is implemented in Nova Scotia should be a *balanced* one involving an appropriate range of health *and* social services.

37. The specific services to be included may be limited at the outset and expanded as the program gains experience. An example of the range of services used in one eight year experimental model in decreasing frequency of use had the following:

Assistance by family	304*
Homemaker	218
Assistance by neighbour	209
Visiting nurse	171

Additional Social Service	164
Meals on Wheels	114
Housekeeper	100
Home Health Aide	87
Community Workers	83
Friendly Visitor	74
Hospital Home Care Department	52
Physical Therapist	36
Telephone Reassurance	17
Maritime Respiratory Therapist	12

*The numbers, specific to the study, should only be considered here proportionately to one another. (Brickner and Reuther)

38. It is important that an approach to home care should be one that admits the patient to the programme for a limited amount of time, at the end of which the patient is either discharged from the programme or undergoes a review to consider continuation.
39. The program should include a philosophy based on responsibility of the individual and family for health maintenance and to promote this through appropriate organizational and funding mechanisms.
40. The N.S. pilot programmes, we were told, embracing this approach have been able to educate 32 percent of their clients to be acting independently of the programme in nine weeks. Sixty-three percent of patients are discharged from the New Brunswick extramural hospital to remain in their homes.
41. The introduction of a coordinated comprehensive home care programme will require careful public education. Some argue that people are not ready for it in Nova Scotia saying that when faced with a choice in a personal situation between hospital or home care support most Nova Scotians will opt for hospital. To the extent this may be true educational programmes are needed. It has been difficult to advocate family care in the home when the system reinforces the perceptions that there is a financial cost to receiving care in the home and that the main determinants for restoring health are professional or technological intervention in an institution.
42. No payment by patient should be expected for assessment or reassessment services provided by the Programme.
43. No payment by patient should be expected for any services provided which allow a home care alternative to either hospital admission or extension of a hospital stay.
44. Such services which permit a home care alternative to hospital admission or an alternative to extension of a hospital stay should be physician supervised.

45. Payment by patients for services that do not clearly avoid hospitalization may be required on a progressive scale according to the patients' ability to afford them.
46. Participating volunteer agencies should be provided stable funding arrangements sufficient to provide those services required for all hospital alternatives.
47. Private support and initiative to fund other elements of home care should be maintained.
48. It is important that we make use of the existing and experienced agencies. In particular, the VON provides home nursing services to 82 percent of the province and has considerable public support. They should obviously be a major component of services contracted by the Department of Health.
49. Currently, homemaker services are provided by several municipal and community agencies by contract to the Department of Social Services. All such agencies could be involved by contract in a home care programme.
50. It is important to emphasize the necessity for coordination and tight administration. It was pointed out to us for example, that the Red Cross has incurred a considerable degree of lost equipment because it has no system of recovery of loaned equipment.
51. Coordination to be effective and efficient requires a degree of cooperation between provincial government departments that does not currently exist. Also required is better cooperation and trust among provincial government departments, key providers such as VON and participating municipal government offices.
For example, we were told that one municipality does not enjoy homemaking services because a dominant local official does not personally believe in it. We were also shocked to learn that key players in the pilot home care projects have not been distributed with the results of the evaluation studies in spite of having requested them.
52. We do not want to see two home care programmes; one through the Department of Health and one through the Department of Social Services.

CAN WE AFFORD IT?

53. The Deputy Minister of Health has written, "There is no question that home care has the potential to limit or reduce future growth in health care expenditures, but in the initial instance, home care would add a significant amount to the cost of the health care system. Given the current state of the economy, it is not unreasonable to expect that funding for such a program would add a significant amount to the cost of the health care

system. Given the current state of the economy, it is not unreasonable to expect that funding for such a program would have to come from existing programs, with the commensurate curtailing of present services."

54. Without being privy to financial details within the departments involved it is obvious that considerable money is already being spent on various fragments of the existing uncoordinated, non-comprehensive fragmented home care services in existence.
55. For example:
 - a) homemaker services currently warrant a provincial sum of \$3 million supplemented by \$1 million of municipal funds.
 - b) the pilot home care programmes currently service three communities.
56. Nurses in the Department of Health are currently performing many functions in the home. In the Atlantic Health Unit, for example, approximately 15% of nursing services are home nursing (where VON services are not available), 20% of nursing services are related to prenatal care and postnatal follow up, mental health and poison control follow up are other services performed in the home. We were told that within the Department of Social Services home care services exist which are nursing related and cost-shared federally through homes for special care.
57. There are also possible areas where current Department of Health and Department of Social Service activities could be redirected more usefully to home care related services.
58. The existing extramural hospital programmes in New Brunswick reaches seven of twenty intended regions for just under \$5 million. The Executive Director estimates that this allowed an alternative to hospital care that would have cost \$25 million. Comparing populations an extramural programme in Nova Scotia would cost \$25 million. Nestman estimated for his concept of a home care program a \$28 million figure.
59. A lag time of 3-5 years has been suggested as necessary before the cost-saving effects of an effective home care program might be apparent.
60. To look at the funding problem from another point of view, can we afford not to have a comprehensive coordinated home care programme?
61. Is it better to expand our existing system of expensive acute care beds, nursing homes, and uncoordinated and inefficient home services to meet the increased demands facing us, or should

we establish a coordinated comprehensive home care programme as part of a complete health care system?

62. To accomplish coordinated home care effectively, may require a review of how hospital beds are used. Concern about a loss of jobs because of re-assigning hospital beds is not warranted because in order to meet the increased needs of an expanding system outside of the hospital new jobs will be opened up.
63. We do not recommend reducing the number of hospital beds. We suspect however that a reassignment of the use of some acute care beds as respite beds, as took place recently in Alberta, could be accomplished in parts of the province. We lack extended care beds and respite beds which are necessary as part of a complete system; one which includes a comprehensive coordinated home care programme.
64. Home care is not the same as day care, it is not the same as respite care, nor is it the same as ambulatory hospital based care. These are all key elements in a total system of which home care is a significant component.
65. We would point out that even if we were starting from nothing, which we are not, the cost of running a home care programme for the whole province is about the cost of operating one regional hospital.

THE PROBLEM OF LEADERSHIP WITH AUTHORITY

66. What is lacking is the spark of leadership and the initiative for a cooperative endeavour among the key players which we would identify as: the Department of Health, the Department of Social Affairs, the VON and some particular municipalities.
67. The Department of Health has Units in most parts of the Province and has piloted three home care projects in Pictou, Antigonish and Lunenburg which are continuing, and is prepared to initiate the necessary coordinating services for the entire province.
68. Its representatives say it could undertake this task now without substantially increasing its personnel. It has computer supports and has the information base to act.
69. What it feels it lacks is the mandate to take charge of the Programme as a whole.
70. Contrary to some feelings expressed to us, it is not our opinion that the VON feel that the

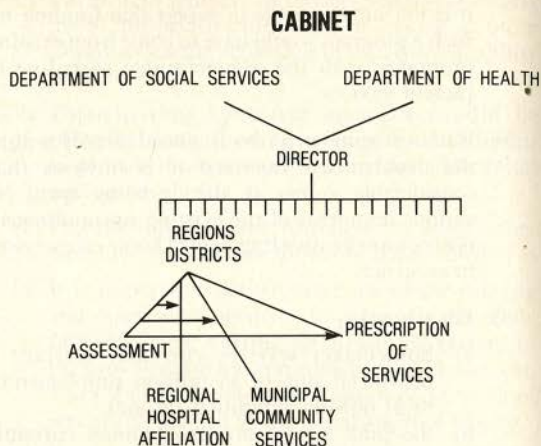
Department of Health should not be the coordinator of services.

The VON in Nova Scotia are ready to participate in the provision of nursing services in the geographical areas now serviced by them and would be willing to extend these to the remaining 18 percent of the province. They believe as well, they can continue to provide service and seek community support for persons who do not meet the eligibility criteria or who require service beyond the service allowances of a home care programme. In other words, as a volunteer agency the VON would continue to provide and develop programmes to supplement those of the government while participating fully in the government directed programme.

71. It may be that a greater conflict rests between the two branches of government, i.e. the Department of Health and the Department of Social Services and to a lesser extent with some community municipal governments.
72. In the press release of April 1984 from the Premier's office which announce the Home Life Support Program legislative authority was assigned to the Minister of Social Services.
73. We feel that poor interdepartmental communications are preventing cooperative endeavours at administering a coordinated home care programme.

SUGGESTION FOR ACTION

74. We suggest, therefore, a director of home care services be designated who is jointly responsible to each of the Ministers of Health and Social Services with administrative and fiscal authority over all aspects of home care-related services in the province including those now existing in both departments and those services related to voluntary agencies; and with negotiating authority towards municipalities. (see diagram)
75. The government must show the will for a comprehensive coordinated home care programme for Nova Scotians. We believe the province is closer in actuality, including financially, to a programme than is apparent. Incremented supplementation financially over the next two-five years should see a complete programme in place.
76. Family physicians are convinced that a coordinated comprehensive home care programme is long overdue in this province. The medical profession as a whole should acknowledge this need as well.
77. A comprehensive coordinated home care programme should be the prime health care priority in Nova Scotia in 1986.



SUMMARY

Many services for helping sick or disabled persons to recover or be maintained at home already exist in Nova Scotia. They are unequally distributed and in some cases underused.

Comprehensive coordinated home care services are government sponsored elsewhere in Canada. Nova Scotia is unique in Canada in its lack of such a programme.

There is impressive support from a wide range of the public for a Nova Scotia Comprehensive Coordinated Home Care Programme.

Increased demands on hospital services and health care services generally due to modern changes, especially a higher proportion of elderly and advanced technology, require that a comprehensive coordinated home care programme is an essential component of an adequate health care system in 1985.

An appropriate program for Nova Scotia should have certain characteristics, mentioned in this report but requires government leadership and direction which avoids bureaucratic rivalries.

Such a programme will require initially some add on funding but substantial services are already in place. Ultimately the programme will avoid costs anticipated in a health care system which does not include a comprehensive coordinated home care programme.

A director of a comprehensive coordinated home care program should be appointed; jointly responsible to the Departments of Health and Social Services, with administrative and fiscal authority over all aspects of home care related services in the province.

A comprehensive coordinated home care programme should be the prime health care priority in Nova Scotia in 1986. □

Appendices and References available from Committee.

A Geriatric Restorative Care Program at the Saint John Regional Hospital

Murray D. Nixon, M.D., C.C.F.P. and
Bette M. Lawson, R.N.,

Saint John, N.B.

A Restorative/Rehabilitative in-patient Clinical Unit has been established in the Department of Geriatric Medicine at the Saint John Regional Hospital. Care is provided by a multidisciplinary team which utilizes a goal-oriented treatment approach. Fifty patients were admitted during 1985, with almost one-half discharged back to the community. Statistics on the fifty patients are presented along with a discussion of key issues in Geriatric Rehabilitation.

Some elderly people experience motor, sensory and intellectual losses that affect their mobility, ability to perform activities of daily living and consequently their independence. There is often gradual loss of function but the person continues to manage at home. However, sudden events such as a stroke or fractured hip may occur in a person with already diminished function and reserve, forcing the elderly patient into the hospital.¹

Once the acute phase of the illness is past, the elderly deserve health care that stresses rehabilitation in order to preserve independence. Geriatric rehabilitative measures emphasize the restoration of function and the prevention of further loss, through training and the use of appropriate aids. Rehabilitation can get elderly people home from hospital.

CLINICAL UNIT

A Geriatric Restorative Care/Rehabilitative area of twelve beds in a thirty-eight bed Extended Care Unit was developed on 3-C-South, within the Department of Geriatric Medicine, at the Saint John Regional Hospital. The entire thirty-eight bed unit functions as the Clinical Teaching Base for the Resource Centre on Extended Care and Geriatrics, an educational resource for the Province of New Brunswick. The number of twelve restorative care beds was gradually reached during 1985.

Department of Geriatric Medicine, Saint John Regional Hospital and Resource Centre on Extended Care and Geriatrics for the Province of New Brunswick.

Correspondence: Dr. Murray Nixon, Department of Geriatric Medicine, Saint John Regional Hospital, P.O. Box 2100, Saint John, N.B. E2L 4L2.

PATIENT SELECTION

A patient admitted to the Geriatric Restorative Care/Rehabilitative Area met certain criteria.

1. He/she was already a patient in the Saint John Regional Hospital.
2. The attending physician had consulted the Department of Geriatric Medicine.
3. The patient had been assessed by a physician from Geriatrics.
4. The medical problem(s) had resulted in loss of function.
5. There appeared to be some potential for improvement.
6. The state of any medical emergency had passed.
7. Any stage of rapid medical recovery was felt to be over.
8. There was a need for regular physician attention.
9. There was a need for regular nursing care.
10. There was a need for hospital facilities.
11. The patient was likely to require in excess of thirty additional days in hospital.
12. The patient was not a candidate for the regular hospital Rehabilitation Service.

TEAM CARE

Rehabilitation is provided by a multidisciplinary team of:

Physician
Nurses, nursing assistants and orderlies.
Physiotherapist
Occupational Therapist
Speech Therapist
Social Worker
Activity Worker
Dietitian
Pharmacist

Following a patient's transfer to the Unit, each team member, as appropriate, provides an assessment. The patient's medical status is evaluated and functional assessments of mobility, speech, intellect, continency and activities of daily living are performed. All team members document problems on a problem list placed on the front of the patient's chart.

Weekly team conferences are held at which a detailed picture of the patient emerges. At conference the week after a patient's admission, each team member provides his/her functional assessment, the team develops rehabilitation goals, and a discharge date is estimated. Each patient's progress is reviewed at the weekly conference. Modifications of rehabilitation goals are based on the patient's progress or lack of it.²

Family conferences are held with appropriate team members after goals have been set, and thereafter, as indicated. Trial home visits are encouraged.

1985 STATISTICS

Patients transferred from:	
Family Medicine	30
Geriatric Assessment Unit	7
Internal Medicine	6
Neurosurgery	3
Orthopedics	2
Rehabilitation	1
Otolaryngology	1

Total Number of Admissions 50

1. All the patients had multiple diseases with a particular disease process usually being responsible for the patient's loss of function.
2. The average length of stay in hospital before transfer to the Geriatric Restorative Care/Rehabilitative Area was 65 days.
3. Several patients under age 65, who were considered chronic care patients, were transferred to the unit.

1. Discharged Home:

Patients	12
Average Age	75
Age Range	56-90
Average Stay on Unit	93 Days

Major Diagnoses:

Fractured Hips and Vertebrae
Strokes
Parkinsons Disease
Osteo-Arthritis

2. Discharged to Nursing Homes:

Patients	11
Average Age	80
Age Range	70-90
Average Stay on Unit	61 Days

Major Diagnoses:

Fractured Hips and Vertebrae
Strokes
Parkinsons Disease
Osteo-Arthritis

3. Discharged to Special Care Homes:

Patients	2
Average Age	68
Average Stay on Unit	76 Days

Major Diagnoses:

Osteo Arthritis
Chronic Obstructive Lung Disease

4. **Discharged to Rehabilitation Centre:**

Patients	1
Age	45
Stay on Unit	97 Days

Major Diagnoses:
Paraplegia
5. **Transferred to Supportive Care Status as no functional improvement was demonstrated after 3 months:**

Patients	6
Average Age	79
Average Stay on Extended Care to Dec. 31/85	150 Days

Major Diagnoses:
Strokes
Cancer
Chronic Obstructive Lung Disease
6. **Transferred to Supportive Care Status, received palliative care and died:**

Patients	5
Average Age	75
Average Stay on Unit	75 Days

Major Diagnoses:
Cancer
Liver Failure
Strokes
Chronic Obstructive Lung Disease
7. **Unexpected Deaths:**

Patients	3
Average Age	77
Average Stay on Unit	37 Days

Major Diagnoses:
Pulmonary Embolism
Cardiac Failure
8. **Remaining as Active Restorative Care Patients:**

Patients	10
Average Age	75
Average Stay on Unit to Dec. 31/85	62 Days

Major Diagnoses:
Strokes
Amputations
Fractured Hips and Vertebrae

WHAT WE HAVE LEARNED

1. An accurate medical diagnosis is essential. The multiplicity of disorders and difficulties in old age makes it especially important to pinpoint the separate strands of disability, searching for causes that can be remedied or modified.³ Watch out for the effects of polypharmacy.
2. The patient with an impairment in function because of a neuromuscular problem is more appropriate for a Geriatric Rehabilitation Team to work with than the patient with general weakness from disease or prolonged bed rest.
3. Ongoing communication with families is vital and should begin before admission. Some families will have unrealistic expectations for the patient's improvement, while others may expect that admission to a Geriatric Unit guarantees permanent hospitalization. The family, along with the patient, should be made to feel a part of the team.

4. As the team members work together a definite esprit de corps develops. Regular team conferences are necessary for discussion and planning purposes.

5. Rehabilitation goals should be developed by the team, and the patient's progress in meeting them should be regularly assessed at the conferences.

6. Rehabilitation in the elderly is usually a slow process and requires considerable patience on everyone's part.

7. The rehabilitation milieu is strengthened when Physio, Occupational and Speech Therapists perform much of their clinical activity on the Unit where they can be observed by all staff.

8. Nursing staff must adopt the rehabilitation concept of encouraging patients to do things for themselves.

9. Elderly patients in a rehabilitation program may develop new medical problems in addition to their on-going ones and deaths may occur.

10. Some patients will not have the improvement in function that was initially expected.

11. The environment contributes to rehabilitation. A home-like cheerful setting with dining and activity areas is important. Patients should be dressed in their street clothes.

12. Community based support services must be carefully arranged and in place at the time of hospital discharge. A Geriatric Rehabilitation Program is not successful if the patients it discharges from hospital are quickly readmitted because of the person being unable to cope in the home setting.

CONCLUSION

If we continue to put old people in institutions at the rate we now do, the costs will not only be prohibitive, but we will perpetuate the callous practice of warehousing the elderly. Old people do not want to live in institutions, even in the best of them. Governments are worried about the additional stress on budgets. Our attitude toward the elderly must be changed to one of promoting their health and well being.⁴

Almost everyone, in growing older, is beset with fears and concerns about losing previous capabilities, becoming chronically disabled and facing a diminished quality of life. To a greater extent than is generally appreciated or attempted, such outcomes can be prevented or realistically minimized through a comprehensive rehabilitation philosophy and rehabilitative efforts.⁵

Geriatric Rehabilitation can work. A team approach to care, with accurate diagnosis, functional assessment, problem identification and goal setting is effective. Family involvement and the organization of community support services are vital. The bottom line can be

very satisfactory with additional numbers of the elderly developing a sufficient level of functional independence to allow them to return home from hospital. □

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ERRATUM

The Bulletin and the Gestational Trophoblastic Disease Registry apologises for the misspelling of Dr. I. Zayid's name, co-author of the 1983 Annual Report, in the February 1986 Issue.

Inability to Please a Spouse or Lover: Causes and Management

William I. Morse,* M.D., F.R.C.P.(C) and Jean M. Morse,** B.Sc., M.S.W.,

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Many patients need help relating to a spouse or "significant other". The physician who gives comprehensive care is in a unique position to identify this need and, hopefully, has prepared himself or herself to be useful when these patients — alone or better, as a couple — seek advice. Referral to other care givers obviously has a place, but many sexual and marital complaints can be addressed effectively by the interested family physician.¹

The family doctor who includes one or two questions about sexual satisfaction during routine system review — and who gives the impression of being comfortable with sexual matters — is likely to discover that approximately half of his patients have a sexual problem.¹ On the other hand, without this type of specific inquiry, he may falsely conclude that the incidence of such problems in his practice is closer to 10 per cent.

Eliciting a sexual history can be time consuming but, more often than not, the essentials can be gleaned in 10 or 15 minutes. We suggest that the physician (or other helping professional) seeking further guidance read some of the sample sexual histories found in a useful book written by Jack Annon.² Suggestions regarding management of common sexual problems are offered in the same volume.

SO WHAT HAS PLEASING TO DO WITH MARITAL AND SEX COUNSELLING?

During seven years (1976 to 1983) as conjoint sex therapists in Nova Scotia, we were repeatedly impressed by the relationship between the presenting complaint and (1) ineffectual couple communication and/or (2) the distress caused by myths and unrealistic expectations about sex and marriage.

Not infrequently these shortcomings cause pervasive, and sometimes mutual, *inability to please the other partner*, despite the best of intentions. This manifestation of incompatibility can be very frustrating for the couple, but is seldom a major focus of attention in publications dealing with marital and sex therapy.

The vignettes that follow have been selected from our counselling experience to illustrate causes and management where couple distress centres on inability of one, or both, to please the other — the lack of satisfaction being sexual in some instances and more general in others. The names are fictitious and, to enhance confidentiality for the sources, ages have been omitted.

An example of *effective* pleasing (apart from concerns over sexual dysfunction) has been included for comparison with the other six case reports.

INEFFECTIVE COMMUNICATION

Case 1

Bob and Brenda had tried, without much success, to please each other throughout most of their marriage. Neither understood the other's needs or wishes. Bob had been reared in a family where feelings were not expressed and, as might be expected with this background, usually he would withdraw from a marital argument instead of sharing his real feelings. Lack of effective problem solving and a tendency to guess about Brenda, instead of listening to her concerns, proved upsetting to her. Because he was unwilling to be open with her, Brenda was soon guessing about his feelings. In the past she had been sexually responsive whenever he would talk to her about matters of importance to him, provided these topics did not generate an argument (and Bob's withdrawal). In recent years, however, candid verbal sharing had become infrequent. When lovemaking was initiated, lack of openness between them made Brenda reluctant to communicate her need for more general body caressing and, in addition, her sexual responsiveness was diminishing. Bob had little insight into his contribution to their ineffective dialogues and, when she was obviously dissatisfied, he felt she was punishing him. He concluded finally that his attempts to please her were never going to be successful and, to an increasing extent, he channelled his energies toward other social outlets, investing little of himself in their relationship.

The central problem in this marriage was *ineffective communication*. Bob's failure to share his intimate feelings, and to be assertive with Brenda, was affecting *all aspects* of their relationship. What concept of appropriate masculine role, acquired during child-

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hood, had prompted this behaviour? Let's take a further look at some of the *myths* that underlie the male role stereotype.

One widely held myth can be stated as follows: Competent men are experts on women's marital and sexual needs. In large measure, men are responsible for happiness in the marriage and orchestrate the lovemaking. This myth discourages communication because the indoctrinated man supposes he doesn't need to listen to his wife's hopes or requests in order to please her.

Another myth: Competent men are emotionally "strong". They neither become depressed nor have moments of fear or diminished confidence. A corollary to this myth, which affects communication, says that there is no need for a man to share, from time to time, his own negative feelings with his primary partner in order to maintain a strong and rewarding relationship.

Both myths minimize the role of communication between spouses or lovers. The first myth suggests that the man does not need to listen to the woman's concerns; the second implies that it is not important, and perhaps not even appropriate, for him to discuss with her his hopes and feelings. Bob had accepted unconsciously both of these myths as guidelines for marriage — and Brenda learned gradually that her expression of feelings was unwelcome. Their attempts to please each other were usually misled by guessing instead of being informed by effective communication.

Much of the guessing that takes place within committed relationships is unnecessary, if each partner will share more information about *self* and respond as honestly as possible to the other's inquiries about relevant concerns. It is conceded, of course, that one partner may decide that some things are better not discussed, and this decision should be respected by the other partner. Such a decision will be guided, it is to be hoped, by what is thought to be best for the relationship.

A useful way to facilitate self-representation is to begin sentences with the pronoun "I". When a sentence starts with "I", it is difficult not to reveal something about self. With practice, couples learn that "I" sentences can make easier and more effective the negotiation that is requisite to problem solving. Better to start sentences with "I feel. . ." or "I would like. . ." than with "I am going to do. . ." or "I want you to. ..". One doesn't reach a *joint* decision by announcing a plan or commanding!

It is possible to start most sentences with "I", and partners who remind each other when the "I" form has been omitted learn the habit more rapidly.

"I language" can be useful not only with one's spouse, but also with other family members and friends. Obviously, this self-revealing skill can be very inappropriate with strangers or in the market place.

SEXUAL COMMUNICATION FAILURE

Case 2

In most respects Don and Dorothy had a strong marriage, but the wife guessed that her younger husband needed "sex" every time that he touched her. Her previous marriage had failed, and she wanted to keep Don "happy". Dorothy concluded also (without asking Don) that, because she was overweight, she was not really attractive to him. Actually Don did find her attractive, but he had not shared this information with Dorothy. She often faked sexual desire when he sought her out for a kiss or hug, with the result that they were having more sexual encounters than *either* partner wanted. Dorothy had concluded that she was "frigid" because she did not desire sexual interaction as often as she thought he wanted it.

Dorothy's sexual appetite and responsiveness were well within normal limits. Her concerns would have been laid to rest by more communication about sexual desires and preferences. Open dialogue usually facilitates effective pleasing.

This case also illustrates that it is a myth to suppose that women are experts on men's sexual needs.

LACK OF INFORMATION AND MISINFORMATION

We have encountered many couples who needed more accurate knowledge or additional knowledge, through reading or professional advice, so myths could be replaced by more realistic expectations about sex and marriage. The frequent need for accurate knowledge can be seen in the next two vignettes. Usually the family physician should be able to provide this knowledge and/or recommend a reliable book. [See next page]

Case 3

Esther was more sexually experienced than Edward and, early in their relationship, more aggressive in bed. Edward found her behavior somewhat intimidating and a lack of sexual confidence diminished his sexual responses. Recognizing his difficulty, Esther devoted increasing attention to his sexual pleasure and removal of his inhibitions while, at the same time, neglecting her own sexual satisfaction and enjoyment. Edward's sexual confidence and responsiveness did increase gradually over a two year period, but Esther's neglect of her own pleasure resulted in gradual loss of desire for lovemaking with him. In other respects they had learned effectively to please each other and the relationship remained strong. At the end of our interviews Esther was encouraged, in order to facilitate their shared goal of achieving mutual sexual pleasure, to ask for the kind of caressing and stimulation that she desired.

It is a myth to suppose that focusing exclusively on the spouse's sexual enjoyment will result in rewarding lovemaking for both. A balance should be sought between partner pleasure and the satisfying of one's own conditions for "good" sex, so the fun will be mutual. Usually we have found it helpful to encourage each partner in a committed relationship to become responsible for his or her own sexual satisfaction — while affirming the enhancing effect of stroking or stimulating the other in ways that the latter enjoys (preferably with the guidance of the one being touched). Such attempts to please are appropriate as long as the toucher feels comfortable with the requested activity. To feel needed can have its own rewards. If one spouse starts to feel "used", however, it is time to pause and reconsider. The alternative of release by self-stimulation has an important place at such moments for the aroused partner, unless this option generates destructive guilt.

It is not uncommon for older men to try pleasing a younger partner in ways that are based on incorrect information and are apt to fail. The problem illustrated by Harold and Helen is observed frequently by sex therapists.

Case 4

Harold reported satisfactory ejaculatory control and rewarding sex during his first marriage and, also, during some casual encounters after his first wife's death. Then he met Helen, whom he found very attractive. His emotional involvement increased his desire to please her, and this made him anxious during their initial sexual encounter. For the first time in his life, Harold's coital ejaculation was rapid (probably because of anxiety), resulting in sexual frustration for Helen and embarrassment for Harold. Following this upsetting outcome, increasing performance fears during lovemaking prevented him from relaxing, and the associated inhibition of his arousal caused partial erection failures. Fear of sexual inadequacy increased until ejaculation was even more "premature" and penile insertion seemed to be impossible. Repeated sexual disappointments prompted Helen to refuse his further sexual invitations. This, combined with recurring arguments about sex whenever she brought up the subject, led to depression for Harold and other stresses in their relationship.

Better knowledge of male sexual response might have reduced Harold's anxiety. Like many other men, he supposed that masculine sexual responses are under the man's voluntary control; whereas, actually, the man does not have direct control, although he can learn indirect ways of influencing his responses. Harold, also, was contending with the myth that the man is responsible for the woman's sexual satisfaction and, if the outcome is disappointing, he has failed

her. (Helen, too, accepted this widely held notion.) This myth is largely responsible for male anxiety and performance fears during sexual encounters.

Men who read reliable books about male sexuality (articles in "skin magazines" seldom qualify) are better informed and receive the needed assurance that most women do not expect them to be sexual athletes. The great majority of male sexual problems will reverse as sexual self-confidence replaces anxiety and performance fears, thus allowing natural responses to unfold. Many men need to discover that, like women, their own conditions for "good" sex must be fulfilled if the outcome is to be satisfying. Looked at from a different perspective, during lovemaking men need to be pleasing themselves while they are pleasing their partners.

We recommend the following books for patients with an average educational background if they seem to be genuinely motivated to understand their own sexuality and the flaws in their primary relationship.

For men: *Male Sexuality* by Bernie Zilbergeld. New York: Bantam Books, 1978.

For women: *For Yourself. The Fulfillment of Female Sexuality* by Lonnie G. Barbach. New York: New American Library, 1976.

It is important that the physician read the book of his or her own choice before recommending it so there will be no contradiction between the doctor's advice and that dispensed by the author. If two books are recommended, one for each partner, the impact is enhanced if each reads the other's book and the contents of both are discussed by the couple.

ACQUIESCING BLINDLY TO PARTNER'S WISHES

Another vignette demonstrates that marital problems resulting from inadequate communication and myths about appropriate male gender role are not solved by acquiescing blindly to an unhappy wife's wishes. Non-selective compliance does not enhance couple bonding.

Case 5

Carl was puzzled by Carla's dissatisfaction with the marriage. He concluded that more effort to please her would alleviate her depression and restore her interest in marital sex. He had never learned to listen attentively to her descriptions of how she felt; nor did he tell her about his own sense of failure and frustration because he could not solve her problems. Much of the time Carla felt misunderstood and disappointed by Carl's ineffective attempts to please and by his lack of visible emotional response to her complaints. Concurrently, he was guessing about her problems and offering unrequested advice, often inappropriate.

While counselling this couple, we encouraged more effective marital communication and problem solving. Specifically we suggested to Carl that he state his own preferences instead of automatically giving in to Carla's requests. Emphasized also was the need for him to listen to her concerns without always feeling responsible for their resolution. At first Carl misunderstood and reacted by trying to win every marital argument, instead of supporting those alternatives that would bring benefit to their relationship. Gradually he learned to abandon some of his traditional ideas about the man's role in marriage and, without giving unwanted advice, developed a capacity to be available when she needed him. She, in turn, responded to more effective pleasing and developed some interest in marital lovemaking.

It was difficult for Carl to change his pattern of relating to Carla but, once he realized that she wanted him to show the real Carla beneath the myth inspired behaviour, he proved able to make some needed changes. It is noteworthy that, early in the counselling period, he substituted temporarily the myth that effective husbands make most of the marital decisions unilaterally for the now-abandoned myth that non-selective attempts to please would restore Carla's loyalty and love. Later he managed to put aside both myths in favour of our suggestion that effectively negotiated decisions would reflect the best interests of the relationship (the result being two winners instead of one).

ABSENCE OF EFFORT TO PLEASE

We have looked at some wrong approaches to pleasing a spouse or lover. But what outcome can be expected when little or no effort is made to please the partner?

Case 6

Ivan was a rapid ejaculator, and Iva had never experienced orgasm during lovemaking. The sexual relationship was disappointing for both and the marital bond was weakening. Both were self-sufficient and held responsible jobs. As they became busier, and neglected opportunities to share thoughts, activities and recreation, they started to drift apart. The couple had no children, and the absence of common interests generated concern that their marriage would not last unless substantial change could be brought about. During our interviews, Ivan remarked wistfully that sometimes he would like to feel that Iva "needed me", but he had not shared this feeling with her.

We advised that the marriage needed nurturing if they were going to stay together, and that this required willingness for each to be vulnerable to — and therefore

dependent on — the other, from time to time. Also needed were greater openness and some planning for good times together. Specific counselling for the sexual problems was recommended but we added that a successful outcome usually required sharing in some other aspects of life. We also suggested more private time together and counselling to deal with communication deficiencies.

The desire to please the partner (hopefully for mutually beneficial reasons) is part of caring, and this essential ingredient had been fading from Ivan and Iva's marriage. Each couple must find a suitable balance between individual growth and self-realization on the one hand and, on the other, nurturing of the relationship. What works for one pair may be totally unsuitable for another couple.

EFFECTIVE PLEASING

Last, but not least, let us look at a marriage demonstrating some effective approaches to pleasing.

Case 7

Adam and Ann had sought counselling because of rapid ejaculation and the wife's inability to achieve orgasm. Adam needed to learn the adjustments that a man can make during intercourse to improve his ejaculatory control. Ann needed more effective clitoral stimulation and guidance to reduce the distracting effect of "working at" achievement of orgasm. Apart from the sexual concerns, their marriage was obviously strong.

Ann was assertive, but found it important that Adam be equally assertive. She never enjoyed men for long if they were not. Neither partner would tolerate covert manipulation of situations by the other. Adam could, when he felt strongly about something, express his viewpoint as effectively as Ann could. On the other hand, he could admit to past error and ask forgiveness. During counselling, he spoke freely of moments when he felt happy, sad, or anxious, without any sense of weakness or embarrassment in the telling. His acceptance of Ann's potential for self-responsibility was demonstrated by his earlier conclusion that he was not primarily responsible for her achievement of orgasm. He had never, to satisfy his own ego needs, "pressured" her to be orgasmic. Counselling of this couple was straightforward, and both sexual dysfunctions were reversed.

Adam and Ann had found that pleasing the other made them "feel good" and this provided sufficient motivation for doing so. They were open and honest in their communication with each other, thus reducing the likelihood of misunderstandings. Caring and respect had been reinforced because they knew the importance of relating as equals and, also, the amount

of self-responsibility that this requires. They were not afraid of those moments when one would feel weak and the other would gladly offer emotional support and deal gently with the vulnerability of the one in need. Both had acquired the self-confidence that allows a person to be effectively assertive without being aggressive.

CONCLUSION

1. The most effective approach to pleasing one's primary partner includes genuine caring, open sharing, sound information about sex and marriage, a balance between dependence and independence, and appropriate assertiveness.

2. We think it likely that a couple's inability to please each other will often respond to counselling by the interested family physician. □

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N.B. Special thanks to those physicians presently referring their patients to our study.

The Treatment of Narcolepsy: An Update

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Narcolepsy is an important condition for the family physician because it is common, treatable, easily diagnosed but usually undiagnosed, disturbing to normal living and occasionally fatal. The symptoms of narcolepsy are: 1) excessive daytime sleepiness and sleep attacks; 2) cataplexy; 3) sleep paralysis; and 4) hypnagogic hallucinations. This constitutes the classical tetrad of narcolepsy but I think there are other symptoms that should be added to this list as many cases have automatic behavior and sleep drunkenness.

Most patients do not have all of the symptoms of the narcoleptic complex, but 75% will have narcoleptic sleep attacks and cataplexy. We reserve the diagnosis for those who have sleep attacks and cataplexy, because there are other causes of daytime sleepiness. Cataplexy, however, rarely is seen except in narcolepsy. Because narcolepsy consists mainly of temporal redistribution and dissociation of sleep phenomenology, with little or no increase in total sleep, it is more properly called a dysomnia, rather than a hypersomnia.

There are at least three types of narcolepsy:

1. NREM narcolepsy with sleep attacks only;
2. REM narcolepsy with sleep attacks and other symptoms; and
3. NREM/REM narcolepsy in which some sleep attacks involve NREM sleep mechanisms.

The onset of narcolepsy is usually in early adulthood, but childhood or late life onset is not uncommon. It occurs equally in both sexes. The onset is often difficult to determine, as the shift from normal drowsiness to increasing sleep attacks is often not recognized as abnormal by the patient until years later, particularly when the spouse or others become concerned. In our series the average time from onset to diagnosis was 12.5 years, and during much of this time the patient did not recognize that the symptoms were representative of an abnormal state. Incidence is said to be about 0.03 per 100,000 population, with a prevalence of about 1 per 1,000 population. 10% of the patients with narcolepsy have a family history of the condition, but this is undoubtedly low, and the true figure may be in the region of 30%. Recent evidence of a common HLA type in narcolepsy patients also supports an inherited predisposition.

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SYMPTOMS OF NARCOLEPSY

Excessive drowsiness and sleep attacks occur in all cases. The sleep attacks are irresistible, brief, episodes of sleep occurring at times of decreased sensory stimulation. These often last only five to ten minutes, but may persist for much longer if the patient is not disturbed. Although most people feel somewhat tired and groggy if they wake up after only ten minutes of sleep in a nap, the narcoleptic patient may awaken after ten minutes feeling quite refreshed. Narcoleptics also experience a continuous feeling of drowsiness much of the time, with the sleep attacks superimposed. The narcoleptic can often keep alert for short periods if the circumstances demand, but has trouble maintaining vigilance in quiet, non-active or boring situations, and may demonstrate poor concentration and poor decision-making in these circumstances. Diplopia is common when the patient becomes drowsy but attempts to remain awake.

Sleep attacks occurring alone are usually of NREM type, and respond to stimulant therapy. The additional symptoms of cataplexy, hypnagogic hallucinations, and sleep paralysis are based on REM sleep and respond to tricyclic medication. Sleep attacks in association with other symptoms involve either type of sleep. If they are of NREM type, sleep onset is slow, and breathing and pulse are slow and regular. If of REM type, twitching of the eyes, face and extremities, and marked irregularities of respiration and pulse may be noted. Although the sleep attacks are the most dramatic symptoms, often the patient's life and happiness are more disturbed by the feeling of chronic drowsiness.

Cataplexy is a sudden episode of muscle relaxation that normally occurs only in REM sleep, and may cause the patient to drop to the floor. This sudden collapse is usually precipitated by emotion, particularly laughing. If the sudden relaxation of muscle tone is partial, the patient may experience only jaw opening, head drooping, the arms falling to the side, and the feeling that the knees may buckle. In more characteristic episodes the patient will suddenly slump to the floor as all muscles suddenly relax. The episodes are very brief, but occasionally patients can be seen who have more prolonged muscle weakness, and in rare cases this may result in the patient moving very slowly, as if in slow motion.

Although cataplexy usually lasts a few seconds only, it can persist as long as 30 minutes. It occurs in about 60% of patients with narcolepsy, usually in REM narcoleptics, and may be the primary manifestation in some of these patients. Cataplexy is usually precipitated by emotion, but also by stress, fatigue or heavy meals. In some patients just thinking about emotional situations or humorous stories may precipitate the collapse, and patients often say they try not to find things funny. Occasionally cataplexy may occur with no provocation whatsoever.

Sleep paralysis is a less frequent problem in the narcoleptic but occurs in about 30% of patients. It occurs when the patient is falling asleep, or more commonly when waking up. Patients feel mentally awake and alert, aware of their surroundings, but unable to move or talk. They will often state that if someone would just talk to them or touch them the event would end, and this is so. Although frightening, even in those patients who have had hundreds of episodes, the paralysis usually lasts only 30 to 60 seconds.

Hypnagogic hallucinations are vivid auditory or visual experiences of dreaming while the patient feels mentally awake and aware of his or her surroundings. This is not just the memory of a dream as one awakens, but is a continuing experience of the dream when awake. The patients may have waking dreams at sleep onset (hypnagogic) or on sleep awakening (hypnopompic). It occurs in about 25% of cases, often associated with sleep paralysis, and is usually frightening.

Automatic behavior is a more recently recognized symptom of narcolepsy in which patients experience periods of rather prolonged, drowsy confusion. These may last 10 to 30 minutes and observers will note that the patient seems to be "half asleep", walking about and talking in a very groggy, lethargic, confused and unintelligible manner. In automatic behavior they may carry out simple repetitive tasks, talk, drive, phone and walk about, but often use disjointed or meaningless words and sentences. An occasional patient will carry out automatic behavior with no memory of the event later. It is seen as an occasional symptom complex in about 40% of patients with the narcolepsy syndrome but in only 12% of those with sleep attacks alone.

Sleep drunkenness is slow, prolonged awakening from sleep so that the person has confusion and sleepiness long after normal awakening should have occurred. The patients may stagger around, mumble incoherently and be unable to answer questions clearly. This state may last ten to twenty minutes before the person is reasonably awake. It is seen in about 15% of patients with narcolepsy, and more often in those with sleep

attacks only. It is also seen in other syndromes associated with excessive daytime drowsiness.

The symptoms of narcolepsy may be aggravated in some patients by menstruation, hunger, or heavy meals. In menstrual narcolepsy, the patient may have most of the symptom complex around the time of periods. Other patients may have attacks precipitated by hunger and symptoms suggestive of hypoglycemia. In others, heavy meals, particularly if accompanied by high carbohydrate or dark chocolate, may precipitate narcolepsy.

DIAGNOSIS

The most effective method of making a diagnosis of narcolepsy is a careful history. The physician must think of the possibility of narcolepsy and ask the right questions. The specificity and practicality of ancillary investigations such as EEG, sleep laboratory studies, infrared pupillography, and therapeutic drug trials are limited.

Patients are often undiagnosed for many years because they often feel that everyone gets tired and drowsy at times, and their situation is just a variation of normal. It is often a spouse that insists on the patient seeking medical help, particularly if there have been crises at work or while driving. Patients also describe their symptoms in a very vague fashion, often complaining only of tiredness and being unaware that their symptoms of cataplexy or sleep paralysis are part of the problem. (It always has interested me that patients with the dramatic symptom of cataplexy seldom present to the physician because of it). It remains for the perceptive physician to ask any patient complaining of fatigue, tiredness or drowsiness about the characteristic and specific symptoms occurring in narcolepsy.

Another cause of delay in diagnosis is the physician who feels that chronic tiredness is due to psychogenic problems and who does not consider other causes. Initially, most narcoleptics receive a diagnosis of chronic anxiety, depression or hypothyroidism, but they can be separated from this group by the right questions, even though narcoleptics are often frustrated and upset about the life effects of their symptoms.

The diagnosis is much more difficult in the patient who has episodes of falling asleep easily without any other associated symptoms. Even then, the features of the sleep attacks are often characteristic of narcolepsy, and the patient is different from normal individuals who become drowsy in boring situations or those who suffer from idiopathic hypersomnulence. In these cases, however, the diagnosis must be left open and the patient managed and followed with an uncertain diagnosis, and an open mind. Because narcolepsy is a condition that is incurable and often requires lifelong therapy, the diagnosis must be definite before a label is applied.

It is also important to note that the patient with narcolepsy may have associated problems such as sleep apnea and periodic leg movements in sleep. Often patients with sleep apnea have their daytime drowsiness misdiagnosed as narcolepsy.

There are now 300 sleep laboratories in North America but these are expensive and not available to most community physicians. In nighttime recordings the narcoleptic is noted to have abnormal REM patterns and timing, and REM sleep is noted to occur when the patient has a sleep attack during the daytime.

TREATMENT

Explanation (Table I)

The most important initial step is to explain the diagnosis and the nature of the symptoms to the patient. The patient is often very grateful for an explanation and the understanding of a problem that may have disrupted his or her life for many years. It should be explained to the patient that, although a lifelong condition, the symptoms can often be managed and improved. I try to include the spouse in this discussion, and if the spouse is not present on the initial visit, I request that he or she accompany the patient on the next visit. Narcolepsy is often as much of a problem to the spouse as it is to the patient.

TABLE I
GUIDELINES IN MANAGEMENT

1. Explain the disorder to the patient and spouse.
2. Advise regarding driving hazards.
3. Have the patient keep a diary of the symptoms. Explain a simple sleep rating of: 1-fully alert; 2-slightly sleepy; 3-very sleepy; 4-asleep.
4. Begin therapy with methylphenidate 2.5 mgs once or twice a day, increasing to a dose that gives reasonable control to sleep attacks and daytime drowsiness.
5. If cataplexy, sleep paralysis, sleep drunkenness, or hypnagogic hallucinations continue to be a problem, then add clomipramine 25 to 75 mgs at bedtime.
6. Arrange a nap schedule.
7. Judge need for other drugs (see text) as followup continues.
8. Aim for reasonable control of symptoms, not "normality".

The question of driving safety should be raised on the initial visit, and appropriate decisions made. If there is any question of episodes of sleepiness at the wheel the patient must be restricted from driving until therapy has made driving safe. If a driving hazard is clearly present the patient's licence should be revoked through the appropriate authorities.

One of the most important initial steps in educating and informing patients is to suggest that they write for further information to the American Narcolepsy

Association, Box 5846, Stanford, California, 94305, or the Canadian Association for Narcolepsy, Box 193, Postal Station S, Toronto, Ontario, M5M 4L7.

Documentation

Patients should be asked to keep a diary of the symptoms so that patterns can be identified and effects of treatment better assessed and adjusted. One method is to use the Stanford Sleepiness Scale but a simpler method is to have them grade the sleepiness at times of the day as 1-fully alert, 2-slightly sleepy, 3-very sleepy, 4-asleep. The other symptoms are marked by initial when they occur (i.e. C-cataplexy). I have the patient use a calendar pad which has a block for each day to write in the symptoms.

Medications

There is now a long list of medications that are of some use in narcolepsy (Table I) and these will be initially described, and then a practical approach to initiating therapy outlined (Table II).

TABLE II
DRUGS USED IN NARCOLEPSY

First line drugs	Second line drugs
Methylphenidate	Caffeine
Methamphetamine	Pemoline
Clomipramine	Phenmetrazine
Imipramine	Ephedrine
Desmethylinipramine	Dexamphetamine
	L-Dopa
	Carbamazepine
	Gammahydroxybutyrate
	Propranolol
	Protriptyline
	MAO inhibitors
	Methysergide
	Catapres
	Desipramine

a) Drugs for Sleep Attacks: (Table II)

Methylphenidate (Ritalin) has been a very useful stimulant for the management of sleep attacks but the dosage required varies from 20 to 80 mg per day, usually 30-40 mg per day. Side effects include nervousness, anorexia, insomnia, skin rash and tachycardia, but the major problem with the drug is its limited impact on the sleep attacks in some patients and its negligible effect on the other symptoms. Because many of the patients report improvement in sleep attacks without change in the other symptoms of the narcoleptic syndrome, additional therapy may be necessary.

Methylphenidate should be taken 45 minutes before a meal as absorption is best in stomach acid, and is reduced by the alkalinity produced by food in the stomach. The effect of methylphenidate lasts about

five hours. In initiating therapy with methylphenidate, low doses, such as 2.5 mg once or twice a day, should be initiated, and the dosage slowly increased, aiming for a level that keeps the patient reasonably alert and functioning well, but not attempting to make the patient entirely normal, as this often requires excessive dosages or may not be possible at any dosage. As time goes on I allow the patient to make adjustments in the timing of the dosage during the day but changes in dose are always under my direction. Methylphenidate may inhibit the metabolism of imipramine, deximipramine and other tricyclic antidepressants. It should be used cautiously with such anti-depressants as it tends to potentiate them, not only in their beneficial but also their toxic effects.

Caffeine was the first drug used for this disorder, but it is only useful as an adjunct because of its mild stimulating effects. Excessive drinking of coffee is discouraged because of the side effects of irritability, tachycardia, and gastric irritation, and the irregular response when other medication is being adjusted.

Amphetamines were used for many years in this condition, and are still used occasionally, but their tolerance, side effects and the problem of addiction limit their usefulness. It would appear, however, that addiction is not such a major problem in narcoleptics as these patients are seeking an approach to normality, not pleasure, and the psychological dependence is much less. Tolerance and increasing side effects with increasing dosage is a problem and limits their use. The restrictions placed on the prescribing of these drugs also discourages their use, although they still have a useful place in the treatment of these patients. I rarely use these drugs in the treatment of narcolepsy, although others use them when the response to other medications is poor. The best tolerated amphetamine is methamphetamine, begun in dosages of 5 mg and gradually increased until acceptable alertness is met. Most patients require one or possibly two doses per day.

The major drugs used for the symptom of excessive daytime sleepiness are *methylphenidate*, *dexamphetamine*, *codeine* and *pemoline*. Lesser drugs are *phenmetrazine*, *ephedrine*, and *caffeine*. There are also reports of benefit with *L-Dopa* plus a dopa-decarboxylase inhibitor, *methysergide*, and *carbamazepine*.

Gammahydroxybutyrate (GHB) used at night will reduce daytime symptoms of narcolepsy. Broughton used 1.5 to 2.25 grams, coupled with 1 to 1.5 gram doses during the night with each major reawakening, if at least two hours had passed since the last dose. GHB, unlike synthetic hypnotics, promotes NREM and REM sleep and therefore synchronizes sleep subsystems, reducing the sleep fragmentation characteristic of narcolepsy. Most patients had a more than a 75% reduction in daytime symptoms with this

nighttime treatment. Those who still had drowsiness in the day were given a small amount of methylphenidate. REM sleep is reduced in latency and becomes less fragmented. GHB is available only as an experimental drug in North America. The initial studies had variable results and later trials will clarify the place of this interesting chemical in the treatment of narcolepsy.

Propranolol in dosages of 240-480 mg may be effective in treating the sleepiness and the sleep attacks of narcolepsy in some cases, but the effect often wears off in a few months. Its value may be due to its serotonin-blocking properties rather than to its beta-blocking effects.

b) Drugs for Cataplexy:

The Tricyclic antidepressants imipramine (Tofranil®), and clomipramine (Anafranil®) are used to control the cataplexy, sleep paralysis and hypnagogic hallucinations, and are usually quite effective, certainly more effective for these symptoms than methylphenidate is in the management of sleep attacks. Imipramine is begun in a dosage of 25 mg at bedtime and increased after a few weeks to 50 or 70 mg at bedtime if the effect is not optimal. Although there is a long experience with imipramine, the drugs clomipramine and desmethylimipramine may have less long term side effects and may be more effective. Clomipramine is given in a dosage of 50 to 100 mg per day, with occasional dosages for situations in which an increase in symptoms might be predicted. The combination of analeptics and the tricyclic antidepressants may produce hypertension, and increase toxicity and side effects.

MAO inhibitors may also reduce the other symptoms of the narcoleptic syndrome, but should not be used with amphetamines or tricyclic anti-depressants since serious and sometimes fatal complications could result. The MAO inhibitors are usually not recommended for the treatment of narcolepsy except as a last resort for those patients who are not controlled on other drugs.

Protriptyline (Triptil®) may be useful in some patients in managing the symptoms of cataplexy, sleep drunkenness and the daytime drowsiness of narcolepsy, as a single drug, although this has not been a consistent finding. Also, in a single dose at night it may act as a stimulant and worsen night sleep. Protriptyline as a single dose of 10 to 20 mg at bedtime may effectively control arousal dysfunction (sleep drunkenness and hypersomnia) with minimal side effects. Protriptyline may be the drug of choice for cataplexy in some patients as it causes little drowsiness and can be given in a dose of 5 mg twice a day and 15 mg at bedtime.

Other drugs that may improve cataplexy are *pemoline*, *methysergide*, *catapres*, *atropine*, and *pertofrane*. *Pemoline* (Cylert®) is used at one tablet

(37.5 mg) in the morning, increasing to two and later as high as five tablets in the morning. *Methysergide* (Sansert®) is also effective in managing cataplexy. The dose is 2 to 4 mg per day. Muscle cramps, gastric irritation, abdominal pain, and peripheral vascular complications may develop with this dose. It should only be used for 5-6 months and then the patient must be off the drug for one month before restarting, to avoid retroperitoneal fibrosis.

Driving

The patient with narcolepsy must be advised regarding the hazard of driving. Until control is achieved, the physician should insist that the patient restrict driving, and may even take steps to have the licence revoked. Usually, patients will be asked to cease driving until therapy has proven successful, and if the patient does not respond, or is irresponsible about therapy and safety, the licence should be revoked. If there is any question about driving safety, it is helpful to talk to the spouse.

In one study 65% of patients have fallen asleep while driving, (controls 6.2%); 6.7% have had near accidents, (controls 0%); 36.8% have had accidents due to falling asleep at the wheel, (controls 5.3%); 16% have higher insurance, (controls 9%); and twice as many (6.7%) have had their licences suspended.

Genetic Counselling

Genetic counselling may be important in patients with narcolepsy. Narcolepsy is 60 times more likely to occur in the first degree relatives than in the normal population. About one child in twenty of a narcoleptic parent is likely to develop narcolepsy, with a slightly greater risk if the parent with narcolepsy is female.

Diet

Diet may be helpful in some patients, particularly to reduce weight, and to reduce excessive ingestion of sweets and carbohydrates. Occasionally patients will develop narcoleptic symptoms with hunger or fasting and it is important to question patients about these associations, and rearrange their eating patterns appropriately.

Naps

A schedule of daytime naps should be established, particularly at times when sleepiness tends to be most pronounced. A schedule should be arranged based on the times of greatest drowsiness, timing of naps, timing and effect of medication, and daytime demands on attention and activity.

Counselling

Narcolepsy produces significant life effects. There are often difficulties keeping jobs, with reduced performance when on the job. About half the patients

complain that they fear losing their jobs, and many feel that they have decreased earnings because of it. There is some evidence to show that narcoleptics have fewer promotions, more dismissals, and lowered ability to obtain disability insurance.

These patients are very sensitive to anything that disrupts their sleep/waking cycles, whether by shift work, east-west flights, or other factors; some of the factors may be identified in their daily life patterns. The timing of medication should be arranged to avoid insomnia, avoiding anything that interrupts the patient's interrupted sleep pattern.

It is important to continue to follow the patient regularly, reassuring and explaining as the process and treatment change, and adjusting the dosages as appropriate. Determining an effective baseline is difficult because the patients do not have a clear concept of normal as a comparison. The physician has to make a judgement, based on the perceptions of the patient and spouse, to determine how well the patient is doing, and at what level the drugs can be maintained.

Associated Disorders

The physician should look for associated disturbances which are present in a small number of cases. Nocturnal periodic leg movements and sleep apnea may be associated with narcolepsy, and may aggravate the problem. Many patients appear to increase weight just before the onset of symptoms, and about a third of the patients are obese. About half the cases give a history of head injury in the six months prior to the onset of narcolepsy but there is rarely residual deficit as the injury was usually not severe. Some patients may have their symptoms aggravated by sedation, tranquilizers and other drugs, and occasionally patients may be mistakenly diagnosed as having narcolepsy who have hypersomnulence from drugs.

Depression is twice as common and they have had psychotherapy 2½ times as often as non-narcoleptics. Patients with narcolepsy have more excessive snoring, periodic imbalance, sensitivity to alcohol, sensations of hot and cold, and half of them complain of poor memory.

CONCLUSION

The narcoleptic syndrome is not difficult to diagnose in the patient who has a number of the characteristic symptoms. It is more difficult in the patient who has only sleep attacks. Once a diagnosis has been made, an explanation should be given to the patient and spouse, indicating the nature of the disorder, its life-long basis, and the various options in managing the symptoms.

Medications are only part of the therapy, and it is equally important for the physician to use explana-

tion, reassurance, and scheduling of maps and activity to help control the disorder. With the use of methylphenidate and clomipramine most patients achieve a reasonable degree of control. In the patients who still continue to have significant problems, other medications may be used.

Ideally, patients with excessive daytime sleepiness will consult a physician for assessment, advice and treatment early in the course of their disease. The physician will consider narcolepsy and, if present, provide advice and treatment to allow the patient to return to a normal level of alertness for work, family, social pursuits and safety. To reach this ideal more physician and public education is required so that people with excessive daytime sleepiness will recognize that this problem requires assessment, and physicians will ask the right questions when assessing a patient who complains of tiredness.

Finally, our present medical therapy is satisfactory for most patients but we still need to develop better therapy to provide continuous daytime alertness, and a means of altering the disturbed sleep mechanisms to ultimately cure the disease. □

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Several studies have demonstrated that, once a therapy is professionally adopted and endorsed, there are significant financial, public and professional obstacles in the way of abandoning it, even if it is demonstrated to be ineffective and to harm patients.

Evelleen Richards,
New Scientist, Feb. 27, 1986

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Abdominal Aortic Graft Infection. Does Lymph Contamination Play a Role?

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Lymph was obtained from the area of the proximal aortic anastomosis in a prospective series of 35 patients undergoing abdominal vascular surgery. Microbiology analysis consisted of aerobic and anaerobic cultures of lymph and the aortic wall. There was no significant difference in the incidence of positive cultures between these sites (8.5% versus 14.3%; $p = 0.4$) and there was no evidence of graft sepsis at a mean post-operative follow-up of one year.

We conclude that the transitory presence of lymph at the graft site does not influence the infection rate in this setting.

INTRODUCTION

During preparation of the infra-renal aorta prior to vascular anastomosis, it is very common for the area to be bathed in lymph due to operative injury to the cisterna chyli, small lymph channels or lymph nodes. Bacteria may remain viable during transport within lymphatics^{2,4} and viable bacteria have been demonstrated in thoracic duct lymph in patients undergoing abdominal surgery.⁴

A prospective study was therefore considered appropriate to examine abdominal lymph bacteriologically in the area of the proximal aortic anastomosis.

MATERIALS AND METHODS

Thirty-five consecutive patients, operated on over a six month period for elective infra-renal abdominal aortic aneurysms or aortic occlusive disease, were studied prospectively. All patients had an hexachlorophene* shower the night before and on the day of operation. One gram of cefazolin** IM was given one hour pre-operatively and it was continued I.V. q6h for 72 hours. The skin was prepared with 10% Providone-Iodine+. When the aorta was opened, aerobic and anaerobic cultures were taken from the wall and aortic contents immediately. The prosthetic graft was then inserted using a continuous polypropylene suture, and aerobic and anaerobic cultures taken

from the area of lymph collection at the level of the proximal aortic anastomosis. All swabs were put directly into thioglycollate broth. Blood agar or MacConkey's agar were used for culture media. The amount of lymph was estimated as large if it was easily seen and small if not so obvious. After all cultures had been taken, lymphatic vessels were ligated. The area was sprayed with Neomycin-Polymyxin B-Bacitracin++ and the grafts and suture lines covered with viable vascularized tissue. The culture tubes were checked daily for seven days and at two weeks. All patients were seen at the clinic and evaluated by one of us at six weeks and every three months.

RESULTS

There were 27 males and 8 females in the study group with a mean age of 69 years (47 to 83). The aneurysm occlusive disease ratio was 1.3:1. The results of the bacteriological studies are summarized in Table I.

In five patients (14.3%), the amount of abdominal lymph was estimated as large but only one had a positive culture. There were two positives for the small amount group (non-significant). Cultures from the aortic wall were positive in five patients, *t* test and two-tail comparisons of both groups showed no significant statistical difference ($p = 0.4$). There was one death at 48 hours post-operatively due to a large myocardial infarction. Diphtheroid bacilli and *Staphylococcus aureus* had been cultured intra-operatively from his lymph and aortic wall respectively and both were sensitive to cephalosporins. At postmortem no evidence of infection was found in the area of aortic anastomosis and cultures were negative. On a mean follow-up of one year no patient has shown evidence of graft sepsis.

DISCUSSION

Once aortic graft sepsis becomes established, the chances of long term survival are dismal. Mortality ranges from 13% to 87%.⁵ The majority of graft infections probably begin in the operating room.⁹ Intra-operative infection rates are influenced by emergency or elective operations, antibiotics and

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*Philohex® (Wintrop)

**Ancef® (SK&F)

+Betadine® (Purdue-Frederic)

++Sterispray® (Fisons)

TABLE I
RESULTS OF LYMPH AND AORTIC WALL CULTURES IN 35 CONSECUTIVE PATIENTS STUDIED PROSPECTIVELY.

	Positive Cultures	O.D.	A.A.	Staph. Epi.	Diphth. Bacilli	Staph. Aureus	Yeast
Lymph	3	0	3	2	1*	—	—
Ab. Wall	5	3	2	3	—	1*	1

*same patient

O.D. Occlusive Disease
A.A. Abdominal Aneurysm

interposition of vascular tissue between graft and bowel.^{7,10}

A number of studies have been carried out to identify the possible sources of contamination, including aneurysm wall and contents, bowel bag fluid and ulcerated plaques.^{6,13} Previous reports have shown the possibility of bacteria being carried by lymph and to be present in the thoracic duct in several situations. The sources of bacteria were the limbs, the abdominal wall or viscera.^{2,9} Bacteria has also been found in thoracic duct lymph in experimental situations from these sources.⁴

The proximal anastomosis during infrarenal abdominal aortic graft insertion is directly exposed to abdominal lymph. The contents of the aortic wall are very rarely a source of contamination of prosthetic implants.⁶ Ernst *et al.*, reported an overall positive culture of 10.2%, our incidence was 14.3% and only 2.9% if contaminants are excluded. In our series all positive cultures were most likely contaminants.

Chylous fluid has been reported to possess a bactericidal nature but no objective data has been provided.¹¹ Since the number of contaminants was the same for both groups, lymph does not seem to have bactericidal properties or to increase the infection rate. In fact, patients in the large amount group seem to have a higher incidence of positive cultures but it is not statistically significant. This group (n = 5) is too small to make significant conclusions. *Staphylococcus epidermidis*, isolated in two patients, may be an important pathogen in the presence of prosthetic material. None of our patients has shown evidence of infection. The use of prophylactic antibiotics (all organisms were sensitive to cephalosporins) has been controversial.^{1,3,8,12} We do believe in its use and do not feel that a randomized trial with and without antibiotics is justified, thereby submitting the patients to an unnecessary risk.

The purpose of this study was to show whether the presence of lymph in the operative area increased the incidence of graft infection in the usual operative setting. Since most surgeons utilize an anti-staphylococcal antibiotic for prophylaxis, whether bacteria were inhibited by its presence or not present at all makes little difference. The fact that no patient had evidence of graft infection after a year, strongly

suggests there were no bacteria present in the lymph at the time of surgery. Had the lymph been a carrier for bacteria there is a possibility that the cultures may have been inhibited by use of preoperative cephalosporins, but in such cases it would be expected for some patients to return with evidence of late graft infection since no patient had a full therapeutic course of antibiotics.

We conclude that the transitory presence of lymph at the graft site does not influence the infection rate of abdominal grafts in the average patient. □

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Organ Transplantation: At the Crossroads

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Organ transplantation used to be experimentation. Today, it is treatment — replacement treatment for organ failure. By replacement, we can cure irreversible failure of the kidneys and certain types of terminal failure of the heart, liver, or bone marrow. Pancreas transplantation has been carried out as treatment for diabetes; corneal transplants have restored sight to many thousands of people; and bone transplantation to salvage limbs is already a reality.

Over 75,000 kidney transplants have been carried out worldwide. Currently, over 6,000 are performed annually in the United States, approximately 700 in Canada, and over 80 in Nova Scotia at the Victoria General Hospital in Halifax. We have performed almost 700 kidney transplants for patients from all parts of Atlantic Canada.

About 4,000 people in Canada today are alive with kidney transplants, a large proportion of them as active contributing members of society. The advent of Cyclosporine for immunosuppression, together with other technical and immune modifying treatment innovations in recent years, has significantly improved the outlook for transplant recipients.

Assuming early graft function, one and two year graft survival for recipients of first cadaver kidney transplants is 85%, with patient survival in excess of 90%. Beyond that time, there is slow graft attrition at a rate of 3-5% per year, usually from chronic rejection or death from ischemic vascular disease, infection or cancer. Patients returned to dialysis because of graft failure, can be retransplanted with expected graft survival rates only slightly lower than with the first transplants.

Heart transplantation and liver transplantation have enjoyed equally spectacular improvement with respect to survival results in recent years — close to those seen with kidney transplant recipients. Pancreas transplantation has a number of important technical problems to overcome, but results continue to improve.

As important as are the survival rates is the improvement in quality of life enjoyed by recipients of successful transplants. For the most part, they are restored to good health with the potential for productive activity, not only in the workplace but also in terms of family and social living in general.

Looked at in the context of treatment for organ failure, the cost of transplantation is not excessive. A kidney transplant costs approximately \$12,000 to \$15,000, with ongoing annual costs of \$5,000 to \$7,000, due largely to the high cost of Cyclosporine. This contrasts with annual costs of \$25,000 to \$40,000 for chronic dialysis. Given the infrastructure already in place for an active kidney transplant program, and active programs for treating heart failure and liver failure, the start-up costs for heart and liver transplantation need not be significant. The average cost for a heart transplant is in the range of \$30,000 to \$35,000, considerably less than the cost of caring for a potential heart transplant recipient, who traditionally requires several admissions in his last year of life for the management of heart failure, with an average length of stay of 20 days per admission, at \$500 per day. Transplantation is, therefore, a cost effective treatment as well as a successful treatment for terminal organ failure.

The requirements and demand for transplantation increased as improving success broadened the indications for this treatment. Diabetics and patients over 50 years of age were, until recently, generally considered at too great risk to be given scarce kidneys for transplantation in Canada. In our own Transplant Program, we did not exclude diabetics and a third of all our cadaver kidney transplant recipients were over age 50. Through our experience, together with that of others and with improving results generally in transplantation, these patients are no longer excluded from transplant lists. This is especially relevant since diabetes has become the second most common cause of end stage kidney failure, after glomerulonephritis.

Demand is also augmented by better detection and management of renal failure, which allows more patients to survive to the point of requiring transplants; and also by better care of transplant failures who return to dialysis while awaiting another transplant. All these factors converge at the level of the Transplant Wait List, which at our centre for Atlantic Canada, remains relatively fixed at 120 to 150 patients, despite having performed 250 transplants during the last three calendar years.

It is obvious that the number of kidney transplants needs to be increased to over 100 per year, if requirements are to be satisfied. Requirements for liver, heart and other organs are more difficult to estimate

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but a recent report by the Working Group appointed by The Provincial Deputy Ministers of Health in Canada, projected a conservative, minimum, annual demand for 19 liver transplants and 42 heart transplants in Atlantic Canada in 1990.

Transplantation differs from other forms of health care delivery in one very important respect — the fundamental equipment needed for the transplant — the organ itself — cannot be ordered from a catalogue or purchased from a manufacturer or clearing house. A kidney transplant can be obtained from a live donor, usually a living related member of the nuclear family. Approximately 20% of our transplants are from this source. However, very few renal failure patients on the wait list have potential live donors to whom they are so well matched immunologically that the improvement in expected outcome justifies exposing potential donors and their kidney to the risk involved.

Approximately 80% of kidneys are transplanted from cadaver donors. These were previously healthy individuals who died, usually unexpectedly, as a result of head trauma, intracranial hemorrhage, brain tumors or other disorders which destroyed their brains to the point of producing brain death. *Brain death is not a separate category of death; brain death means death.* Although truly dead, their circulation may be sustained temporarily by artificial means for the few hours necessary to obtain permission for organ donation and to remove the organs to be used for transplantation. These individuals are not "being kept alive till the organs are removed", as expressed in the media. They are irreversibly dead. The objective is to maintain the hemodynamic stability of the donor, in order to prevent ischemic damage to the organs prior to their removal and in vitro preservation.

Patients requiring liver and heart transplants do not have the "cushion" of either back-up life support systems like dialysis, or potential live donors as sources of transplant organs. They are dependent entirely on cadaver organs for transplantation and hence survival. These organs, like kidneys, have unfortunately not been made available in adequate numbers.

We therefore have the anomalous situation in which we are able to support life for an increasing number of patients with impending and actual vital organ failure to the point where the next treatment step is potential cure by transplantation, and then we allow them to die because an adequate number of organs, necessary for transplananation, is not available.

This problem of organ supply became increasingly apparent to us in our Kidney Transplant Program in the late 1970s, as results of transplananation were improving steadily. Our program began to grow rapidly at that time, due almost entirely to an influx of kidneys from the U.S., Ontario and Alberta, that became available to us from Organ Procurement Agencies because of our less restrictive indications for

transplantation. We realized that an Atlantic network of hospitals with organ procurement programs would be necessary to support the continued need for transplantable kidneys in our region. The outcome was a small core of contributing Atlantic hospitals that by 1984 provided 66 of the 76 cadaver kidneys we transplanted that year.

The regional model for organ procurement is appropriate since although the actual transplants are done in Halifax, where the necessary infrastructure is sited at the V.G.H., the patients being transplanted came from the entire Atlantic Region and the V.G.H. could not provide all the organs required. The distribution of kidneys has likewise been regional, determined on a "best matched" basis rather than on province of origin. Kidneys from one Atlantic Province could go to recipients from any of the Atlantic Provinces. The justification for this is reflected in the graft survival data noted above. Less than 3% of kidneys obtained in this region are sent elsewhere for transplantation — we still absorb more kidneys from outside the region than we send. With the advent of liver and heart transplantation, more sharing with other regions will occur because of different matching criteria and priorities imposed by sudden urgent requirements for re-transplantation of these organs.

What are the important issues facing transplantation today? There are still some technical aspects related to the surgery of vital organ transplantation that could be improved, but graft loss due to technical failure is unusual. Rejection is still the most common cause of a graft loss, and immunosuppression is still the most common cause for morbidity. This will improve with continuing research and experience.

The fundamental problem facing transplantation today is lack of organs. The number of transplantable organs potentially available is more than adequate to fulfill the needs, but they have not been forthcoming. A survey by the Nova Scotia Department of Health indicated that 104 people died in Nova Scotia hospitals in fiscal 1982/83, whose age and cause of death made them eligible for consideration as organ donors; 111 in 1983/84; and 126 in 1984/85. Yet, for the entire five-year period 1980 to 1984 inclusive, there were only 46 donors of kidneys from Nova Scotia. This saga can be repeated with minor variations in every province of Canada, and it is for this reason that transplantation remains at an important crossroad today.

It is at a crossroad because, for the first time, we must confront the fact that the general public and the medical community at large must assume direct responsibility for providing the means of treatment for otherwise fatal diseases. If this occurs, transplantation and the spin-offs it provides for improving the understanding and treatment of other diseases will flourish to everyone's advantage. If it does not, we will still be faced with the anachronism of preventable death occurring while healthy organs are buried.

The issue needs to be addressed even more directly now because seat belt legislation and more strict enforcement of drunk driving laws will fortunately reduce the numbers of motor vehicle deaths. It therefore becomes more important to obtain a high percentage of donors from a diminishing potential pool, just to maintain transplants at their current level. We are all potential organ donors, but those of us in the medical profession also have an obligation to be organ procurers.

Organ donation is different from other forms of donations. The donor does not need what is being given and it does not cost him anything. More importantly, the donor is not the one giving permission for the donation. Permission is provided by the next-of-kin. A signed donor card is of immeasurable value in the organ procurement process but, from a practical point of view, it is rarely if ever available on site when needed.

In surveys carried out by Gallup in the U.S. and by others in Canada, including the one commissioned here by the Nova Scotia Branch of the Kidney Foundation of Canada in 1983, we know there is no public antipathy to transplantation or organ donation. There is, in fact, a high level of altruism. Of Nova Scotians queried, 65% replied that they would want a family member to donate their kidneys, the main reason being to help someone else. Most respondents who said "no" did so because they had not thought about it. The message, therefore, is to make people think about it, and to make certain that they relate their feelings about organ donation to their families. This is one of the major reasons for keeping a high profile with the media and the public regarding transplantation.

The issues to be highlighted are the success of transplantation and the necessity for organ donation. Our objective is to move the highlighting away from the transplanters so that the issues themselves are profiled, not the individual transplant programs or the people working therein.

A positive attitude is sustained long after organ donation by the families of the donors. They feel, months and years later, that knowing what benefit the transplants could provide to others helped the grieving process immeasurably. They feel at least some benefit was salvaged from the tragedy of their kin's death and, that in some positive way, their kin lives on albeit in someone else.

In contrast, frustration is felt by families who learned after the fact that organ donations could have been possible. It is especially frustrating if the dead family member had indicated a desire to be an organ donor but no one on the treating medical staff approached the subject at the time of death.

In this age of patients' rights, one right we must consider seriously is the patient's wish to be an organ donor. We must allow their wish to be exercised by raising the issue with their families. Even if the events surrounding death preclude an individual from donating a vital organ, virtually anyone with intact, uninfected eyes can at least donate their corneas.

As physicians, we have a major obligation to contribute to this process, because our patients from our communities benefit from transplantation and then return to our communities to participate in its everyday life. As physicians, we are responsible for being aware of what transplantation can achieve, to recognize when an individual is a potential donor, and to seek permission for organ donation from the families.

This is not a matter of charity on the part of the doctor — it is a responsibility. The charity comes from the donor and his family.

The ethical issue is very clear. Given the effectiveness of transplantation, in terms of both results and cost, it is unethical to bury healthy organs. We need a commitment to develop organ procurement programs within our hospitals so that in the event a potential organ donor appears, all the necessary steps take place in an orderly logical manner, with minimal disruption to the family, the treating staff, or to the hospital. □



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Current Topics in Community Health

Prepared by: Dr. Frank M.M. White,
Department of Community Health and Epidemiology
Dalhousie University, Halifax, N.S.

WHY STUDY FERTILITY?

The rate of fertility has fallen so low in Canada that the replacement of the present generations is no longer assured. Canadians now have fewer children, later in their lives, and more may choose to forgo parenthood altogether. Changes of unprecedented proportions are taking place in the dynamics of population growth, the age structure, family and household formation. Fertility is the single most important demographic factor underlying these changes. Neither mortality nor migration, the other two components of population growth, have had a comparable influence.

Age Structure

In the last five decades, historical relationships between various age segments have been upset dramatically. The quiet past, characterized by a relatively stable age structure, has given way to the tumultuous present, dominated by large scale structural shifts. Following a period of steady growth in the 1940s and 1950s, there has been a sharp decline in the proportion of children under 15 years of age. In 1961, these children accounted for 34% of the population; by 1981, they accounted for a much diminished 24%. Their number has shrunk, from 6,192,000 in 1961 to 5,481,000 in 1981. The disruptive effects on the school system, produced by the expansion and contraction of this group, are all too evident in the now redundant educational facilities they have left behind as a monument to their passing. But, if this is not enough, their opposite numbers at the other end of the age spectrum are about to place a different set of demands upon society.

The proportion of senior citizens over 65 years of age has shown a steady increase, from 7.6% in 1961 to 9.6% in 1981. According to Statistics Canada projections, senior citizens may account for 12% of the population by the turn of the century.¹ Their numbers have grown from 1,390,000 in 1961 to 2,280,000 in 1981 — a rate of increase twice that of the population as a whole. Already, there is public concern that this aging of the population may place considerable strain on welfare and health delivery systems as well as pension funds.²

It would be wrong to suppose, however, that the effects of the observed shifts are confined exclusively to the under 15 and over 65 year age groups. The labour

force is being affected by a swing away from historical relationships between workers of junior and senior ages. Between 1961 and 1981, the number of workers 20-34 years of age, compared with the number of workers 35-64 years of age, jumped from 66% to 86% as the baby-boom began to move through adulthood. The combined effects of the relatively large numbers of younger workers and the scarcity of jobs resulting from adverse economic conditions has been hard on them. Not only is there fierce competition for the available jobs, but also, once the job is secured, the opportunities for career advancement are less promising than they were in former times. If we look down the road to the 1990s, we see that the Canadian economy may be faced with shrinking cohorts of young workers — the legacy of our low fertility of the past 15 years — followed later, in the second decade of the 21st century by swelling numbers of post-war baby-boom retirees.

At the heart of these shifts in the age structure are wide swings in the levels of the fertility rate. The shock waves emanating from these changes have been sharply felt in many areas of national life: education, the labour market, housing, consumption patterns and health services.

Population Growth

Along with the large-scale shifts in the age composition of the Canadian population there have been major variations in its rate of growth. In the baby-boom years of the 1950s, Canada's population was growing at what now appears to be a phenomenal rate for a developed country — 3% per year. This was followed by a period of gradual reduction, down to slightly over 1% in recent years. If the present low fertility rate of 1.7 births per woman continues, the prospect of zero growth or even a declining population is no longer a matter of speculation; it could well become a fact. For the present, the population growth is being sustained by immigration and the relatively large number of couples of childbearing age despite their individual low fertility. But, in the long run, fertility remains the dominant factor of demographic growth. Even if longevity could be further extended, this by itself would add very little to the size of the population. Under the present mortality conditions, almost everyone can expect to live beyond the normal age of childbearing and hence, any further increase in life expectancy, will add very little to the number of potential parents.

Family Formation and the Economics of Choice

Fertility is viewed as a major factor in the formation of families and households, their size and age structure. The presence or absence of children may affect marital stability and the chances for remarriage of divorced or widowed men and women. The number of siblings and the timing of their births are believed to have a bearing on child-socialization and on the interaction between generations as well as on family finance and women's labour force participation.

Central to the current debates on fertility is the issue of the dual role of woman as mother and wage earner. Increasingly, women are faced with the competing demands of job and family and must find ways to reconcile both these pursuits. The *opportunity-cost* of childbearing has acquired a real significance for many of them as work outside the home becomes a way of life or an economic necessity. For some the choice is between working and delaying or even forgoing childbearing altogether.³

Admittedly, these are not the only issues that have stimulated interest in the study of Canadian fertility, but they are of sufficient importance to serve as a focal point of the study.

Footnotes:

- 1 Statistics Canada, *Population Projections for Canada and the Provinces, 1976-2001*, Catalogue 91-520, Ottawa, 1980.
- 2 Foot, David K., *Canada's Population Outlook: Demographic Futures and Economic Challenges*, The Canadian Institute for Economic Policy Series, Toronto, 1982.
- 3 For an insightful discussion of this question see Burch T. (ed), *Demographic Behaviour*, Westview Press, Boulder, Colorado, 1980.

Source: Current Demographic Analysis, Fertility in Canada: From Baby-Boom to Baby-Bust, Supply and Services Canada, Statistics Canada, 1984 (Catalogue #91-524E).

THE NEW OCCUPATIONAL HEALTH AND SAFETY ACT

This new Act is now available for information purposes in the form of a booklet, including descriptive headings to assist the reader. The Act spells out the duties of several parties in the occupational setting: employer, constructor, supplier, employee and self-employed person. Authority is given for the formation of an Occupational Health and Safety Advisory Council, at the discretion of the Minister. Safety Committees are made mandatory at every workplace where twenty or more persons are regularly employed, and provision is given for such committees in smaller working groups on the authority of the Minister.

Unlike similar legislation in other jurisdictions, the new Nova Scotia Act makes no provision for a medical advisory role.

One of the most significant features in the legislation is the right to refuse hazardous work, with prohibition of reprisals and discriminatory action. The process of assessing the burden of proof is outlined.

Other features of the legislation include specific reference to toxic substances, including the provision of adequate labelling and relevant information regarding toxic effects, protective and emergency measures. Confidentiality of trade information is protected under the act, subject to health provisions. Additional administrative and legal powers are included.

The Act came into force on January 1, 1986. Comments on the Act have been welcomed, and should be referred to:

Mr. Jack Noonan (902) 424-4328
Executive Director
Occupational Health and Safety
Department of Labour and Manpower
P.O. Box 697, Halifax, N.S.
B3J 2T8

Copies of the Act, in booklet form, are also available at this address.

Source: Occupational Health and Safety Act, Province of Nova Scotia, January 1986.

Philosophy

"That physician is an honour to his profession who has led through the whole circle of the sciences; who has due regard of the seasons of the year, and the diseases which they are observed to produce; to the states of the winds peculiar to each country, and the quality of its waters; who marks carefully the localities of towns, and of the surrounding country, whether they are high or low, hot or cold, wet or dry; who moreover, neglects not to mark the diet and regimen of the inhabitants and, in a word, all the causes which may produce disorder in the animal economy".

Hippocrates 500 B.C.

□

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Personal Interest Notes

Dr. Robert Cecil Fraser has been appointed the new Head of Gynaecology at the Victoria General Hospital in Halifax. A 1961 graduate of Dalhousie School of Medicine, Dr. Fraser is currently the director of the Division of Gynaecological Oncology, and a Professor of Obstetrics and Gynaecology at Dalhousie University. Dr. Fraser has had a long and committed involvement with the Canadian Cancer Society, serving as President of the Nova Scotia Division in 1984 and 1985, and as a Director on the National Board.



Dr. Stuart C. Robinson retires as Associate Dean of Medicine at Dalhousie Medical School. He now returns to being a full-time physician, researcher and Professor of Obstetrics and Gynaecology at Dalhousie. His life-long interest in research will now be focused on matters relevant to the increasing proportion of older people in the population. Dr. Robinson will collaborate in studies of post-menopausal women and the prevention of osteoporosis. The program is new and will be undertaken through the Department of Gynaecology with endocrinologists and others in geriatric service.

Three first year Medical Students at Dalhousie University, **Robert Merritt**, **Frances Hamilton** and **James Collicutt** have been awarded Scholarships totalling \$10,000. from The Dalhousie Medical Research Foundation. The 1986 students' scholarships bring to 25 the total awarded in that category by the Foundation since the program to promote research interest in medical students was initiated in 1980.

OBITUARIES

Dr. Angus E. Murray, (85) of Halifax, N.S. died on February 24, 1986. Born in Earltown, Pictou County, he received his medical degree from Dalhousie University in 1930. He practised medicine in Halifax for 56 years, and taught medical jurisprudence at Dalhousie Medical School. In 1975 he received Senior Membership with The Medical Society of Nova Scotia. He is survived by his wife and two daughters to whom the Bulletin extends sincere sympathy.

Dr. Hugh F. McKay, (82) of New Glasgow, N.S. died on February 28, 1986. Born in New Glasgow, he received his medical degree from Dalhousie University in 1925. He served as a medical officer in the Royal Canadian Army Medical Corps. After the war he resumed his practice in New Glasgow and in 1954 was appointed administrator of the Aberdeen Hospital. He is survived by his wife, a daughter, and a son. Our sympathy is extended to his family.

Dr. Llewellyn Stead, (69) of New Glasgow, N.S. died on March 22, 1986. Born in Bell Island, Newfoundland he received his medical degree from Dalhousie University in 1952. He was in general practice in Halifax until he joined the psychiatric staff of The Nova Scotia Hospital. In 1981 he retired and worked part time at the Aberdeen Hospital in the Mental Health Center. He is survived by his wife, one son, and two daughters. We offer our sympathy to his family. □

ADVERTISERS' INDEX

Bell and Grant Limited	81
CMD Management	38
CompuCroit Associates Ltd.	OBC
Doane/Raymond	45
Halifax Co. Regional Rehab. Centre	IBC
Investers Syndicate Ltd.	66
Jain, Rakesh C.	81
Medical Practice Productivity	60
Meditech Services Ltd.	55
Sawyer, Douglas E.	38
Technolab Industries Ltd.	66

GENERAL INDEX

VOLUME 64, 1985

- ABBOTT, E.C: Sarcoidosis: An Historic Perspective, 85; see Gray, J.D.
- Acne Vulgaris: My Spotty Teenager (Ross), 110.
- Apnea Monitoring, Discontinuation of Home: A Time of Stress for Parents (Camfield) (Finley) (Wdowiak), 13.
- Appreciations: Dr. Douglas F. MacDonald, 20; Dr. Arthur W. Titus, 20; Dr. Gordon C. MacDonald, 21; Dr. William B. Kingston, 21; Dr. Donald J.G. Morris, 21; Dr. Narendra Kumar Sinha, 30; Dr. William Stanley Cole, 154.
- Arterial Disease in the Lower Extremity, Non-Invasive Evaluation (Del Campo), 77.
- Asthma, On, (Grant), 116.
- Bulletin, The Nova Scotia Medical: A New Old Look (Irwin), 2.
- BOURBONNIERE, C: see Laurence, M.K.
- CAMFIELD, J: Discontinuation of Home Apnea Monitoring: A Time of Stress for Parents, 13.
- CAMFIELD, P: see Camfield, J.
- Canadian Medical Association, The, 47; Address by Dr. W.J. Vail, President, 142.
- CAMERON, G.S: Retiring Presidents' Address, The Medical Council of Canada, 15.
- Community Health, Current Topics in (White), 18, 93, 132.
- Correspondence, 99.
- DARRAGH, J.H: The Royal College of Physicians and Surgeons of Canada, 129.
- Dean of Medicine: An Interview with Dean Thomas John ("Jock") Murray, 103.
- DEAN, C.R: see Gray, J.D.
- DEL CAMPO, C: Non-Invasive Evaluation of Arterial Disease in the Lower Extremity, 77.
- DUNN, R.S: Visceral Kaposi Sarcoma Masquerading as Inflammatory Bowel Disease: A Case Report, 57.
- Editorials: Physician Responsibility and Discipline (O'Connor), 1; The Physician, Organization and Management (O'Connor), 29; The Health of Nova Scotians (White), 65; Nova Scotia, New Brunswick, Prince Edward Island: A Community Invitation (O'Connor), 101; A Different World, (O'Connor), 137.
- FINLEY, J: see Camfield, J.
- Flexner, Abraham, The Visit of, to the Halifax Medical College, (Murray), 34.
- Geriatric Neurology, Some Observations on, (Purdy), 11.
- GREEN, Morris: The Future of Pediatric Practice, 119.
- GRANT, R.S: On Asthma, 116.
- GRAY, J.D: Five Years Experience with Pheochromocytoma, 124.
- HEFFERNAN, L.P.M: Sarcoidosis: Neurological Manifestations, 89.
- Health Care System, Nova Scotia - Current and Future Issues, (Miller), 31.
- HOLDEN, H.M: Sarcoidosis and Tuberculosis, 90.
- HOLLAND, J.G: see Martin, S.
- Homeopathy, (Rajaraman), 79.
- HUBLEY-KOZEY, C.I: An Investigation into the Incidence of Low Back Pain in Hospital Workers, 8.
- Hypothermia, (Martin) (Holland) (Josenhans), 3.
- IRWIN, A.C: A New (Old) Look, 2.
- JOSENHANS, W.T: see Martin, S.
- KAZIMIRSKI, Dr. Judy, President, The Medical Society of Nova Scotia, 139.
- KENNY, Sister N.P: The Pediatrician of the Future, 113.
- LAVIGNE, P.M: Update on Measles in Nova Scotia, 7.
- LAURENCE, M.K: Women in Family Practice in the Maritimes, 53.
- LAROCHE, G.R: Early Detection of Ocular Anomalies, 117.
- Low Back Pain in Hospital Workers, An Investigation into the Incidence of, (Hubley-Kozey) (Westers) (Stanish) (Wall), 8.
- LYNK, A.D: A Community Hospital Smoking Survey, 69.
- MACDONALD, M.R: The Provincial Medical Board of Nova Scotia, 42.
- MARTIN, S: Hypothermia, 3.
- MANN, K.V: see Gray, J.D.
- MediCare: Current and Future Issues - Nova Scotia Health Care System (Miller), 31.
- Measles in Nova Scotia, Update on (Lavigne), 7.
- Medical Legal: Dead Bodies, Autopsies, Transplants and the Law of Nova Scotia (Rozovsky), 15.
- Medical Council of Canada, The, Retiring President's Address, (Cameron), 51.
- Medical Society of Nova Scotia, The: Page of Officers, 26, 64, 100, 136; The Medical Society of Nova Scotia (Peacocke), 46; Notice Re By-Law Amendments, 95; Director of Communications, William K. (Bill) Martin, 102; Dr. Judy Kazimirski, President 1985-1986, 139; Presidential Address, Dr. M.G. Shaw, 140; Address by Dr. W.J. Vail, President, The Canadian Medical Association, 142; Pictorial Highlights, 132nd Annual Meeting, 146; Proceedings of the 21st Meeting of Council and the 132nd Annual Meeting, (146) I-XXXVI; In House: News from the Society office, 155.
- MILLER, J.E. Harris: Current and Future Issues — Nova Scotia Health Care System, 31.
- MILLER, R.A.W: Sarcoidosis of the Skin, 86.
- MURRAY, T.J: The Visit of Abraham Flexner to Halifax Medical College, 34; Temporal Arteritis, 73.
- MURRAY, Dean Thomas John ("Jock"), an Interview with, 103.
- Nova Scotia Health Care System, Current and Future Issues (Miller), 31.
- Nova Scotia Law, Dead Bodies, Autopsies, Transplants (Rozovsky), 15.
- Nova Scotia, Provincial Medical Board (Macdonald), 42.
- O'CONNOR, J.F: Physician Responsibility and Discipline (ed), 1; The Physician, Organization and Management (ed), 29; Nova Scotia, New Brunswick, Prince Edward Island: A Community Invitation, (ed), 101; A Different World (ed), 137.
- Ocular Anomalies, Early Detection of, (LaRoche), 117.
- PEACOCKE, D.D: The Medical Society of Nova Scotia, 46.
- Personal Interest Notes: 22, 62, 98, 135, 148.
- Pediatrics: Changing Morbidity in Childhood: Old, Older, New and Newer, (Pless), 106; My Spotty Teenager (Ross), 110; The Pediatrician of the Future (Kenny), 113; On Asthma (Grant), 116; Early Detection of Ocular Anomalies (LaRoche), 117; The Future of Pediatric Practice (Green), 119.
- Pheochromocytoma, Five Years Experience with (Gray) (Abbott) (Dean) (Mann), 124.
- PLESS, Ivan B: Changing Morbidity in Childhood: Old, Older, New and Newer, 110.
- PURDY, R.A: Some Observations on "Geriatric Neurology", 11.
- Provincial Medical Board of Nova Scotia (Macdonald), 42.
- Psychiatric Services in Nova Scotia — From the Research and Statistics Department, Maritime Medical Care Inc, 122.

RAJARAMAN, M.M: Homeopathy, 79.
ROSS, J.B: My Spotty Teenager, 110.
ROZOVSKY, L.E: Dead Bodies, Autopsies, Transplants and the Law of Nova Scotia, 15.
Royal College of Physicians and Surgeons of Canada, the (Darragh), 129.

Sarcoidosis: An Historic Perspective (Abbott), 85; Sarcoidosis of The Skin, (Miller), 96; Sarcoidosis: Neurological Manifestations (Heffernan), 89; Sarcoidosis and Tuberculosis, (Holden), 90.
SHAW, M.G: Presidential Valedictory Address, The Medical Society of Nova Scotia, 140.
Smoking Survey, A Community Hospital (Lynk), 69.
STANISH, W.D: see Hubley-Kozey, C.I.

Temporal Arteritis (Murray), 73.
Tuberculosis, Sarcoidosis and, (Holden), 90.
VAIL, W.J: Address by the President, The Canadian Medical Association, 142.
Visceral Kaposi Sarcoma Masquerading as Inflammatory Bowel Disease: A Case Report (Dunn), 57.
WARD, B.J: see Laurence, M.K.
WALL, J.C: see Hubley-Kozey.
WESTERS, B.M: see Hubley-Kozey, C.I.
WDOWIAK, K: see Camfield, J.
WHITE, F.M.M: Current Topics in Community Health, 18, 93, 132: The Health of Nova Scotians (ed), 65.
Women in Family Practice in the Maritimes (Laurence) (Bourbonniere) (Ward), 53.

Correspondence

To the Editor:

May I use your columns to comment on the report from the Child Health Committee which was contained in the *Bulletin* of December 1985.

The Chairman of Child Health Committee, Dr. G.H. Nickerson, is reported as saying that his committee had been attempting to "breach the bastions" of medicine to make them more aware of children with learning disabilities. As one of the physicians who have been involved with trying to provide the proper help and support to children with learning disorders since the late '60s, I would like assure Dr. Nickerson that the staff at the I.W.K. Hospital for Children are well aware of learning disorders. There are problems to be resolved particularly with respect to the most effective way of providing help to these children and we recognize that in a majority of instances, this is an educational challenge. As part of our on-going attempts to meet the needs of these children, when a referral is received, as much information as can be obtained before meeting the child and his family is gathered and summarized for our Learning Disabilities group, which consists of representatives from the disciplines of pediatrics, neurology, psychology and psychiatry, so that we can decide if there are "medical" aspects of the case that appear to need attention and if so, they are then assigned to the most appropriate discipline. These children are then seen and contact is made with the school system in order to try to provide the most constructive support as well as continuing to work with the medically based handicaps that the child may have.

Clearly, this type of approach is not what is necessary for every child with a learning disorder and indeed, the services could not and should not be able to support this: however, we do our best to meet the needs of children who have a requirement for medical input.

I can assure Dr. Nickerson that there are no "bastions to be breached" in this respect and we welcome the input of the Child Health Committee.

The Committee also cites complaints about lack of knowledge and understanding by physicians about learning disabilities. It is only fair to point out that learning disorders are more peripheral to medical practice than most of the topics for which students are trained and that therefore it receives less attention than, for instance, the management of the unconscious patient. However, the students do receive teaching in relation to learning disorders in their Growth and Development block, may well, depending on the clinical case load, receive instruction and exposure to it in Pediatrics and also in Psychiatry. In addition, the residents in Pediatrics obtain a more prolonged exposure.

It is obviously central to the teaching of medical students that one does not necessarily give them didactic instruction in every topic to which they may possibly be exposed during their career as physicians — such is impossible with the information explosion: rather one attempts to show them how to evaluate problems and to seek out information for themselves. In line with this, there is the implicit expectation that physicians will play their part in community affairs whether this be in the area of learning disorders or other community responsibilities.

It is always good to have opinions on the adequacy or otherwise of what we as a profession are doing in the different areas and the efforts of Dr. Nickerson's committee are both noticed and appreciated.

Yours sincerely,

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VITAMIN SUPPLEMENTATION AND THE PREVENTION OF NEURAL TUBE DEFECTS

Some studies have suggested that the risk of fetal neural tube defects in women who have already had one or more affected infants can be reduced by the administration of extra vitamins in the periconceptual period. However, there is still doubt about the efficacy of such a regimen and it cannot be assumed that the taking of extra vitamin has no adverse medical effects.*

An international randomized controlled trial sponsored by the British Medical Research Council is currently in progress to test this hypothesis. Women who participate in the trial will be asked to take one capsule per day which may contain:

- A Mineral alone
- B Mineral + folic acid
- C Mineral + multivitamin + folic acid
- D Mineral + multivitamin (no folic acid)

Neither the doctor nor the patient will know which regimen the particular patient has been given until the end of the trial.

Eligibility of Patients

Women who satisfy all four of the following criteria are eligible for inclusion in the trial:

- (i) to have had a previous pregnancy associated with a neural tube defect,
- (ii) to be planning another pregnancy,
- (iii) not to be regularly taking vitamin supplements,
- (iv) not to have epilepsy.

This is an important question and the more women who participate the sooner the results will be available. If you have any patients who may be willing to participate in this study please contact Dr. Elizabeth Winsor for further information.

Dr. Elizabeth Winsor,
Atlantic Research Centre for Mental Retardation,
Rm. C-R1, CRC, 5849 University Avenue,
Halifax, N.S., B3H 4H7 Phone: 424-6491

*Wald N.J. Neural tube defects and vitamins: the need for a randomized clinical trial. *Brit J Obst & Gyn* 1984; Vol. 91, 516-523.

HALIFAX COUNTY REGIONAL REHABILITATION CENTRE

MEDICAL ADVISOR

A half time Medical Advisor is required by a 229 bed Regional Rehabilitation Centre for the post emotionally ill and developmentally handicapped located in the Metro Area. The centre has a physician complement of twelve (psychiatrists and family practitioners), employed on a sessional basis.

The ideal candidate would possess previous experience in both medical administration and a psychiatric setting.

Position available mid May, 1986.

Interested physicians reply in confidence to:

Administrator
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