

Malignant Exophthalmos—A Case Report*

LEA C. STEEVES, M.D., C.M., F.R.C.P.(C)

THE papers of Caleb Parry¹ reveal that in August of 1786 he saw a patient with greatly enlarged thyroid gland in which "the eyes were protruded from their sockets." It was not until fifty years later that Robert Graves² published his classic description of exophthalmic goitre, and twenty years later still that Naumann³ reported a case similar to the one to be reported below. At present several effective forms of therapy for the goitre are available, and the exophthalmos can usually be disregarded as of no particular moment. Rather infrequently, however, the exophthalmos assumes the "Malignant" form and its management becomes of great importance if vision is to be preserved. The following case illustrates this rare condition.

Mr. N. McK., age 61, was admitted to Camp Hill Hospital* on August 1, 1944, for the treatment of an exophthalmic goitre. His illness had become symptomatic in April, 1944, and progressed with weakness in the legs, heat intolerance, nervousness, and in the eight weeks prior to admission, dyspnea, palpitation, and weight loss from 148 to 100 pounds. Physical examination revealed malnutrition, tremor of the fingers, diffuse thyroid enlargement, tachycardia, and bilateral exophthalmos. Laboratory investigations included negative urinalysis and STS, a hemoglobin of 89%, leucocyte count of 6100, an electrocardiogram showing sinus tachycardia, and a basal metabolism of plus 52%. Treatment was standard, with bed rest, high protein high carbohydrate high caloric feedings with extra B complex vitamins, sedation with phenobarbital, preparation with Lugol's solution; and in late August a right thyroidectomy. General therapy was continued, and thiouracil 100 mgm./day begun, with a fall in basal metabolism to minus 6% resulting. Left thyroidectomy was performed in mid-November, and patient discharged on December first with a basal metabolism of minus 4%, a gain in weight, and a subsidence of symptoms.

In March, 1946, he returned for recheck, and reported having had jaundice in late December, 1945. (He had had dried serum during his first operation four months and a half previously). He showed a persisting tachycardia, dyspnea on exertion, and an increase in his exophthalmos. The basal metabolism had risen to plus 12%.

In April, 1946, he developed diplopia, with inability to look upward. He covered his own eye and obtained relief, so carried on. In July, 1946, he noticed the same heat intolerance experienced before operation, and the following summer (1947) began to have a return of nervousness, with palpitation and increased dyspnea and tachycardia. From September to December his weight decreased from 157 to 135 and in December he lost his voice for several days, after which he remained hoarse.

On January 8, 1948, he was readmitted. Examination revealed signs typical of hyperthyroidism except that there was no palpable thyroid tissue, and the exophthalmos was complicated by marked hyperemia of the conjunctivae, edema of the conjunctivae, asymmetrical prominence and firmness of the eyeballs, and paralysis of upward and outward gaze on the left. Lab-

*Presented at the monthly meeting of the Halifax Medical Society, at Camp Hill Hospital, Halifax, February, 1948.

oratory findings were similar to those on the first admission. Basal metabolism was now plus 40%. X-rays showed a normal pituitary fossa, and a retrosternal goitre. The Laryngologist reported vocal cord palsy more marked on the left. Therapy on this admission was the same non-specifically, with the addition of X-irradiation to the pituitary and retrosternal areas totalling 3000 r.

The most recent recheck, in late April, 1948, showed he was gaining weight, was less nervous and tremulous. The exophthalmos was questionably lessened; the basal metabolism plus 22%.

Discussion

This case illustrates several points worthy of note. There is the recurrence of hyperthyroidism following a successful thyroidectomy, due to subsequent involvement of aberrant thyroid tissue in the retrosternal area. There is also the development of hoarseness due to recurrent nerve palsy presumably from pressure by the goitre.

The phenomenon of greatest importance in this case however is the post-operative progression of the exophthalmos during a period of apparently normal thyroid functioning. This rare state has been described in cases of thyroid disease varying from severe thyrotoxicosis to frank myxedema. The cases when thyrotoxic usually differ, as did this one, from the classical in occurring in middle life, usually in males⁶, and in their adverse response to surgery. Malignant exophthalmos is but one of many terms applied to these cases, others being exophthalmic ophthalmoplegia, progressive exophthalmos, post-operative progressive exophthalmos, or ophthalmopathic Graves Disease⁴. There can be much more proptosis than occurred in the above case, with corneal ulceration, optic neuritis, and loss of vision.

The etiology of malignant exophthalmos, being unknown, has been the subject of much theorizing. The most logical theory is based on partly hypothesized actions of the pituitary-thyroid axis. Since 1931 it has been repeatedly demonstrated in animals that there is a thyrotropic hormone elaborated in the anterior pituitary which cause exophthalmos and its action is enhanced by thyroidectomy.^{4,7} This makes it possible that a pituitary exophthalmogenic substance, usually neutralized by a thyroid anti-exophthalmogenic substance, can in certain instances when the thyroid substance is deficient result in malignant exophthalmos. That thyroidectomy by reducing the functioning thyroid tissue mass worsens the exophthalmos is clinical confirmation of this hypothesis. Therapy with the thiourea derivatives by causing a relative hypothyroidism stimulates pituitary thyrotropic hormone formation, and exophthalmos can result.⁵ Urinary thyrotropic hormone excretion is low in most cases of hyperthyroidism, but high in cases of malignant exophthalmos.⁴ These are further confirmations of this theory.

As both surgery and propylthiouracil have proven of such great benefit in the therapy of hyperthyroidism, and equally of such disadvantage or even danger in the rare case of malignant exophthalmos, it is of obvious importance to select these latter cases and apply other methods of treatment. To make a preoperative diagnosis Woods³ depends on several special features—the exophthalmos progresses steadily, perhaps unequally on the two sides—there is obvious chemosis, swelling of the lids, hyperemia of the conjunctivae, epiphora, photophobia, reduced motility of the eyeball, muscular incoordination, and a sensation of hard resistance on pressure over the eyeball due to

hyperplasia of the extraocular muscles. In brief, lid signs are minimal, eye signs maximal

Therapeutic measures speak by their multiplicity for their inadequacy. They fall into two general classes.⁴ Those based on suspected etiology have had variable success in a period too short to properly evaluate their effects. Thyroid hormone though effective against the exophthalmos aggravates the systemic disease. This it does by suppressing the output of pituitary thyrotropic hormone. So too do large doses of ovarian follicular hormone, but at the risk of side effects on the endometrium. Irradiation to the pituitary cannot selectively destroy or reduce thyrotropic hormone, and is therefore liable to produce undesirable hypopituitarism. Methods directed against the thyroid alone, such as thyroidectomy, propylthiouracil, or thyroid irradiation alone are illogical and potentially dangerous to sight. The second class of treatment is symptomatic local surgery as an emergency measure. It ranges from simple suture of the lids to radical decompression of the orbit, and is a concern of the expert ophthalmologist alone.

Summary

A case of malignant exophthalmos is presented to demonstrate the accelerated progress of the disease after successful thyroidectomy. The most widely accepted hypothesis of etiology is presented, and early diagnosis stressed. The relatively untried therapies based on this hypothesis are mentioned. This case was treated along these lines with irradiation of the pituitary and thyroid combined.

Acknowledgments

We wish to thank Dr. C. MacLeod, Medical Superintendent, Camp Hill Hospital, for permission to publish this case; Dr. K. A. MacKenzie, Director of Medicine, and Dr. G. A. Black for the clinical care of the case.

Bibliography

1. Willius, F. A.; Keys, T. E.: *Cardiac Classics*, pp. 387-391. C. V. Mosby, St. Louis, 1941.
2. Garrison, F. H.: *History of Medicine*, 3rd ed., 1933, p. 436. W. B. Saunders Co., Philadelphia.
3. Woods, A. C.: *The Ocular Changes of Primary Diffuse Toxic Goitre*. *Medicine*: 25: 113-154, May, 1946.
4. Martens, T. G.: *Exophthalmos of Endocrine Origin*. *Am. J. Med. Sc.*, 213: 241-245, Feb., 1947.
5. Means, J. H.: *The Nature of Graves Disease*, *Am. J. Med. Sc.*, 207: 1-19, 1944
6. Mulvany, J. H.: *The Exophthalmos of Hyperthyroidism*. *Am. J. Ophthal.*, 27: 612, 693, 820, 1944.
7. Schwartz, G.: *Present Status of Roentgen Therapy of Hyperthyroidism and Related Endocrine Disturbances*. *Am. J. Roentg.*, 55: 337-343, Mar., 1946.

Work of the Neuropsychiatric Division of the Department of Public Health*

CLYDE MARSHALL, M.D.

Halifax, N. S.

I COUNT it both an honour and a pleasure to be invited to speak before this Association at to-day's luncheon. It is an honour that I regard highly; a pleasure, too, to renew some old acquaintances and to meet some new friends who are successors to those I knew some years ago.

Years ago, when I held the office of Provincial Psychiatrist when that office was first opened, I knew most of the workers in the Children's Aid Societies and many of them I counted as my personal friends, and with them I took many a trip into all parts of Nova Scotia, and during these contacts I came to know a lot of their problems and their trials fairly well.

One of those with whom I was most closely associated at that time has just recently passed from us, and I should like to be numbered among those who pay him tribute. The planning and building of the Nova Scotia Training School at Truro was the big project then, and Mr. Blois and I worked at it very much together. I remember well how we toured the countryside and visited farms that were for sale, some good—some bad, that their owners hoped they would be able to palm off on the government. We talked over plans together and we selected the first patients that would enter the school when it opened. During all these years I got to know him very well. I gained an insight into the keenness of his intellect, the breadth of his knowledge and his reading, and the penetration of his vision. He lived long enough to see much of what he had dreamed about come to pass and those that are now left can only applaud and say "Well done."

Many things have happened in psychiatric fields since those early years of which I have just spoken. The office of psychiatrist at that time was appended to the Attorney General's Department, for the Department of Health had not yet come into being. Our project at that time was a very limited one but to-day we are looking over a much broader field.

Neuropsychiatric Division

The new organization which has recently been created in the Department of Public Health is called the Neuropsychiatric Division, for it is connected with the field of neurology as well as psychiatry. This longer and unfortunately much harder word to pronounce, was chosen deliberately. It serves to point out the fact that psychiatry is related to neurology and that it is an integral part of medicine. Psychiatry has suffered many things, one of which is its separation from the discipline of medicine. It shall be the aim of this Department as indicated by its baptismal name, to correlate psychiatry with this other field as much as possible, and to try to bridge the gulf that sometimes—not always and not of necessity—exists between the two. This union, it should be pointed out, is not solely for the benefit that might accrue to psychiatry because of its connection with medicine, for equal benefits will

*An address given to the Fourth Annual Conference of the Association of Children's Aid Societies, at Lunenburg, on April 21, 1948.

flow in the opposite direction. Psychiatry has much to learn from such an association and so has medicine itself, and may their closer union be blessed.

So having delivered the baby and christened it, what has it accomplished in its young life so far and what may we expect of it in the future?

Victoria General Hospital

Its first significant achievement was the creation of a section of neurosurgery in the Victoria General Hospital. This, I think that you will agree, is a major accomplishment. Patients requiring surgery on the brain of any extensive order have in the past been required to go to Montreal or some other distant centre. This has been the cause of many a heartache. The cost was often prohibitive—the long distances and the delay sometimes made a fatal outcome inevitable. It should be noted in passing, that long distances to travel for neurosurgery are not confined to Nova Scotia. The centres are few and far distant elsewhere in Canada. Montreal has its well-known Neurological Institute—the next centre is in Toronto and you will have to travel from there to Winnipeg before you find another. Competent neurosurgeons are very scarce. It was therefore with many doubts as to the possibility of success within any but the very far distant future, that we approached the problem of creating a neurosurgical unit. But our efforts as you are aware, were well rewarded. Dr. William Stevenson, a brilliant and able neurosurgeon has been appointed as Chief of the neurosurgical section of the Victoria General Hospital, and through the cooperation of the University, has been appointed Assistant Professor of Surgery in charge of Neurosurgery at the Dalhousie Medical School. Dr. Stevenson has had extensive training under one of Canada's great neurosurgeons, Dr. Kenneth MacKenzie of the University of Toronto, and has had a large experience in charge of a neurosurgical unit overseas. It was a great pleasure, therefore, to be able to welcome him in our midst. Two nurses were sent from the Victoria General Hospital to the Toronto General Hospital to obtain specialized experience in this field and they are providing invaluable services. The actual facilities for neurosurgery are not yet complete, and will not be so until after the new hospital building is finished. A separate operating suite will be provided in the old hospital building and the wards will be remodelled to make them suitable for the purpose. Already the wards that have been assigned to Dr. Stevenson are bursting at the seams, and it is readily apparent to all who are closely associated with the service, that a very great need is being very ably met.

A second service that has been created within the Victoria General Hospital is a neurological one. This section takes care of organic diseases of the nervous system that do not require operative treatment. At the present time, because of the shortage of space and of staff, it does not accept direct admissions of patients from the outside, but takes care of neurological patients by transfer from other sections in the hospital. The most modern of electroencephalographic and other equipment has been ordered, and in due course will arrive and be installed. An adequate neurological service is therefore on the way.

The third section to be created in the Victoria General Hospital is the psychiatric one. For a number of years, Dr. Robert Jones has been psychiatrist of the hospital, and has provided a most able and efficient consulting

service. This section has now been elaborated into an independent service with beds assigned to it, but with the same restrictions that apply to neurology. That is, patients for this service are not admitted from the outside but are only taken by transfer from other sections of the hospital. In other words, an outside doctor cannot send psychiatric patients to the hospital for direct admission.

This limitation upon the sending in of psychiatric patients from the outside is obviously a necessary one. The hospital has neither the physical space nor a large enough psychiatric staff to provide adequate psychiatric care for the general admission of patients, even if it were the intent to make the Victoria General Hospital the centre of our psychiatric efforts. Before this idea is elaborated, I should like to say a few words about psychiatric services in general hospitals elsewhere.

There has been an increasing tendency to provide psychiatric services in general hospitals and this tendency has been added to by the recent announcement of the Veterans Administration of the United States that all new veteran's hospitals will have a certain proportion of their beds directly assigned for psychiatric care.

The reason for wanting such services in general hospitals is a perfectly natural one. The patient and his relatives, and in fact all of us, feel that a certain stigma, either rightly or wrongly, becomes attached to individuals who have to enter hospitals for mental diseases. It was felt that this stigma could be avoided if the patient could be admitted to a general hospital. Yet in actual practice, this hoped for removal of stigma by sending the patient to the general hospital, has met with a rather limited success, with some outstanding exceptions.

Thus, one psychiatric ward in a general hospital in Canada which takes in psychiatric patients of all kinds, has acquired so much "stigma" that the name of the ward, which was originally Ward X, has been changed to Ward R, and has been completely redecorated in order to improve its esteem in the public eye. In another general hospital, the psychiatric ward is a locked one, and is so similar to the general admission ward of any mental hospital and contains so many outright psychoses, that it is difficult for me to see how many of the milder cases and so-called "neurotics" would be willing to stay in it.

Both of these wards, it seems to me, fall far short of providing the kind of service that a general hospital might provide. If the general hospital psychiatric ward is merely a duplicate of a mental hospital ward, a short time after it gets into operation, it acquires the same name as the mental hospital and nothing fundamental has been gained. Merely moving the location of a ward from a mental hospital to a general one without taking any other steps, does not of necessity produce the desired beneficial results.

To this must be added an entirely new orientation toward mental disease—a real understanding that disorders of the mind are true diseases and should be regarded in the same objective manner as are other diseases, such as pneumonia, to which no stigma is attached.

The psychiatric ward of a general hospital must therefore restrict the number and the kind of patients that it will admit, and a great deal of discussion centres around the problem of how strict or lax these limitations should be. The looser these restrictions are and the more one attempts to take in all kinds of patients, the sooner the ward loses the power of being able to remove

the stigma. The more it restricts its clientele, the number of patients that it can serve is therefore reduced, but the service that it can render is of a higher order. The hospital wards which I have mentioned as being most successful in that regard have strict limitations on their admissions of varying types. The Massachusetts General Hospital, for example, takes only the milder types of disease and no advanced cases or cases requiring therapy other than psychotherapy. The Allan Memorial at Montreal, accepts psychotic cases but the difficult ones, I understand, are promptly removed to mental hospitals.

This brings up another factor and that is, that the need for a general hospital to provide psychiatric services depends in part upon the nature and location of the services provided elsewhere. Thus, the worse the mental hospital and the greater its distance from the general hospital, the greater the urge to provide psychiatric services in the general hospital. If the mental hospital can provide a service as adequate as could be provided say by the Allan Memorial, and if it were in the same community as the general hospital, the need for creating a psychiatric service at the general hospital could be lessened, although not completely removed. There should always be a psychiatric service in any general hospital, to take care of the confusions and deliria that develop in any large hospital service; to deal with the mental symptoms that arise in toxic cases and acute poisonings; and to provide diagnostic aid and treatment for the psychosomatic cases of which we are becoming more and more conscious. What kind of cases other than these should be treated in general hospitals, would depend in part upon the facilities provided elsewhere, and that brings me to my next topic—What is to be done at the Nova Scotia Hospital?

Nova Scotia Hospital

Let me say first that an aggressive active treatment centre at the Nova Scotia Hospital is the cardinal point of our whole mental health program. The centre will be active in every sense of the word, and will provide every type of therapy available—psychotherapy, electric shock, insulin, hydrotherapy, leucotomy, etc. We hope to make it an attractive place so that patients in the early stages of nervous disease of the milder type, will find it pleasant. Physically, it will be a modern type of building, designed to dispel the gloom that in the public eye, at least, is supposed to be present in mental institutions. Occupational therapy and adequate facilities for recreation are both important parts of the treatment. A psychological section and a psychiatric social service department will be set up.

Our hope is to make the new building as much like a general hospital as the type of patient to be admitted to it will permit. Thus, we hope to provide private as well as public facilities. By the time the building is completed, it is expected that several private psychiatrists will be practising in Halifax. It may be possible to work out some sort of cooperative arrangement between them and the institution, whereby they will obtain some beds for private patients in return for service to the public wards. If this could be done, it would, I believe, set a precedent for a new type of mental hospital service not yet provided for in any public institution in Canada. Time will tell whether or not this can be achieved.

Another innovation will be the sending out of reports to physicians referring patients to the mental hospital. It is current practice in all mental institutions throughout Canada, to receive patients within their walls with

hardly a nod or note to the referring doctor. We are establishing the practise of sending reports to the family physician after the patient has been thoroughly studied—just as the general hospital does when a patient is discharged; only here since the length of stay is longer, it will be sent out within a reasonable time after admission. Thus, the hospital will remain in closer touch with the community from which the patient comes. No longer need the referring physician feel that once the patient enters a mental hospital that he is, as it were, removed to another world, so completely does he disappear from sight. We can do better than that.

A clinical psychologist, trained in the British Columbia mental hospital system, has been attached part-time to the Divisional Office, and is providing psychological service at the Nova Scotia Hospital. She has been assigned to the mental testing of patients and has been found a very valuable addition.

Arrangements are being made with the psychological department of one of our universities for the summer employment of one of their students—with mutual benefit to both the institution and the university, we hope.

Considerable correspondence has been held with the Canadian Occupational Therapy Association and with other persons, in the hope that we will be able to procure a qualified worker in Occupational Therapy. The Maritime School of Social Work is cooperating with us in our search for a qualified psychiatric worker.

Mention might be made here of one of the newer techniques developed for the treatment of advanced mental diseases called leucotomy or prefrontal lobotomy. This is an operative procedure in which a cut is made, separating some of the frontal part of the brain from the rest of the organ. This operation has recently been written up in *MacLean's Magazine*, under the over-optimistic title, "The Cut that Makes Men Sane." Actually this is a serious operation and is not to be undertaken lightly. Clinically it appears to have a very definite value for a very limited few. Arrangements are being made to add this therapeutic tool to the hospital facilities.

As you know, it has recently been announced that patients requiring active treatment would receive care free of charge at the Nova Scotia Hospital. This is a great step forward. But already it is producing an additional strain upon the over-taxed facilities of this institution. The reason is not hard to find. Previously, municipalities and others having patients there were willing and anxious to have them transferred to county hospitals, in order to reduce the cost. Now however, that the costs for these patients at the central institution have been reduced to nothing, the urge on the part of the local administrations is to object to the transfer to the county units. Hence, the added strain upon the Nova Scotia Hospital.

Nova Scotia Training School

The Nova Scotia Training School has a rather looser connection with the Neuropsychiatric Division than does the institutions already discussed, for it is administered under the Department of Welfare rather than that of Health. Nevertheless, a close harmony exists between the two departments with the friendliest of associations present. I hope I am not stealing their thunder, therefore, when I say that the new cottage for the training school which they had planned in rough outline some time ago, may get underway

before long; and in the detailed planning my own division will act in closest cooperation.

County Homes and Hospitals

The County Homes and Hospitals are next on the list for discussion. It is not my intention to elaborate this theme by painting a picture highlighting their deficiencies. The nature of these institutions is well known to you. What I wish to talk about is what we are doing.

Now these institutions are not under the direct control of the provincial administration. When a patient is sent to a county hospital—that is, an institution for the insane—an abstract of the case is sent to the Inspector of Humane Institutions in Halifax for his approval; no further details about the case comes to the central office as long as the patient remains there. For people in the county homes—that is, institutions caring for the poor and not the insane—no descriptive papers are sent to Halifax at all.

Now in order for us to get a real picture of the kind of patients in these institutions, we are conducting a most extensive survey. A well experienced psychiatrist is making an examination of every patient in the county hospitals—and also so that we will know exactly where we stand—he is conducting a similar examination in the county homes. This will give each individual in all these institutions, the benefit of expert psychiatric experience, and also it is giving us—for the first time—an adequate over all picture of the patient population. When this survey is completed, we will have much more adequate information on which to base general policy.

Now, statistics are supposed to be pretty dull stuff, yet I think you will find some of our findings interesting. Of the first 483 patients studied, the following was brought to light:

280 were classified insane by the local institutions, and of these our investigations showed:

- 74% to be psychotic
- 21% to be feeble minded
- 5% practically recovered

Of 203 patients in the sane sections of the local institutions, i.e., the county homes

- 20% were psychotic
- 40% were feeble minded
- 40% were mentally normal

This latter analysis of the so-called sane population, that is, patients in county homes rather than hospitals—is particularly illuminating.

If now we assume that these same ratios will hold for the remaining population not yet examined, and we do a little calculating on this basis, we can predict the following:

- (1) That the total insane in all institutions, that is, the Nova Scotia Hospital plus the county homes and hospitals, will be approximately 1800.
- (2) That the total feeble minded in all the institutions, including the Nova Scotia Training School, will be 750. This gives a total population of insane and feeble minded of 2,550.

If we now recalculate this in terms of number of patients per 100,000 population (assuming the population of Nova Scotia as 621,000—the most

recently estimated figure) we can compare our rates with those of other provinces. Doing this for Ontario, we find

Beds Per 100,000 Population

| | Nova Scotia | Ontario |
|--|-------------|---------|
| Total insane and feeble minded | 414 | 382 |
| Insane only | 297 | 299 |
| Feeble minded only | 117 | 83 |

If this estimate turns out to be correct—and I must remind you that these are not exact figures, we are merely gazing into the crystal ball—we find that Nova Scotia has a larger institutional population per capita than Ontario, and that the increase is almost entirely due to the larger number of feeble minded in institutions; for the number of insane are about equal. The sociological implications of this are interesting.

It may be of interest to note the number of individuals per year who break down and have to be admitted to a mental hospital. The number of new admissions in the Ontario hospital system is 62 per 100,000 population. At the Nova Scotia Hospital alone, the rate is 57, and allowing for the new admissions to the county homes and hospitals for which we do not yet have the exact data, the total rate in Nova Scotia is probably around the same as Ontario. In both, however, the rate is considerably lower than certain parts of the United States. In Massachusetts, for example, where their mental institutions are of a high order, the rate is around 83. We might interpret this in more than one way. We might for example, congratulate ourselves on being more stable than our friends in Massachusetts. A more likely explanation, however, is that with the more highly developed institutions, patients are more willing to go to them. The conclusion to be drawn is that with improved mental hygiene facilities, we are likely to experience in the mental hospitals an increased rate for some years to come. Only later could we expect a levelling off or a reduction.

Another point of interest is the question, How likely is a person to be admitted to a hospital for mental disorders, as compared with one say for pulmonary tuberculosis or poliomyelitis? The rate for mental institutions in Nova Scotia, as we have just said, is around 57 to 62. For pulmonary tuberculosis it is 92, for poliomyelitis, 11. This gives the comparative rates of admissions to hospitals for these disorders, although it does not include those who do not go to hospitals.

Another point of interest is the comparative rate of new admissions of mental disorders of different types that we have to deal with in Nova Scotia, as compared with other provinces. Thus, for schizophrenia or dementia praecox—the largest single mental disease, the rate for Nova Scotia and Ontario are approximately the same, 14.5 for Nova Scotia, and 12.5 for Ontario. For manic depressive insanity, the rate is higher in Nova Scotia, 13.8 as against 7.8. Why this is so—if such a rate is permanent—would make an interesting study. Are we as a people more subject to mood changes than the Ontariotes? Another point is that we treat more alcoholics in mental hospitals than they do in Ontario. Do we drink more? Do we become mentally unbalanced more easily under the influence of liquor, or are alcoholics treated in institutions other than mental hospitals in Ontario, and so do not

appear in their mental hospital statistics? Or is the calculated rate only a temporary figure which is only an accident of one year, and not a permanent state?

These and other questions can only be answered when we develop a more adequate record and statistical system. And this is another of the functions of the Neuropsychiatric Division.

Field Services

So far we have dealt with the central administration and the various institutions wherever located. We turn now to another question, what sort of field services operating outside of these facilities, has been or is to be provided? Dr. Eliza Brison of the Department of Welfare has, for many years, been carrying on, with very limited assistance, an invaluable work for children and others. We are trying to elaborate and extend this field in which she has so effectively been working.

Dr. R. R. Prosser has been added to the staff in the division, and at the present moment has his headquarters in Yarmouth. Dr. Prosser is a native of Nova Scotia, who got his B. A. at Acadia, and his medical degree at the University of Edinburgh. After post-graduate training in psychiatry in Great Britain, he joined the medical services operating in India, and has had extensive experience in both clinical and administrative fields. Dr. Prosser, with his background, is a noteworthy addition to the staff. At the present moment, his chief task is an arduous one—the carrying out of the survey in the county homes and hospitals previously mentioned. At odd moments, he is providing a valuable consulting service in the district in which he is located. When the main survey is completed, he will be able to turn to other matters. He will keep a periodic check on patients in certain of the local institutions; he may be able to form the beginnings of a preventive service for patients discharged from institutions so as to render less likely a further breakdown; and to provide a consulting service to the community in various ways. Thus, we will see the beginning of some of the functions of a travelling psychiatric clinic—a service which has been urged by the Mental Hygiene Society of Nova Scotia for some time.

We hope to be able to announce the appointment of a second psychiatrist to the field service within a few days. This psychiatrist, like Dr. Prosser, graduated from Acadia and from Edinburgh. He has been doing psychiatric work in Great Britain. His duties will be similar to those outlined for Dr. Prosser, in a different territory. Thus, we are very fortunate indeed in being able to announce at this early date, that a real beginning has been made in the formation of a field treatment and prevention service.

A second type of field service we are trying to provide is one in psychological testing. We have many calls from school systems for tests of various kinds; most frequently the request is for the confirmation of a suspected mental defect. In others, the question is whether there is a special disability in reading or some other scholastic subject. At another time, the problem to be worked out is whether the individual has any kind of special abilities that might be brought out or capitalized upon in order to produce some kind of real success or achievement.

In order to satisfy this need, we are doing two things.

(1) We are trying to find a suitable person who already is trained or can become so with a little further study, in order to fill this important post in the psychological section.

(2) We are building up a test library to be used for various kinds of testing. The regular Binet Test—or its more recently revised form, has been the old standby. It has its well-known merits, but also has its definite limitations. We are adding many other tests of various types, performance tests, tests for special abilities, tests for the blind, etc., in order to be able to give a more complete diagnostic survey. Some are intended for children and some are more suitable for adults. For problem adults often need various kinds of testing appraisal, as well.

The third activity to be included under the general term of field service is education. Here, we are trying to increase the understanding of the public in those general principles which underlies healthy mental growth and development, and to teach what is sound and useful in child psychology, and in guidance for parents. This is being done in association with several groups. With the Department of Adult Education, for example, we cooperated in two training groups for community leaders, one in New Glasgow and one in Yarmouth. Addresses have been given to several Home and School Groups and also to the Teacher's Institute at Sheet Harbour. This is but the beginning in the direction of increasing the understanding of the general public in problems of mental health and mental hygiene.

This brings me to the end of what I have to say. I have covered in broad outline what we have done and what we are attempting to do. It is, in brief, a story of the birth and development of a very young baby—the Neuro-psychiatric Division of the Department of Public Health. I have described for you its christening and how it has cut its first teeth. I think you will agree with me that it is growing into a very lusty youngster indeed. Its progress so far, has not depended on any one person alone, but upon the very fine spirit of cooperation which has been found among all of those who are interested in mental welfare. On the continued cooperation of all of you—those before me to-day and those elsewhere in Nova Scotia—we pin our hopes for the future.

Dalhousie Medical Physiology 1948

C. B. WELD, M.A., M.D., Professor

Halifax, N. S.

IT is generally recognized that the two broad divisions of Biology, Anatomy and Physiology, are of fundamental importance to the medical man. How many, however, have a clear picture of just what constitutes a present day physiology course? Even in a fairly closely knit faculty such as the Dalhousie faculty one sometimes wonders just exactly what is taught in other departments, and this is true despite almost daily contact between different members of Faculty. With this thought in mind it is felt that a brief description of the present course in Medical Physiology at Dalhousie might be of interest to the profession in general.

A distinction is to be made between the subject of physiology and the course in physiology. The subject legitimately includes the study of all aspects of biological function, and this knowledge, applied to humans, forms the fundamental basis of medical lore. All successful methods in the practice of medicine and its specialties must surely be based on correct physiological principles even if these principles are not yet all clear. All the departments of the medical faculty teach some phases of the subject of physiology.

The actual course in physiology as taught by a department of physiology will vary in different institutions depending upon the type of student and his background and upon the organization of the other departments. Co-operation between departments is necessary; some overlap is healthy but too much is merely time wasting. Our course consists of about 100 lectures and about 150 hours of laboratory work, a length of course which corresponds with the average given by the American schools as published in the journal of the American Medical Colleges.

In the laboratory the student does the various experiments himself. Those few experiments which for one reason or another he cannot do, and which the teacher does for him, are specifically called demonstrations. In the lecture course, living subjects, lantern slides, movies, etc., are used as illustrative material as occasion warrants and material is available. In respect to the different systems, the course is as follows.

Muscle

In the *laboratory* the time relationships and characteristics of muscle contraction are studied in the frog. The development of fatigue and the effect of the circulation on fatigue are studied in frog and in human. Each student experiences neuromuscular fatigue (by ergograph) and also experiences ischemic pain by exercising a finger with an occlusive tourniquet on the upper arm. Each student also stimulates his own muscles by galvanic and faradic stimuli and determines muscle points. Electromyograms are demonstrated. In biochemistry, complementary experiments are done on the lactic acid content of fatigued muscle.

In *lecture*, these points are amplified. The chemistry of muscle contraction and the energy relations are discussed. The dependence of muscle function on nerve supply is stressed and types of paralyses and muscle inco-ordination are discussed.

Nerve and C.N.S.

In the *laboratory* the velocity and other characteristics of a nerve impulse are measured. Reflexes are studied in animals and human, and each student determines his reaction time for sight, sound and touch. These results are evaluated statistically and the experiments are later amplified with drugs in pharmacology. Decorticate, decerebrate, decapitate and pithed animals are studied and the differences in behaviour and in reflexes are compared. The sensory function of the posterior nerve roots and the motor function of the anterior roots (Bell-Magendie Law) is demonstrated in a cat. Autonomic reflexes are studied.

In *lectures* the neurone, synapse and reflex unit are discussed. The factors facilitating or depressing nerve conduction are discussed in relation to variable reflex responses and functional anesthetics and paralyses. Protective reflexes, postural reflexes, voluntary movement, autonomic reflexes, conditioned reflexes and emotional states are described. The organization of function of the C.N.S. is discussed with special reference to the Spinal Cord, Brain Stem Centres, Thalamus, Corpus Striatum, Hypothalamus, Cerebellum, and Cerebrum. The subject is then reviewed by reference to experimental neuroses and clinical conditions resulting from lesions in certain areas, e.g. Tabes, Polio, Hemiplegia, Disseminated Sclerosis, Combined Sclerosis, G.P.I., etc. Autonomic mechanisms, hypothalamus, pituitary, medullary centres, are described and the close relationship between somatic and autonomic divisions of the C.N.S. are stressed. As a review of the autonomic division, body temperature regulation and sleep are discussed.

Special Senses

In *lecture*, a serious attempt is made to evaluate the place of the sensorium as a whole in reflex actions and human behaviour. Then each of the senses is discussed separately both as to the peripheral mechanism and the central interpretation and connections. In the *laboratory* one period is spent on each of vision, hearing, skin sensations and taste, and labyrinth. The students use one another as subjects and determine visual acuity, map the fields of vision with the perimeter, study accommodation, color vision and extrinsic ocular muscle balance and use the ophthalmoscope for the first time. As to hearing they determine in themselves the range of pitch which is audible, and the threshold of pitch discrimination, simulate deafness by plugging an ear and determine the hearing loss in decibels, by watch tick, by tuning fork, and by audiometer. They compare air and bone conduction by tuning fork. As to the labyrinth they spin one another in the rotating chair and perform the cold caloric test, looking for nystagmus, and postural and pointing reactions. The otoscope is used. The labyrinthine reactions of the frog are also determined, before and after pithing. In studying the cutaneous senses, areas are examined for pain (pin prick), touch (Frey's hair, cotton), warmth and cold, and areas of different sensibility are noted. With taste, approximately threshold concentrations of sugar, salt, acid, and quinine are tested on different areas of the tongue. Phenylthiourea is tasted and the important physiological and familial implications pointed out.

Digestion

In the *laboratory* the characteristics of smooth muscle of frog and mammal are studied. The frog stomach is stimulated electrically. The spontaneous

rhythm of rabbit intestine is studied by immersion in various saline solutions and the effect of adrenaline and acetyl choline noted on rhythm and tone. The movements of the intact intestinal canal are shown by abdominal window and by movie film, and stomach movements and secretion are demonstrated by a gastric fistula dog. In biochemistry, students do gastric test meals on themselves, and X-ray studies are carried out in anatomy. *In lectures* the nervous and hormonal control of the digestive secretions, the mechanical activity of the gut and the mechanisms of absorption are discussed in detail. By way of review such topics as pylorospasm, achlorhydria, gastritis, gastric dilatation, cardiac achalasia, gastro-enteritis, colitis, constipation, cholecystitis etc., are introduced and discussed in relation to physiological mechanisms.

Metabolism

In the laboratory the students determine the B.M.R. of one another and assess their results by statistical analysis. They also determine the metabolic increase with exercise and use the special apparatus for determining the metabolic rate of animals. *In lectures* the subject is elaborated more fully and the oxygen consumption of various organs is noted in activity and rest. The systematic discussion of intermediary metabolism is left to biochemistry but some aspects are touched on in the study of the endocrines.

Liver

The functions of the liver are described (bile formation, excretory, metabolic, detoxifying). Jaundice is discussed, obstructive, toxic and hemolytic. Liver function tests are described.

Endocrines

In the laboratory, except for a demonstration of the pregnancy test in rabbit and frog and the casual use of adrenaline and pituitrin, little work is done. In biochemistry the hypoglycemia of insulin administration to rabbits is studied. *In lecture* the function of the ductless glands as a group is discussed, and each gland taken up individually. The hormones are named and something of their chemistry given, their function described and their control and interrelationships discussed. Clinical conditions of hyperactivity and hypoactivity of each gland (e.g.—acromegaly, goitre, hyperthyroidism, tetany, Addison's Disease, diabetes insipidus, etc.) are described. The ovarian, hormonal and uterine relationship in menses and in pregnancy are discussed. In the discussion of all such clinical conditions only the salient signs and symptoms are mentioned with the idea of illustrating the hormonal actions; in the clinical years, the clinical course and symptomatology is discussed systematically.

Circulation

In the laboratory the rhythm and control of the heart is studied in turtle, frog and mammal. The isolated mammalian heart is perfused and the effect of adrenaline shown on the heart, the spleen and the isolated aorta. Cardiac and vasomotor reflexes are studied in cat and rabbit by stimulation or by cutting of appropriate nerves, and the effect of hemorrhage and transfusion demonstrated in dog. The relation of asphyxia and cardiac dilatation is studied in the rabbit, and a rabbit is poisoned with coal gas and revived and

the blood CO determined chemically and by spectroscope at each stage. The students make polygraph, electrocardiograph and ballistocardiograph records of themselves. They determine their arterial blood pressure and the effect on it of postural changes and of exercise, and each performs the cold pressor test of vasomotor stability and the Harvard Step-Test of cardiovascular reserve. They observe their venous pressure. They determine by plethysmograph the local blood flow through the hand and measure the skin temperature both when cool and when warmed by blankets. They study Lewis' "Triple Response" reactions, using adrenaline and histamine intradermally. The control of local blood flow in minute vessels is shown by movie film. They listen to the heart sounds.

In lecture all the above points are amplified. After describing the circulatory system and its controlling reflexes, arterial and venous, and the effect of CO₂ and local tissue metabolites, the adjustments involved in exercise, digestion, and hot environments, etc., are discussed. The coronary circulation, cardiac output, heart failure and shock, hypertension, peripheral vasospasm are discussed. The electrocardiograph and its relation to cardiac arrhythmias and coronary disease is demonstrated with lantern slides of typical records, and related to polygraph records and heart sounds.

Respiration

In the laboratory, respiratory reflexes are studied in the cat and rabbit. Pleural cannulae are inserted and the intrapleural pressures recorded. The respiratory reflexes are demonstrated in the dog in more detail, especially the pulmonary vagal (Hering Breuer) reflexes, and the effect shown of known tensions of CO₂ and O₂ breathing. In humans, vital capacity, tidal air, pulmonary ventilation per minute are measured and the effect on breathing of exercise, of CO₂ excess and of O₂ deficiency is studied. Cyanosis is produced in man and animal. The lung gases, inspired, expired, and alveolar, are analyzed for CO₂ and O₂ and the dead space air calculated. The blood gases are studied, the O₂ capacity of blood determined and the CO₂ content of blood and plasma measured. They listen to the breath sounds.

In lecture the distinction is made between respiration and breathing. The mechanics of breathing is described, costal and diaphragm. Intrapulmonary and intrapleural pressures are discussed. Respiratory reflexes, the respiratory centre and control of breathing are discussed. The dangers of shallow breathing are described, and the subjects of pneumothorax, pulmonary congestion, pleural effusion and empyema, atelectasis, emphysema, consolidation, dyspnoea, asthma, are introduced. Anoxia, types and effects, is discussed and cyanosis explained. The carriage of oxygen and of carbon dioxide by blood is described and the relation to hemoglobin and blood buffers and alkali reserve, acidosis, etc., is pointed out.

Excretion

The different routes of excretion, respiratory, skin, alimentary and renal, are described. The physiology of sweating is discussed. The excretory components of feces are distinguished from the non-absorbed residue.

The kidney is discussed at length and its functions in maintaining normal blood pH and osmotic relations stressed as well as excretion of waste products. Glomerular filtration and tubule secretion is described and evidence given.

Methods of determining defective renal function are reviewed and renal function tests are described in principle. (Urinalysis and blood chemistry, P.S.P. Test; Concentration Test; Water Test; 2 Hour Test; Urea Concentration Test; Inulin, Para-aminohippuric acid, Urea Clearance Tests).

Disturbances of micturition and the normal control of micturition as distinct from renal function are described.

In the laboratory a ureter is cannulated (dog) and urine flow demonstrated in response to urea, saline, etc., and the cessation of urine formation noted when the blood pressure falls too low. A renal oncometer shows vasomotor changes in kidney.

Blood and Body Fluids

In the laboratory, in addition to taking their own (venous) blood for the blood gas and blood pH experiments, they determine their own Hemoglobin. This is done colorimetrically, checked by the oxygen capacity method, and the colorimeter readings are studied statistically. They determine their own clotting time, bleeding time, blood type, and study the factors concerned in blood coagulation by oxalating and recalcifying blood and plasma and they show the presence of thrombin in serum. They determine red cell fragility and study saponin hemolysis and show the antihemolytic property of plasma. In the perfused frog they show the formation of edema with saline, the prevention of edema by protein, and the early dehydrating and late edema producing effect of hypertonic glucose.

In lectures the formation of cells and plasma and the physico-chemical relationships concerned in the maintenance of plasma volume are described. This and the permeability of the capillary are discussed in respect to lymph formation. The function of the red cells in O₂ and CO₂ carriage is discussed and the subject of anemia introduced. The role of the white cells in combating infection,—phagocytosis and antibody (gamma globulin) formation—is described, and the subject of inflammation, leukocytosis, leukotaxine, lymph blockage, etc., introduced. Blood clotting and thrombus formation, hemolysis, sedimentation, Landsteiner and RH types are described and the subject of transfusion with blood and blood substitutes introduced. The blood types form the basis for two lectures on inheritance. Inherited characteristics, dominant and recessive and blended, interaction of genes, etc., are discussed, and the phenotype distinguished from the genotype.

The distinction is made between transudates and exudates and discussed in relation to synovial fluid, pleural fluid, ascites, aqueous humor, and C.S.F. The physiology of the C.S.F. is discussed, (composition, formation, absorption) and some of the abnormal findings described.

Arrangement of Course

The lectures start at the beginning of the first year and carry on to Christmas of the second year. The subjects of the physiology of the blood and the body fluids, and the physico-chemical relations between them; the physiology of muscle and nerve; and the physiology of the circulation, have been well introduced before the laboratory work begins.

As far as possible the various topics are given when they are being discussed in other departments. For example, discussion of the physiology of

digestion is timed with biochemistry, the central nervous system with structural neurology, and the special senses with anatomy.

The students are told repeatedly that the lectures are not intended to systematically cover the entire subject. This is the function of text books. An attempt is made to introduce at least the major divisions of the subject and to convey a connected picture of the subject, giving detail and explanations which experience has led us to believe of help. Texts and reference books and occasional references to current publications are discussed and recommended. Very little is given in the way of prescribed reading and no particular text is demanded. The student however, knows that merely because some phase of the subject has not been mentioned in a lecture, he is not excused from learning it. He must have a good, modern, book.

In addition to teaching a number of facts and theories, it is remembered that we are teaching a university course and we try constantly to train students to think and to observe and to read. Perhaps this is the most important part of our work as teachers and it is certainly the most difficult part to evaluate. No matter how a course is arranged on paper, it may be alive and stimulating or just dull; it may be almost exciting to some members of a class and nothing but a chore to others. I doubt if any professor knows just how well he is "putting it over;" at best he knows what he is trying to do. It may be years before he finds out how well he has succeeded and by that time the course will almost certainly have been changed. Sometimes I think that we teachers, in science subjects or not, are carrying on one of the greatest uncontrolled human experiments in existence; we are trying to mold the minds of our students by hit and miss methods. Probably it must be so for pedagogy is hardly a science as yet. We all fear the application of mass methods, fear the production of stereotyped minds, and sometimes wonder if the present tendency towards standardization of curriculum represents an approach to perfection or merely a complacent attitude to be condemned.

However a philosophical discussion such as this is not the purpose of this paper. The reader will please remember that along with the presentation of the subject matter a constant attempt is being made to widen the mental horizon. The course is not an end in itself: it is a part of the medical curriculum as a whole.

Our student is taught by being told. He is taught by being shown. He is taught by having to experiment and observe and answer questions. He is encouraged to discuss his problems with the instructor and he must do some reading.

Providing Acceptable Medical Records*

SISTER MARGARET CLARE, R.R.L.

Medical Record Librarian, Halifax Infirmary
Halifax, N. S.

MEDICAL RECORDS—accurate and precise—have been kept in some form, since long before the Christian Era. In the time when people lived simply, the relationship between doctor and patient was relatively simple and the doctor had an intimate knowledge of his patient.

To-day our manner of living is more complicated and with more patients being treated in hospitals with their diversity of instruments and tests, so much data accumulates that it is impossible for the doctor to keep it in his mind. This has necessitated the keeping of written records. The hospital has assumed the burden of keeping medical records for the physician for his hospital cases. While the record is of some value to the hospital—its greatest value is to the physician himself and he should be willing to see that the data and information recorded is accurate and complete.

When accurate and complete in every detail, the medical record has well recognized values:

1. It serves the patient in his present illness; will be of value in a subsequent illness.
2. It enables the hospital to make an analysis of the quality and quantity of work done.
3. It is used in education and research.
4. It proves of value to Public Health in combating disease from foreign lands.
5. Lastly, the medico-legal aspect must be kept in mind—an accurate and complete medical record is priceless in such a case.

Good medical records are the work not only of one person—but of several. The statistical sheet, so essential to the proper identification of a patient, is the work of the Admitting Staff; the complete history and physical examination is the duty—under supervision of his chief—of the interne; the diagnosis is in the hands of the X-ray and laboratory technicians, and the pathologist. It is erroneous to think that only the doctor makes the diagnosis—he has abundant help these days—often times more than he makes use of. Treatment involves even more of the hospital personnel. The case record, then, being a joint compilation of everything of importance related to the patient's stay in the hospital, it alone can show that proper treatment has been given.

Records have played an important part in the building of famous clinics. Even in the remotest parts, records, through accurate notations of observations, can make definite contributions to science. This is particularly true because local problems differ, and the answer will, or should, be found in the records of local hospitals.

Records are important in the teaching of surgery. The interne or resident who cannot write in detail the operation at which he assisted, is not capable of trying it himself. Surgeons should teach by showing, in records

*Paper read at Sectional Meeting of the American College of Surgeons, Halifax, N. S., May 18, 1948.

as well as work. Just as a fine piece of surgery will stimulate a younger man to endeavor to equal work he has seen, so if a surgeon writes a detailed account of the operation—he teaches his observers the value of good records. If it has been done, it should be recorded.

Nurses' notes contribute, or not, according to the time and thought put into them, for they present from the medical viewpoint, a written picture of the patient's history. Nurses are interested in bettering notes from the education, information and protection standpoint—the Medical Record Librarian from the desire to round out the medical record, making it of value to the patient, the doctor, the hospital and science.

Records are of importance to the patient, who realizes this more than ever before. He will frequently say: "Write to X Hospital. They will give you a record of my case there." And he has every right to expect this service, for his record should be there, different in details from every similar case. Failure of a hospital to demand a good medical record and to apply its lessons is a disservice to its patients.

Policies, rules and regulations may be subject to change by hospital authorities according to circumstances, but no rule in any code of conduct is as inflexible as the one which prevails in the Medical Record Room of a hospital. Here there is no exception to the rule, and no excuse is valid for neglect to render a scientific account of the sick. The excuse "lack of time" on the part of medical men for this essential part of the care of the sick, should be regarded as a danger signal by those in charge of hospitals. There is no better check on the quality of medical care given in a hospital than the medical record.

Keeping medical records is not adequate. We must have good medical records. When shall we have good medical records? When the doctors write them spontaneously rather than by pressure.

A medical student writes his records in order to get good grades—he hears the interne complain about the waste of time writing records—sees him complete ten delinquent records in half an hour and knows full well that they have little if any bearing on the actual condition and progress of the patient. He is the interne of the future! The interne makes visits with the chief and is expected to complete the record of a private patient with a pelvic condition. He is not allowed to make the pelvic examination, and the physician who did, does not record it. What respect does that interne develop for the value of the medical record? And he is the staff physician of the future!

From that it would seem that education should begin with the top men—but how many have tried just that and found the result anything but encouraging? Some authorities feel that good medical records begin with the By-Laws and Regulations—may I go a little further and say that good medical records begin with the education of the medical student in the value of medical records—why they are necessary, why they form a link in the chain of scientific work, how they can be made a basis of treatment in certain disease, of research in medicine or surgery, their importance to the patient at some subsequent date

Businessmen have made a science of bookkeeping forms, equipment, cost accounting, and filing. Medical records contain items as important as financial transactions. Good medical records would provide the answer to such questions as: Are better results obtained by spending more time on

the patient on his first admission, or by having him return several times? Is surgery or prolonged medical care the better treatment for ulcer cases? Which shows better and more lasting results? What is the incidence of certain diseases in a given locality? What treatment brought the quickest results in the best way? All these questions and many others that medical men desire to have answered will be found in good medical records and in the resultant statistics.

How dependable are statistics? Only as dependable as the records from which they are compiled. To have accurate statistics, one must have an accurate foundation on which to base them. And what accuracy can be found in records that are completed days, weeks, and even months after the patient has left the hospital? True, the doctor will state "What a surgeon does on a particular patient remains fixed on his mind, so that though he does not recall the name or the person, given a clue as to what was done at operation, all other details come back to mind with a clarity that is astonishing." One cannot rely too much on the memory, no matter how good; and, as it is better to be safe than sorry, records should be written promptly as a safeguard for accuracy, particularly with the patient's well-being in view.

Histories and physical examinations should be made in detail, not brushed aside with a mere "negative" or "normal." This may not seem important to a doctor who has complete office records on a patient admitted to hospital, but what will be his chagrin to find, on a later admission of this same patient, certain omissions in previous history and physical examination, or in details of operation which would clear up doubts and simplify the present treatment. It is important to know details, as in the case of hernia; the type; is it inguinal, femoral, sliding; is it located on the left or right side; perhaps it is bilateral. If you trust your memory too greatly and rely on it to recall details of the "now" in the future, remember you are making the record for the future, for others as well as the patient. Patients, like the weather, are changeable; they do not always keep to the same physician.

It is absolutely essential that all doctors' orders be written and signed by the doctor. It is also important that the doctors keep a record from day to day of treatment and reactions, known in record-room language as progress notes. Many think that a truly good job needs no record, that the result speaks for itself, that a recovered patient is all the memo needed—but medicine is a true, self-less science and its discoveries, advances, disappointments, should be shared with the world for the benefit of those who are ill and those who some day may be—and the story of how a once sick person became well should be accurately and safely recorded somewhere for the benefit of others.

To obtain good medical records, may we offer a few suggestions:

1. Make a case record "conscience" one of the qualifications for membership on the staff—active or courtesy.
2. Review the internes' work, making necessary notations before signing the record as complete.
3. Request the sending of personal data from office with each private case for the value of the history and saving of annoyance to patient, (and to the doctor, when details are lacking).
4. Insist on privacy of records, lack of which undermines confidence in the hospital and in the doctor, and provides the one alibi of the physician for deficiencies in his case records.

5. Have stenographic or dictaphone facilities for operating room to encourage prompt detailed descriptions of operations when these are uppermost in mind.
6. Inaugurate clinical conferences, staff meetings, and a record committee appointed for its standing, its courage, and its will to do.
7. Encourage the use of medical records in study and research.
8. Choose a record librarian whose knowledge and ability will keep her department up to standard; who is willing to be of service in the work of making good medical records; to be of assistance in the promotion of clinical research; and whose record room work comes first.

I may not have told you anything new in the method of providing acceptable medical records, for all hospitals should be equipped with these facilities. Our aim should be to generate the enthusiasm and to secure the co-operation of the doctors. Let me repeat: A good medical record is the responsibility of the doctor, and no one can properly take his place.

DOCTOR WANTED

The citizens of New Ross, Lunenburg County, are anxious to have a doctor for their community. Any physician interested should communicate with Mrs. Harry Lantz, Secretary, New Ross District Farmers' Association.

WANTED

A Resident Interne at the Halifax Infirmary, Halifax, N. S. \$1,200 to \$1,800 with full maintenance depending on qualifications.

FOR SALE

The residence and offices of Doctor C. A. Donkin, Eridgewater, N. S. For further information apply to Mrs. C. A. Donkin, Bridgewater.

Correspondence

Dr. H. G. Grant
Secretary
Nova Scotia Medical Society
Dalhousie Public Health Building
Halifax, N. S.

Camp Hill Hospital
Halifax, N. S.
June 12, 1948

Dear Sir:

Recently a number of amendments to treatment regulations of the Department of Veterans Affairs have been approved and are now in effect. As these amendments affect a considerable number of veterans, particularly in the older age groups, it is felt that the changes should be brought to the attention of the Profession in the Province. The following is a summary of the items which are of general interest, submitted for publication in the Nova Scotia Medical Bulletin.

The principal change in the regulations affects the group of veterans who are recipients of War Veterans' Allowance. It was previously necessary for these veterans to qualify on economic grounds before they could be treated, and treatment was restricted to acute remedial conditions only, while treatment for chronic and other conditions such as Tuberculosis, Mental Disease, etc., could not be provided. Under the amended regulations the Department provides full treatment coverage for recipients of War Veterans' Allowance, if hospitalization is necessary, while other veterans who are not receiving War Veterans' Allowance but who are pensioners or had meritorious service in a theatre of war can also receive treatment for non-service related conditions, with the exception only of Tuberculosis, Mental Disease, Alcoholism and Drug Addiction.

There has also been a change in the economic standards for veterans requiring treatment for non-pensioned conditions for which they are unable to pay. While service requirements for admission to this treatment classification remain the same, that is that a veteran must be receiving a pension, or have had meritorious service in a theatre of war, the standard of his ability to pay for treatment himself is based on a sliding scale instead of the old Arbitrary Means test previously in effect.

Up to the time of the amendments it was considered that a veteran was unable to defray the costs of treatment himself if his income during treatment was less than 100 per cent pension rates. His liquid assets in relation to the cost of treatment if obtained privately and his other obligations were also taken into consideration. In future all these factors will still be considered but a table on a sliding scale, relating the cost of treatment to income and liquid assets, will be used and will result in greater uniformity of assessment throughout all Districts.

Briefly, if the cost of treatment if obtained privately would reduce the bank balance and negotiable bonds of a veteran without dependents to less than \$250 or those of a veteran with dependents to less than \$500, the applicant is eligible to receive the treatment from the Department at its discretion if the cost of treatment is also above a certain percentage of the annual income.

Using this scale, it is clear that a veteran would be expected to pay for treatment where he could afford it but the Department may accept responsibility for expensive or other treatment for which the veteran is unable to pay. Under some circumstances the Department would be able to provide that part of Treatment not covered by a Health Insurance policy or Blue Cross Subscription.

Every effort is made by the Department to provide to patients who are its treatment responsibility the very highest standard of treatment available. To retain the services of the best doctors, an adequate supply of clinical material at Departmental hospitals is necessary. For this reason the treatment mentioned above and that provided to War Veterans' Allowance recipients will be furnished in Departmental hospitals only unless it is imperative in the interests of the patient concerned that it be carried out in another accredited hospital in Canada.

Prior authority for admission of an eligible veteran to a local hospital must therefore be obtained from the District Medical Officer if the treatment is to be at Departmental expense.

If doubt exists as to whether or not any veteran is eligible for treatment under the Department's regulations, the District office is prepared to advise any doctor who wishes to obtain a ruling in that regard. It is only necessary to give the veteran's regimental number and name and the condition requiring treatment, in a letter addressed to the District Medical Officer, Dept. of Veterans Affairs, Camp Hill Hospital, and advice will be immediately sent.

Yours very truly

C. J. Macdonald, M.D.
Departmental D.M.O.

Skin Trouble

Thousands of housewives suffer from occupational dermatitis (housewives' eczema) caused by scap or soap powders, and much of the dryness, scaling and redness on their hands and arms could be prevented by proper care. Dr. Samuel M. Peck, of New York City, so reported in a paper on dermatitis at the annual clinical conference of the Chicago Medical Society. He offered a simple answer to the problem of housewives, soda clerks, dishwashers, and others: Rubber gloves, closed at the wrists by a sleeve buttoned over the top of the gloves. If this doesn't prevent the eczema, he urged use of a soap substitute and frequent lubrication of the hands with ointment containing animal or vegetable fats. Dr. Peck also laid down rules by which industrial workers could escape dermatitis. These included daily cleaning of machines, filtering of oil to eliminate metal slivers, daily showers, clean towels and clothing daily, clean waste near the machines, and, in the case of workers in cement plants, dust control, goggles or respirators, and enclosure of machines.

Society Meetings

Western Nova Scotia Medical Society

THE annual meeting of the Western Nova Scotia Medical Society was held at Riverside Inn, Meteghan, June 10th.

We had a grand get-together, a delicious meal, and a good set of after dinner speakers, Doctor C. A. Gordon of Cornwallis Hospital who spoke on "Streptomycin in Tuberculosis" and Doctor E. H. Anderson of Digby, on "Physical Medicine."

Election of officers resulted in the following:

President—Doctor J. A. Webster, Shelburne.

Vice-Presidents—Doctor L. P. Churchill, Shelburne; Doctor E. L. Eagles, Yarmouth; Doctor E. Melanson, Meteghan.

Secretary-Treasurer—Doctor D. F. Macdonald, Yarmouth.

Representatives to the Executive of The Medical Society of Nova Scotia—Doctor P. E. Belliveau, Meteghan, Doctor R. M. Zwicker, Lockport.

We had two members present who have had over 55 years in practice, Doctor F. E. Rice of Sandy Cove and Doctor E. DuVernet of Digby. Both were elected Honorary Members. An attendance of 23 was very good, considering that we were considerable north of the centre of the district.

Douglas F. Macdonald
Secretary-Treasurer

The thirty-fourth Clinical Congress of the American College of Surgeons will be held in Los Angeles, with headquarters at the Biltmore Hotel, from October 18 to 22, 1948. The program of scientific sessions on subjects in the fields of general surgery; eye, ear, nose and throat surgery; gynecology and obstetrics; urology; and orthopedic, thoracic, plastic, and neurological surgery, will be supplemented by operative clinics in hospitals in Los Angeles and vicinity by showings of operations by television and motion pictures, and by a four-day hospital standardization conference for hospital personnel, according to Dr. Irvin Abell of Louisville, Chairman of the Board of Regents of the College. There will also be extensive technical and scientific exhibits.

New officers who will be inaugurated at the opening evening session are Dr. Dallas B. Phemister, Chicago, President; Dr. Howard A. Patterson of New York, First Vice-President; and Dr. Carl H. McCaskey of Indianapolis, Second Vice-President. The outgoing officers are Dr. Arthur W. Allen of Boston, President; Dr. Thomas E. Jones, First Vice-President; and Dr. Gordon B. New, Rochester, Minnesota, Second Vice-President. The other officers of the College are Dr. Paul B. Magnuson of Washington, Secretary; Dr. Bowman C. Cromell and Dr. Malcolm T. MacEachern of Chicago, Associate Directors; and Dr. H. Prather Saunders and Dr. Charles F. Branch, Assistant Directors. Dr. Phemister is Treasurer.

At the Convocation which will be held on the final evening of the Clinical Congress, some 600 initiates will be received into fellowship. The American College of Surgeons, which was organized in 1913 to elevate the standards of surgery, now has a total fellowship of more than 15,000 surgeons in North, Central, and South America, and in a few other countries.

Dr. Donald G. Tollefson of Los Angeles is Chairman of the Committee on Arrangements for the Clinical Congress.

Personal Interest Notes

DOCTOR Murray M. Davis (Dal. 1944) who has been on the staff of the Victoria General Hospital in Halifax since graduation, has left for Butte, Montana, where he will be associated with the Murray Clinic and Hospital.

Doctor Allan R. Morton of Halifax was elected President of the Canadian Public Health Association at the annual convention held in Vancouver in May.

Doctor John G. Wiswell of Halifax and Doctor S. J. Shane of Yarmouth qualified for the post-graduate diploma in medicine at McGill University in May.

Dr. Harry E. Wilson (Dal. 1937) who has been practising at Ship Harbour, has left for Ottawa where he has accepted a position with the Department of National Health as Chief, Civil Aviation Medicine. Doctor Wilson served with the R.C.A.F. during the last war.

Doctor Chester B. Stewart of Halifax has been named by the National Research Council as head of a three-man survey of Canadian Universities to find out what facilities and personnel are available for medical research. The survey will be conducted this summer as part of an effort to promote research in specific fields of medicine. Doctor Stewart's associates in making the survey will be Doctor M. G. Whillans of the Defence Research Board, until recently Professor of Pharmacology at Dalhousie, and R. D. MacAulay of the Federal Department of Health and Welfare.

The BULLETIN extends congratulations to Doctor and Mrs. S. S. Bland at Andover, N. B., on the birth of a daughter, Sharon Lynn, on April 23rd; to Doctor and Mrs. D. W. Smith of Shubenacadie on the birth of a son on May 14th; to Doctor and Mrs. S. J. Shane at New York on the birth of a daughter, Joan Elizabeth, on May 23rd, to Doctor and Mrs. R. W. Begg of Halifax on the birth of a son, Robert Charles, on June 5th, and to Doctor and Mrs. K. A. Garten at Toronto on the birth of a daughter, on June 5th.

Doctor and Mrs. D. S. MacKeigan of Halifax have taken up residence at 34 Pleasant Street in Dartmouth.

Doctor and Mrs. S. W. Williamson of Yarmouth are enjoying a holiday in Upper Canada.

Doctor A. B. Campbell of Halifax, Chief Medical Officer of the Workmen's Compensation Board, was recently elected a life member of the Bear River branch of the Canadian Legion. Doctor Campbell practised in Bear River for twenty-five years, and helped greatly in the procuring of its Memorial Hall.

Doctor R. J. McDonald of St. Peter's, P. E. I., the grand old man of medical practice in Prince Edward Island, celebrated his 90th birthday on May 16th. Despite the steady stream of friends, relatives and patients who called

to wish him many more happy years, Doctor McDonald took time away from the celebration to make a sick call, driving his own car on the errand. He has no thoughts of retiring and expects to be driving his car throughout the countryside this summer and making his calls by horse and sleigh when winter comes. Three of his six children were present for the birthday party. In the evening a large number of friends assembled at the doctor's home and presented him with a purse and address. A brother, Captain A. A. McDonald, resides in Charlottetown, and a sister, Miss Margaret McDonald at Mount Stewart.

Obituary

THE BULLETIN extends sympathy to Doctor and Mrs. G. G. Simms of Pictou in the death of their young infant son, Peter Cutler, which occurred on May 27th.

Starting Early

National health authorities say that a child should be asked to undertake certain duties from a very early age. For example, he should be trained to put away his toys as soon as he is finished playing.

In this way he will develop a habit of responsibility which will make it easy for him to cooperate in more important duties as he grows older. As few demands as possible should be made on the child, but parents should make sure that they are carried out. Children should be trained to obey but this can be achieved without giving orders continually.

Something to Chew on

"For every child a tooth" is an old saying now known to be untrue. There is no good reason to believe that the process of bearing a child must hasten food decay, doctors say. But neglect of the teeth before and during the period of pregnancy often causes the loss of more than one tooth as well as much needless suffering.

All dental defects should be corrected early in pregnancy and the teeth kept in good condition throughout this period. Dental treatment at that time is no longer considered dangerous.

The Old Oil

The secret of giving cod liver oil to a child is the same as starting on any other new food—using the right psychology, nutritionists believe. If the mother approaches smilingly and shows the baby she expects him to take the oil, the chances are he will reflect the mother's attitude and take the oil without protest.

It is now known that it is a mistake to wait until the child is several years old to decide if he needs cod liver oil. He should have the oil every day. It is best not to take a chance.

Hidden Hazards

By means of the X-ray the dentist is able to locate many hidden defects in the teeth, enabling him to treat the patient while the defects are small and the operation painless.

The X-ray detects tiny cavities between the teeth, wedged teeth, bone injuries, tumors, cysts and many other conditions that cannot be located otherwise until they have grown to more serious proportions. It is a good plan to have your dentist check your teeth regularly by X-ray.

Be Wise—Immunize

Health authorities are aware that thousands of Canadians to-day owe their lives to the fact that they were immunized against diseases such as smallpox, diphtheria and whooping cough when they were young.

Smallpox has been practically wiped out in this country by vaccination. Similarly diphtheria and whooping cough are being checked by toxoid and vaccine. Lockjaw is another disease which can be controlled by immunization. It pays to immunize.