

The Nova Scotia Medical Bulletin

OFFICIAL ORGAN OF THE MEDICAL SOCIETY OF NOVA SCOTIA
CANADIAN MEDICAL ASSOCIATION NOVA SCOTIA DIVISION.

MAY, 1946

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Published on the 20th of each month and mailed to all physicians and hospitals in Nova Scotia. Advertising forms close on the last day of the preceding month. Manuscripts should be in the hands of the editors on or before the 1st of the month. Subscription Price:—\$3.00 per year.

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Colonial Medical Service in Nigeria

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NIGERIA, like many of Great Britain's colonies, depends almost exclusively on the Colonial Medical Service for medical and surgical care of her population. There are a few independent medical practitioners, and a number of physicians employed by the missions in their own hospitals.

The newly recruited medical officer generally knows very little about tropical medicine and hygiene, and to overcome this difficulty he, or she, takes a course in tropical medicine and hygiene in London, Liverpool or Edinburgh. These courses last approximately six months. On the completion of the course they are posted almost immediately to the colony in which they are to undergo a three year probationary period.

Nigeria, to which I was posted, is the largest of the four West African colonies, and offers a variety of countryside, from the mangrove swamps in the south to the dry and dusty scrub in the north. It has an area of 332,000 square miles and a native population of over 16 million. Lagos on the coast is the Capital, and the railway, which, with its various branch lines, extends inland for about 800 miles, starts here. Climate varies considerably. On the coast it is a perpetual steam bath but inland and north the climate is more pleasant. The daytime temperatures are higher, the nights are cooler, there is less rain and altogether the climate is healthier.

The town of Bauchi with approximately 5,000 inhabitants was my headquarters. The station was about one mile from the native town and housed about fourteen Europeans when all were present.

There at my hospital I had as assistants three graduate nurses, two dispensers, and twelve orderlies. In addition to the hospital there were nine district dispensaries, the farthest away being some 152 miles from Bauchi. These all had to be visited and inspected at stated intervals. The hospital itself contained 56 beds, including 12 for female patients, 20 mud and grass huts, an operating block, a mortuary and the office block. The buildings were wooden, on concrete foundations and had corrugated iron roofs covered with a layer of grass matting to cut down some of the heat.

There were no refinements. The hospital was strictly utility and without frills, no X-ray, no electricity, no hot water laid on. However, the surgical supplies were sufficient for the job and most of the equipment was good.

In most cases the Outpatient nurse acted as interpreter, did what clerical work was required and supervised the dressers. The office assistant was a Hausa boy who had had some training in Microscopy with the Sleeping Sickness Commission, and had come to the hospital for further training. He was kept very busy, as most of the cases would require some form of laboratory work done in the course of investigation.

The small number of beds for women is easily explained. Bauchi is mostly Mohammedan and once married no good Mohammedan wife leaves the household, sick or well. So most of the female patients would be from the southern tribes or else pagans.

The Outpatient clinic began at 7.30 a.m. and was generally cleared by 9 a.m. Police, convicts, and Government officials came first and were followed

by the local inhabitants. The cases varied greatly. One might see anything from a simple abscess to syphilis or sleeping sickness in the course of a morning.

At nine o'clock I returned to my quarters for breakfast and then went back to the hospital, where I did a thorough ward round or spent the remainder of the working day in the operating room, depending on the cases on hand at the time. On operating days I stripped to shorts and shoes before putting on gown and mask. In place of a cap a gauze turban was worn, which absorbed perspiration more readily and was generally more comfortable.

Most of the operations were performed under spinal anaesthesia, or local if the case was a suitable one. Ether was difficult to handle due to the heat, and chloform dangerous, so spinal or local were to be preferred, especially as a native nurse was my assistant.

Quarterly dispensary checks were compulsory. This meant a 500 mile trip, travelling self-contained, from one rest house to another. These rest houses varied greatly. One night might be spent in a small mud hut and the next in an almost modern bungalow, but they were all unfurnished. We carried along all the necessary beds, chairs, tables, food, gas, oil, servants and if possible a dog to ward off thieves. Instead of a car a one half ton truck with a locally made wood and canvas body did the job if packed well with all available space used properly. The rest-house keeper in most cases could supply the usual tough chicken and other local produce, which helped out the food supplies and kept the consumption of the precious tinned foods down to a minimum.

The dispensaries were simple affairs, with concrete floors and walls and thatched roofs. The dispenser first class, having been trained in the local hospital, was competent to make up standard stock mixtures and to treat whatever was within his limited scope. In this way the natives in the more isolated areas were able to get medical attention. The more serious cases reported at the dispensary by order of the dispenser when the medical officer was due. Helping the dispenser with his problems, checking the supplies and arranging to have the serious cases sent to hospital—all this generally required a stop of a day or more at each dispensary.

All the patients from the dispensaries sent to hospital were given free transportation and hospitalization.

Our favourite stop was Tula, well up in the mountain country. It was cool and the rest house was very well kept, with an excellent garden providing fresh vegetables and fruit. Here we always managed to find a reason for a visit of two or three days and revelled in the coolness. Also the District Officer at Tula was the only white man for a distance of fifty miles and he enjoyed the company.

When we returned to our headquarters after a tour of the dispensaries the work which had piled up was extremely heavy and very often supplies of sterile materials would be exhausted before a day's work was finished...

At times one was forced to seek outside aid. One night I was called on to perform an emergency operation and was faced with the lack of electricity. The Inspector of Works came to the rescue with a supply of Coleman pressure lamps. They gave the necessary illumination but the heat generated by them was terrific. Once a case of elephantiasis of the scrotum caused us much difficulty but again the Inspector of Works solved our problem with a block

and tackle and a meat hook to lift the unwieldy mass, which incidentally weighed eighty pounds.

One seldom had another medical officer to help out. Now and again one of the Sleeping Sickness Commission medical officers would pass through the station en route to his base but at the most his stay would not be more than a few days. In my case I could get help in extremely urgent cases from another station eighty miles away and could get my European patients transferred to the hospital there. Otherwise I was on my own and had full responsibility, being expected to do my best with the facilities available.

The native patients had certain peculiarities chief of which was their ability to stand pain. Very few patients needed more than one hypo of morphine after an operation. The response to sulpha drugs in infections was usually rapid and gratifying. Skin grafts seldom failed. One rather annoying trait of the native patient was a tendency to decide that they were cured and to discharge themselves from hospital on the strength of the decision. Patients leave the hospital at night, even though treatment had just started. That was particularly apt to happen with the first rains. They were an agricultural people and had to farm to live. After the harvest they would come back to the hospital. The average native speaks little or no English and to get an accurate case history was next to impossible, partly for this reason and partly because they have no idea what sort of answers are required to the questions. We depended almost entirely on the physical findings in making a diagnosis.

Most tropical diseases have a common feature in that their causative factor is a parasite, amoeba, helminth, or protozoon, and as such is usually easy to detect with the microscope. For instance sleeping sickness or trypanosomiasis is diagnosed by puncturing a lymph gland and examining the fluid for the living trypanosome. Malaria is found on examination of the blood and in amoebiasis, the stools will reveal the parasite.

Most operations were for hernia, hydrocoele or elephantiasis. Goitres were frequent in the pagan mountain villages. They were chiefly adenomas, were often extremely large, but seldom came to operation. The pagan tribes are very wild, primitive and fearful of the white man and are therefore very difficult to handle.

Hernia cases were usually given the Bassini operation and at times fascia lata repair. Hydrocoeles were often of long standing and had caused so much testicular atrophy that the patient would consent to the removal of the sac and testicular remains. Bladder stones and renal calculi were frequent and a school survey often showed 50-75 % of the scholars to be passing blood in the urine, in which the ova of the *S. Haematobium* were present. Tuberculosis in the final stages was often seen and venereal disease, both syphilis and gonorrhoea, was prevalent. In contrast peptic ulcer and acute appendicitis were rare. In four years I removed only six acute appendices. The country would be a happy hunting ground for the ophthalmologist. One could find nearly every type of eye disease including trachoma.

All work and no play is not to be recommended and for relaxation at Bauchi we had a small club, with tennis court adjoining, and about a mile away a golf course which was entirely of sand including the "greens." At times the elephant grass on either side of the fairway would reach a height of eleven feet and a ball lost in there was lost indeed.

Shooting within one mile of the station was forbidden but further afield one could find guinea fowl, gazelle and some first class duck shooting. The

law forbidding shooting within one mile of the station was often very annoying as the tame gazelles would eat up the garden plants and cut up the sand "greens" on the golf course with their sharp hooves. Once in a while a hyena or leopard would prowl around the house at night but as they did no damage one soon got used to them.

Europeans were not allowed to bring their children to Nigeria so the wives of those in the Medical service usually divided their time between the husband in Nigeria and the children at home.

The usual length of tour in Nigeria was eighteen months from the date landing at Lagos, and one week leave for every month of duty. By the end of eighteen months in the country, with the trying climate and often adverse conditions for one's chosen work, little or no persuasion was needed to board the ship at Lagos. A vast amount of experience is to be gained in a tour of the country if advantage is taken of all the opportunities offered. On the way home one relaxes completely for two weeks and makes plans for the 18 weeks leave in store.

Physical Fitness — The "Step Test"

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A VERY pertinent comment which might be made on hearing this expression is "Physically Fit for What." Physicians are continually having to decide whether a patient is physically fit. The answer is seldom absolute. Perhaps the doctor may tell his patient, "You are as sound as a bell" but keep to himself the mental reserve of, "For a man of your years and occupation," or "So far as I can determine," or indeed "Do I really know?" What is told to the patient, must of course depend on his psychological needs and mental capacity for understanding, as well as on the actual physical findings. Nevertheless evaluation of the degree of fitness is difficult, especially when dealing with people who are not actually ill, and any simple tests contributing to this end which are available to the profession should help the physician towards a sound and secure judgment.

In this brief article a relatively simple physiological test for fitness is described. There is no thought that it will replace any of the common methods of examination of the patient but there is hope that the test will become more commonly used in general practice as an additional and useful procedure. The medical student spends years in learning to be thorough in the examination of his patients, in learning to record the negative as well as the positive pieces of evidence, and in learning that any examination must be carefully and not casually carried out if it is to be any good at all. Unfortunately, to a great extent he has learned to use the term "negative" as meaning nothing abnormal, and "positive" as a sign of disease. A well patient has a list of "negative" findings in his record. Care is taken to record how sick a patient is but not how well he is. Even the "Periodic Health Examination" of presumably well people is a case in point. There is no doubt that such regular examination carefully carried out may be of the greatest value in detecting the first signs of many ailments, and yet in the absence of any such early signs of actual disease, the doctor will often be unable honestly to answer the question, "How well is my patient?" A physiological test for fitness to supplement the ordinary physical findings in patients not definitely ill, would give a positive index of health which would go far to answer the question.

Do we consider physical fitness as synonymous with health? Just to ask the question and try to answer it is enough to show the complexity of the problem. Health is clearly more than the mere absence of demonstrable disease, it is a positive¹ rather than a negative characteristic. But what is it? Longevity, relative absence of morbidity, physical strength, endurance, happiness, each attribute alone and even all together fail to complete our conception of health. Physical fitness is only a part of good health. It is obvious that as yet we have no inclusive single quantitative measure of health, though the obvious importance of the problem should compel us to keep trying to find one. A long term quantitative study of a number of physiological and psychological variables over years and perhaps generations may yield an index or grouping of variables which would correlate well with the general concept of health. The results could hardly be prophesied in advance but

such a study would surely be worth undertaking by some closely integrated group of clinical and preclinical scientists.

The present tests of physical fitness are for the most part measures of physiological responses to physical effort. It may seem strange that well standardized tests have not been long developed but a little consideration will make this rather more understandable. On the one hand, many physiological responses² have been studied, such as pulse rate, blood pressure, cardiac output, respiration, oxygen consumption, blood lactate, capillary blood oxyhemoglobin and others. It is not to be expected that all will give exactly the same results though all are interdependent and in the main the results with one will be the same as with another or with all. As a rule each has been used for some special purposes when first suggested and each has contributed its modicum of knowledge to the problem as a whole. On the other hand, the amount and the rate of effort is difficult to standardize because that required of a well person might be dangerous to ill people, especially those suffering from some heart ailment. Even if only well people are under examination, a degree of effort which would be a real trial for a sedentary worker, would be simple for a husky well trained athlete. Consequently no single exercise level can make a satisfactory test for all people. Under resting or near resting conditions any but the really ill will give reasonably normal physiological measurements; it is only under conditions of stress, a degree of effort approximating the limit for the individual, that the physiological responses will show a range great enough to allow a grading of fit from less fit among the well or normal population. As Brouha has stated,³ "A standard exercise that exhausts most but not all subjects within five minutes gives a much wider arithmetical spread of measurements than one which is easy for everyone, or alternatively that exhausts everyone in a short time. The reason for this is that the best man can finish five minutes in a steady state, whereas the others are exhausted." For this reason the degree of effort is a critical factor in the success of such a test and the difficulties in standardizing the test become considerable.

One of the most successful attempts to do this is "The Step Test"³ proposed by the Harvard group. In this test* the subject steps up a step 20" in height 30 times per minute until exhaustion or for five minutes; the pulse rate is then determined at 1, 2, and 3 minutes in the post exercise period and from this the Fitness Index is calculated. The recovery of the pulse in the post exercise period has been shown to be closely correlated with the ability of the circulatory system to cope with the exhausting effort: the resting pulse and the pulse rate during the exercise are not so significant. It will be noted that individuals of a group are not asked to do the same rate of work in foot-pounds per minute; that would hardly be fair to either the larger or smaller members of the group. However a sort of physiological standard is used in that the subject lifts his own weight at a constant rate, it being reasonable to suppose that a person's musculature should be fitted to his own weight.

The above test is for young men and the conditions are modified for other groups; for example boys or young women are given an 18 inch step and exercise for a maximum of 4 minutes. There seems to be no large scale determination of standards suitable for elderly people. One would expect a large proportion of these to be unable to complete the full five minutes of the exercise period. The use of the 20 inch step and the standard exercise rate for as

* See Appendix.

long a time as they can continue, would have the great advantage of being a standard technique, and should be used when possible. However some of these people may be unable to step up this height at all and others may find it impossible to continue for more than a fraction of a minute. For these it will be necessary drastically to reduce the height of the step, though the 30-minute rate should be continued; a 10 inch step might be suggested as one which would allow the exercise to continue for 3 or 4 minutes, long enough to allow time for sluggish circulatory adjustments to become established if at all possible.

With a little practice and care on the part of the observer this simple test can be successfully carried out. It is not quite as easy as it sounds, either to subject or observer, but when once one has become accustomed to operating it, it is not difficult and the results are well worth a little trouble.

It will be recalled that this type of test has been used in the past as a physiological means of ascertaining the reserves of the heart. It is broader than this, showing rather a general physiological reserve, and in particular the adaptability of the circulation. The heart itself is an important factor but not the only one involved. In some cases the limiting factor will be the heart, in others it will be the vasomotor control or circulation as a whole, in others the respiration, in others the psychological factor. In an individual subject the physician will perhaps wish to determine which system reaches its limit first, but as a rule this will not be important. It gives us an index of the physiological responses of the body as a whole to physical effort; it is a test of physical fitness for work or exercise. Any type of general physical effort, involving large muscle groups so that the cardiovascular system is subjected to real stress, could be utilized. Skill or dexterity must not be involved, however. The forms of exercise which have been used in the past² (such as hopping, standing running, lifting dumbbells, pulling a stoneboat, walking a treadmill, riding a bicycle ergometer, etc.) are all fairly simple forms of work requiring no special skill, and all have been useful in elucidating some particular aspect of the problem. The present Step Test is one of the simplest and does not require skill on the part of the subject, just plain work.

By this test it is easy to show that in any group of people some will give a poor showing, some an average, and some will perform exceptionally well. Furthermore a suitable schedule of physical training will improve the performance of all normal people. The type of training does not matter, gymnasium work, track work, pick and shovel work, all being effective so long as progressively greater effort and endurance is required as the subject grows able to accomplish more. The better physical condition a person is in, the greater the effort he must make, in order to improve his condition. It has been clearly shown for example that comparatively easy physical exercises will rapidly improve the performance of an individual in poor condition but only to a certain level. When he reaches that level of performance or if he were already there when the training started, a more vigorous course of exercises must be undertaken if further improvement is to be obtained. If at any time the period of training results in a poorer performance to a subsequent test it is probable that the training schedule is too rigorous and it should be reduced in intensity. Of course if a poorer response is obtained and the training obviously should not be excessive than the instructor must suspect that the individual subject is unwell and a careful physical check up by a physician is in order before any

further physical training is attempted by that individual. It has been well shown that a poor diet or even a temporary ailment such as a common cold or some otherwise minor infection may sharply reduce the performance in this test, but it is the duty of the physician to make sure that the poor score is due to such a temporary cause and not to some other more serious and chronic ailment.

In common with all such tests, motivation is most important; the subject must co-operate and try his hardest or an erroneous index will be obtained. If he is lazy or malingering or afraid to push himself, he will stop too soon or at least not keep up the pace and his pulse will recover much more quickly than the apparent exhaustion will justify. The low total pulse count will result in too high an index when divided into the duration of the exercise, and the lack of co-operation thus becomes apparent. Such a conscious or unconscious malingering reaction however is not without its benefits to both doctor and patient; a little explanation and encouragement may persuade the subject to try to improve his score and show himself what he is really capable of doing. The result would be a great improvement in his morale.

Thus we can claim to have at our disposal a relatively simple test which will, by its variation with the morbidity and nutritive condition of the subject and by the ability of the subject to improve his performance with training, give us a clue as to his state of health. Though it is primarily a physical test for fitness to work and it does not indicate the subject's ability to withstand infections, or his expected span of life, it is our nearest approach to a measure of positive health.

It is known that this test applied to soldiers in combat areas gives better scores than when applied to the same or similar groups in rest or training areas. Why is this? Surely the troops in reserve or training areas are as healthy as those subjected to the discomforts and fatigue and dietary restrictions of the combat areas. Presumably the front line soldier is keyed up, his reflexes most active; he is a more efficient fighting machine. It must be reiterated, the test is one for physical fitness for work and not, except indirectly, an index of health.

Even though almost any sedentary individual will show by this or any other suitable test an improvement in his capacity for physical work following a period of physical training, the question may still be asked, "Is he in better health than he was?" The answer to this question is not so clear. It would seem a reasonable generality that because we can improve the physical condition of even an ordinarily physically fit man, than this should be done. Yet, having brought about this improvement, more exacting training can further improve his performance and the same argument holds. Where do we stop? There are other desirable matters in life than the personal satisfaction in knowing that one can do a vastly greater job of physical work than is at all likely to be required of one, and the effort and time needed to maintain this condition may well prevent the accomplishment of other life's ambitions. Furthermore, it may also be said as a generality that excesses of any kind are in some way harmful; can there be excessive physical fitness? There is little evidence that it will make for longevity. Presumably all will agree that the poorer physical performers would benefit by physical training. Their weak muscles, sluggish vasomotor reflexes, poor cardiac reserves, etc., need improvement even for the casual exigencies of life. Moderation is another general rule

that is usually good. One would suppose that most people would be best off if their degree of fitness was such as to allow them to perform easily an amount of work somewhat greater than is commonly required of them. They should realize that they cannot suddenly start to do much heavier work with safety and that if a change of occupation or if strenuous athletics are to be taken up, a period of training will be necessary.

The general question of the advisability of rest or exercise is a broad one and not without its controversial points. To the physical training instructor, there seems to be no problem, exercise is his cure-all. To the physician however who is dealing with both well and ill people, it is another matter. The use and abuse of rest⁴ has been the source of a considerable literature. It may be that too much rest has been advised at times, but both physicians and surgeons agree that the immobilization of a part (local rest) and the keeping in bed of the patient (general rest) are fundamental needs in the treatment of many types of illnesses. But there comes a time in the treatment of his patient when rest must be abandoned and exercise instituted. The surgeon may be particularly interested in local movements to prevent adhesions and restore function of a part, and the physician in general exercises to bolster up muscle tone and vasomotor reflexes etc. But the idea is the same; graded exercises improve function, rest does not. There is no intention here to discuss the handling of the sick; that is the prerogative of the physician. The intention is rather to establish the point that the doctor is continually having to decide whether to advise physical training and how much. The sitting up for a few minutes or for an hour or the short walk prescribed to a convalescent is physical training for that individual just as truly as is the arduous training period for an athlete. The degree of activity allowed is ordinarily increased progressively until the patient's full normal life or occupation is attained. When that stage is reached, or when a non-sick person comes for advice, should further physical training or exercise be advised?

It is in respect to these so-called normal people that the physiological test for fitness to work, the "Step Test" described above, should be most helpful. It gives a numerical index of fitness which guides the doctor with fair precision in his decision as to whether to advise physical training and as to how rigorous it should be. In addition it is an excellent record for a doctor to have for future reference as it is quantitative in nature and is a sensitive index of a change in his patient's condition.

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APPENDIX

The Step Test, Technique

(1) The standard exercise rate is 30 steps per minute for not more than 5 minutes, and for men the step is 20 inches high. The rate of stepping must be carefully maintained and rhythmically carried out; no lagging which would reduce the effort can be permitted. The subject will need someone to beat time for him and to encourage him to keep up the pace and finish the exercise. Count 1-2-3-4 (120 min.), up at 1, other foot up at 2 and straighten up, one foot down at 3, and other foot down at 4.

(2) The effort is great and with exhaustion the subject's performance may become ragged. The step or platform must be solid and stable and non-slip shoes should be worn.

(3) At five minutes, or before that if exhaustion makes continuation impossible, the subject sits down. *Exactly* one minute later the counting of the pulse is begun; it should be counted during the exact 30 second intervals of 1-1½, 2-2½ and 3-3½ minutes of the post exercise period. These three counts are added and doubled to give the total pulse count.

(4) The total pulse count divided into the duration of exercise in seconds, multiplied by 100 gives the Fitness Index. Failure to complete the full exercise period indicates a poor fitness index.

(5) An index of less than 55 is poor, 55-64 is low average, 65-79 is high average, 80-89 is good, and over 90 is excellent. If only 4½ minutes can be completed an index of 55 may be allowed, 52 for 4 minutes, 48 for 3½ minutes, 38 for 3 minutes, and 25 for 2 minutes. If the calculated index is greater than these allowed figures in the case of those who fail to complete the full period of exercise, it is an indication that the subject has failed to push himself to the limit of his powers.

(6) For women and boys the step is 18 inches high and the exercise is for not more than 4 minutes. The calculation is the same except that the duration of exercise is multiplied by 5/4 to bring the time to a five minute basis.

(7) With elderly people for whom satisfactory standards are not yet available, the exact height of the step used as well as the length of time the exercise can be maintained should be recorded, so that future tests can be properly compared.

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Syphilis of The Stomach

With a Case Report

J. S. HERON, B.A.,M.D, and N. H. GOSSE, M.D.,C.M., F.A.C.S.

THE presentation of the following case affords an excellent example of the difficulties encountered in arriving at a diagnosis of Syphilis of the Stomach. Further, it serves to emphasize the fact that we should never consider the result of any one diagnostic method as final, but that we should await the completion of our diagnostic survey when every phase has been exhaustively investigated and the facts carefully considered.

Case Report:—Miss D.D.C., a seventeen year old female, was admitted to the Victoria General Hospital November 10, 1945, for investigation. Approximately one year prior to admission, the patient began to experience pain and discomfort on swallowing, attended by vomiting. After eating she complained of a sensation of swelling extending from the periumbilical region up into her chest. The vomiting was not associated with nausea. It was occasionally projectile in nature. At first her symptoms gradually became worse. During the past six months they have increased markedly in severity, so that she has been able only with difficulty to keep liquids down and has lost 40 lbs. in weight.

On admission the patient weighed 69½ lbs. She was a pale, extremely asthenic young female. Her teeth were carious and Hutchinsonian in type. Otherwise, physical examination revealed no abnormality.

The patient's mother had a positive blood Wasserman & Kahn.

The patient's Blood Wasserman & Kahn were positive on repeated occasions. The spinal fluid Wasserman was negative. On admission, R.B.C.—3,000,000, W.B.C.—8,200, Hb. =80%. Repeated examination of the stool failed to reveal presence of occult blood. Gastric analysis revealed normal fasting values for both free and combined acid but a poor response to the test meal.

The Roentgenologic report on November 8, 1945 (this film was taken at the Victoria General Hospital at request of family physician two days before patient was admitted to hospital) was as follows:

"Examination of the oesophagus does not show any disease. The stomach is high and dilated. Peristalsis is extremely sluggish. The stomach empties very slowly. There is a filling defect involving the pyloric antrum and extending to the first portion of the duodenum. The appearance in a patient of this age is very unusual and in an adult would suggest scirrhus type of malignancy."

The patient was placed on a conservative regimen consisting of Hurst diet, massive vitamin therapy, potassium iodide by mouth, mapharsen and bismuth parenterally.

Roentgenologic examination on December 4, 1945, did not reveal any change in the appearance of the filling defect in the stomach.

As the patient evidenced little subjective or objective improvement, surgical interference was deemed advisable.

On January 2nd, 1946 the abdomen was opened by means of a right rectus incision. The abdominal organs other than the stomach were normal. The

stomach showed diffuse thickening over its whole circumference for the distal four inches gradually fading into normal fundus and ending abruptly at the pyloro-duodenal junction. The lesser sac was opened and the posterior wall of the stomach showed considerable scarring and marked oedema. A biopsy was taken. Fast frozen section revealed a markedly thickened stomach wall with fibrous and chronic inflammatory cellular reaction. The portion of mucosa present showed some chronic gastritis but there was no neoplastic change. Anterior gastro-enterostomy was done and another biopsy taken nearer the pylorus for routine section. The patient's recovery was uneventful and her general improvement very rapid.

The pathological report was as follows:

"Paraffin section shows a very much thickened and fibrosed serosal coat with perivascular foci of round cells. No endarteritis was present. The muscular coat shows a patchy fibrosis and a few small foci of lymphocytes, while the small portion of submucosa is heavily infiltrated with round cells and a few polymorphs. No mucosa was present. In none of the sections was there any evidence of malignancy. While not histologically diagnostic these changes could be the result of luetic infection."

Discussion:

If, as a requisite for the diagnosis of syphilis of the stomach, it is necessary to demonstrate spirochaeta pallida in the gastric lesions then the number of cases reported is very small. In critical reviews by Hartwell and by Pausch, there were only approximately thirty-five cases in the literature in which the diagnosis could be established on recorded histopathological evidence. Singer points out that because of the impossibility of differentiation between the spirochaeta pallida and saprophytic spirochaetes from the oral cavity, which contaminate the stomach lesions, diagnosis of syphilis might inadvertently be made of a non-specific lesion.

Despite the rarity of gastric syphilis as judged on autopsy findings and presence of spirochaetes in the lesions, we find that clinically a considerably greater number are encountered. Clinically, we may arrive at a diagnosis of this disease through careful consideration of the following factors:

- (a) Signs and Symptoms.
- (b) Wasserman Reaction.
- (c) Response to antisyphilitic therapy.
- (d) Roentgenological findings.

(a) *Signs and Symptoms*

This disease does not present characteristic symptoms. A definite syndrome may be simulated. For instance, that of ulcer with hunger pains, relieved by food, nausea and vomiting at irregular times, intermittency of symptoms, general debility and later on intensification and a persistence of all complaints, or a syndrome of carcinoma with persistent nausea, vomiting, anorexia and loss of weight with all symptoms being constantly progressive.

Since no symptom complex is pathognomonic of this condition, it is well to keep its possibility in mind in every case presenting digestive symptoms. Differentiation from carcinoma is the problem most often met with. The age incidence should be an aid at arriving at a diagnosis. For patients with syphilis

of the stomach the average age is in the third decade. Many authorities emphasize a most important point; that is, the absence of a palpable mass in the majority of cases presenting symptoms and X-ray evidence of advanced gastric changes. This in direct contradistinction to gastric carcinoma, wherein the vast majority of patients do present an easily palpable mass in the region of the discomfort or pain.

(b) *Wasserman Reaction:*

From a serological standpoint, a positive Wasserman is almost essential, although Eusterman in his rather large series found negative reactions in 7½% of his cases.

(c) *Antiluetic Therapy*

If lasting clinical and X-ray improvements is accomplished by antiluetic therapy, the evidence should be conclusive, although it should be remembered that the therapeutic test in the fibrous type of gastric lesion often fails to give prompt evidence of anatomic restoration.

(d) *Roentgenological Findings:*

The routine use of the roentgenray as a diagnostic adjunct has proved most valuable in aiding in the discovery and ultimate diagnosis of syphilis of the stomach. Roentgenologically, it would appear established that there are three major types: (1) prepyloric, (2) median or hour glass and (3) diffuse. The greatest number are of the prepyloric type, while the median or hourglass variety is next, the diffuse type is observed only on rare occasions.

Differentiation from cancer is vital and one of the outstanding points is the lack of regularity and symmetry so often found in syphilitic invasions; also the frequency with which the carcinomatous process attacks the oesophagus by way of the cardia, while this area is seldom invaded by the luetic process. Another point of mention is that suspicion should be entertained as to a syphilitic invasion in the case of a young person with persistent digestive symptoms, but without anemia or cachexia, palpable mass or marked weakness. If we discover by X-ray a lesion indicative of scirrhus cancer in which there is symmetrical narrowing, particularly in the prepyloric and median areas of the stomach, with a patent pylorus, the suspicion is confirmed.

Pathology:

O'Leary divides the pathology of gastric syphilis into four subdivisions: (1) The single gumma (2) Multiple gummata in the form of nodular ulcerative syphilides. (3) Diffuse nodular infiltration. (4) Chronic fibrosis or cirrhotic stomach. A review of the literature shows that nearly all the cases reported in America fall in the last two subdivisions of O'Leary's Classification.

Williams and Kummelstiel have best described the pathology of this condition. They emphasize that "the lesion is an infiltrating one which involves varying amounts of the stomach and is located primarily in the submucosa and from this location varying amounts of the mucosa and muscularis are involved and that ulceration is secondary and, therefore, usually shallow." In most instances the lesion is located near the pylorus. They emphasize the diagnostic importance of panphlebitis (or periendophlebitis) in gastric syphilis. These authors prefer the term periendophlebitis, as it stresses the progression of the inflammatory reaction from without to the lumen.

In conclusion may we state that from the point of view of gross and microscopic pathology there are no absolutely pathognomonic lesions of gastric syphilis, or indeed of syphilis anywhere in the body. In most cases diagnosis must rest on presumptive evidence. The characteristics of the gastric lesion here presented are certainly similar to those of reported cases in which there is little doubt of the syphilitic etiology. The fact that we have not demonstrated spirochaetes is not to be considered a valid argument against syphilis. In most of the late lesions of syphilis the histologic demonstration of spirochaetes is rarely unequivocal. Therefore, with so many features in common with the best authenticated cases and with so little to hint of any other etiology, it seems quite proper to attribute the unusual gastric lesion of this patient to syphilis.

In summary, we have presented a case of congenital syphilis of the stomach and briefly discussed the clinical and pathological approaches to the diagnosis.

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Endocrine Therapy of Enuresis

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ENURESIS or nocturnal incontinence of urine in the child may be due to a continuance of the infantile condition, to anything which increases the irritability of the spinal center, or which interferes with the cerebral control over the center, or to anything which increases the irritability of the terminal filaments of the vesical nerves or of those in the neighborhood. Enuresis may therefore have organic or psychogenic factors as the cause.

The organic causes may be local and due to malformation of the genito-urinary tract, adherent prepuce, balanitis, phimosis, narrow meatus, etc. Highly acid concentrated urines, cystitis, vesical calculus or inflammatory conditions in adjacent organs are also contributory causes. It also occurs in organic disease of the central nervous system, such as idiocy, cerebral palsy, acute meningitis, tumors of the brain, certain forms of myelitis, spina bifida occulta, and in injuries of the spinal cord. It may be generally associated with debility resulting from malnutrition, anemia or following severe illnesses. The cause may be entirely psychogenic. The hypersensitive neuropathic child who is endowed with a hyperirritability of the nervous system and emotional instability, who reacts strongly to all stimuli, may be categorized in this class. These stimuli do not effect the normal child. The psychopathic child with behavior complexes, e.g. over-anxiety, spitefulness, complete indifference and diversion also show a tendency to enuresis. Some observers believe that the psychogenic or neuromyogenic basis may be the predominating etiological factors in the causation of this condition.

Ederer and Lederer¹ believe that in all enuretics in whom the etiology is not on an organic or anatomic basis, loss or dislocation of a conditioned reflex is the real cause of the enuresis, and is of central nervous system origin. Excitability of the cortical cells is either decreased or that of the sub-cortical cells is increased, or both factors may be present. It is of course conceivable that in this concept of the etiology all kinds of local or environmental factors may contribute to the development of the central disorder.

Schlutz and Anderson² point out that the treatment of this condition is shaped largely according to the predominant etiological factor and basically aims at the re-establishment and proper synchronization of the conditioned reflex. The desire to urinate must chronologically synchronize and coincide with the conscious action of the bladder sphincter-closing mechanism. Restriction of fluid intake, dietary changes and environmental changes which will influence and improve both the physical state and the psyche of the child are important curative measures. Re-education and re-establishment of an adequate conditioned reflex are the goal to any form of treatment.

Of a large list of drugs used the most useful have been atropine and the belladonna preparations. Recently ephedrine has been quite extensively used, not to control the enuresis, but to prevent the deep sleep which is often characteristic of the chronic enuretic, thus allowing him to waken when the pressure in the bladder prompts the desire to urinate; this in turn initiates the conditioned reflex which sets in motion the mechanism of sphincter control.

Extensive research in recent years in the field of endocrinology, the isolation of individual hormones, and discovery of their potent effects particularly on the sex glands and the sex organs, has led to some interesting observations and therapeutic experiences. The question has frequently been raised whether endocrine influences are not, among other things, a factor in the development of enuresis—the theory being advanced that immaturity of the genital structures and organs both as to muscular control and urine control could be at fault. This view has been strengthened by various clinical reports which showed that the use of different endocrine substances seemed to have a definite effect in controlling or relieving the disorder.

Cain³ used anterior pituitary products by oral administration and obtained good results in cases of incontinence. With anterior pituitary like substance, Nittis⁴ reported successful treatment in 6 cases of enuresis, 5 boys and 1 girl ranging in age from five to nine years, in none of whom were visible anatomic defects observed. Four of the series were given 4500 international units of chorionic gonadotropin subcutaneously over four weeks (three times weekly) and 2 were given 4000 international units over four weeks (twice weekly). This dosage was high enough to be completely effective but was not given for a period long enough to cause precocious puberty. He proposed the acceptance of the theory that lack of maturation of the structures of the genitourinary region is responsible for much of the nocturnal incontinence in many children and that the use of endocrine products which are known to produce precocious maturity of the genital organs will prove beneficial.

Malavozos⁵ and Goldman and Malavozos⁶ treated a series of 27 enuretics with anterior pituitary substance with successful results. They accepted the theory that the underlying cause of enuresis was due to an immaturity of the genito-urinary organs. Their results led these authors to postulate that better results were obtained when the substances contained both the follicle-stimulating and luteinizing factors.

Huffman,⁷ a proponent of the theory of immaturity of the structures of micturition, also treated a series of cases of enuretics, varying in age from 5 to 9 years. Anterior pituitary like substance containing 500 international rat units per cc. was used subcutaneously. Injections were given two to three times weekly. In all of the cases marked improvement was noted in two weeks and complete relief before the end of the fourth week. No evidence of premature puberty occurred. According to a concept formulated by this author, incontinence is not a physiologic condition occurring at a certain age and its disappearance does not come about through the establishment of precocious maturity of certain structures, but rather through the further development or maturation of these structures to a stage corresponding to the child's age.

Vizzard,⁸ in a review of recent theories of enuresis, points out that the therapy of this condition is veering sharply to the use of endocrines. Nocturnal enuresis, alone or accompanied by diurnal enuresis, have been attributed to visible anatomic defects, neuromyogenic defects or psychogenic factors. Without dismissing lightly, habit, training, and sociological aspects, these may be minimized by the fact that the enuretic condition clears up as a rule without intervening changes. Since the only apparent modulation of the child's being at this stage is an up-swing in mental and physical maturity, cessation of enuresis may be assumed to be the direct result of maturation of structures of the genital region that function in micturition.

Male sex hormonal therapy in the form of testosterone propionate has been used by Bodechtel⁹ and Zehn¹⁰ in the treatment of incontinence in adult males suffering from prostatic disorders and females nearing the menopause. These authors reported extremely favorable results and attributed them principally to the improved tonus of the bladder muscle produced by use of this preparation. With these striking results as a prelude, Zehn used this preparation in the treatment of a number of children with nocturnal or nocturnal and diurnal enuresis. Daily injections in 5 mg. dosage were given for a short period, followed by injections at two to three day intervals. The results were gratifying, in practically no case was there a failure, and in some the therapeutic result was quite spectacular.

Schlutz¹ and Anderson, from the Department of Pediatrics at the University of Chicago, reported on 50 children treated with male sex hormones—36 boys and 14 girls, divided into two age groups, those 3.5 to 6 and those 7 to 14 years of age. Methyl testosterone was given once daily, or twice in refractive cases, ten to twenty mg. The dose was continued for several weeks and then reduced after a definite improvement or cure. Intramuscular injections of the propionic ester of testosterone in oil were given once daily in a dosage of 10 or 25 mg. Testosterone was applied twice daily on the lower abdomen, about 8 mg. daily and after improvement or cure was applied once daily for about two months. Ten boys and four girls were treated in this way. In 26 boys and 9 girls the hormone was given orally; and 1 girl who had not responded to inunction or oral treatment received it by intramuscular injection. The only other treatment was restriction of fluid and a high salt intake. Except for correction of some gross environmental defects, no psychiatric treatment was attempted. Diet was carefully regulated, and the patients were awakened and made to urinate early in the night.

Twenty of the 36 boys were entirely cured, 11 improved and 5 unchanged. Seven of the 14 girls were entirely cured, 6 improved and 1 was unchanged. The boys seemed to respond to the treatment more quickly. In 13 patients completely cured the results of treatment were prompt, occurring in less than two weeks. Very few of the completely cured or markedly improved cases required treatment beyond two months. One case required treatment for one year before the enuresis stopped entirely.

The results might have been improved if more careful control and management of the patients had been possible. The effect in some instances was dramatic and far more rapid than can be achieved with more general treatment or the purely psychiatric approach. The authors are convinced that male sex hormone preparations in moderate dosage, even if given over long periods in this age group, produce no lasting undesirable effects such as sexual precocity or unusual permanent enlargement of the sex organs.

The following case of enuresis is presented to demonstrate the dramatic and spectacular effect of male sex hormone therapy in this patient. This will also serve to emphasize and accentuate the endocrinological factor in these cases.

E. McD.—male, aged 19, presented himself for consultation on March 26th, 1945. His principal complaint was bed-wetting every night or every second night since he could remember, which he claims has been present since birth. He had never been examined or treated for this condition by a physician. He admitted that he was self-conscious about this disability and for this reason had never associated with girls. He was employed in the

Steel Plant for over two years since completing his school studies. The past history and family history were essentially negative.

Physical examination.—The patient is a young man of stated age who is of a quiet and retiring disposition. He is not apprehensive but is apparently concerned about his disability. His color is good and there is no obvious loss of weight. Height: 5 ft. 7½ ins. Weight: 142 lbs. Eyes: Pupils react to light and accommodation. Fundi show discs and vessels to be normal. Ears: Hearing intact. Drums are normal. Nose: Negative. Mouth: Tongue is slightly coated. Teeth are in good condition. Mucous membranes are well colored. Throat: Mucous membranes are not reddened. Tonsils are atrophic and show no evidence of infection. Lymphatic system: Thyroid is not palpable. No adenopathy. Chest: The Chest is normal to percussion and auscultation. No post-tussive rales. Cardiovascular system: The pulse is 84 per minute and is regular in rate and rhythm. Moderate volume and tension. Arterial wall is not palpable. Blood Pressure: 138/80. The heart is not enlarged to percussion. The PMI is in the fourth interspace within the mid-clavicular line. There is a soft physiological systolic murmur at the apex and pulmonic areas. P2 is accentuated. No thrills, cyanosis or clubbing. Abdomen: Negative. Nervous system: Cranial nerves are intact. Sensation and motor power is unimpaired. The reflexes are brisk. No Babinski. Hands and feet are moist, cold and clammy. Rectal: The prostate is normal and not enlarged. No hemorrhoids. Genitalia: Both testicles are in the scrotum. The penis is normal. The patient displayed hypersensitivity to pain by the Libman and Hollander tests, but was co-operative throughout the examination. There was no evidence of any neurosis after repeated and detailed questioning. Fluoroscopic examination revealed the heart and lungs to be normal. Urinalysis: 1019, acid, albumin—negative, sugar—negative. Microscopic: occasional pus cell. Wasserman: Negative. Blood examination: Hg. 87%, R.B.C. 4,400,000; W.B.C. 8150. Differential: Polys. 65%, Lym. 27%, Mon. 3%, Eosin. 5%. Sedimentation Rate: 4 mm. per hour. (Cutler method). Basal metabolism rate: plus 9. Blood Sugar: 112.5 mgm. per 100 cc. blood.

The diagnosis was simple enuresis. There was no evidence of anatomic defects of the genito-urinary system. Examination of the nervous system revealed some evidence of emotional instability.

Progress Notes. He was placed on methyl testosterone therapy, (Metandren linguets, manufactured by Ciba Company) with a dosage of one 5 mg. tablet orally twice daily, and restriction of fluid. Within one week the bed-wetting had ceased completely. The therapy was continued for three months. He has been observed until December 15, 1945, and he had been free of symptoms since, with the exception of only one bedwetting episode on the night of September 10, 1945. There has been a definite change in his outlook on life, and he has admitted that he has lost his feeling of self-consciousness and inferiority. He stated that he would be associating with girls in the near future.

The result of therapy was therefore spectacular in this case, inasmuch as this boy was aged 19 and definitely belonged to an older age group than the cases reported in the literature. Even with the reassurance and restriction of fluid, it can be presumed that the principal effect was undoubtedly due to the hormone therapy that he had received. This is further corroborated by the

fact that this patient had in the past restricted his fluid intake without any demonstrable effect on the bedwetting.

Summary

1. The various theories underlying the possible causation of enuresis have been reviewed.

2. Extensive research in the field of endocrinology, supplemented by clinical reports and therapeutic experiences has led to an endocrinological concept of enuresis.

3. The concept is that lack of maturation of the structures of the genito-urinary region is responsible for much of the nocturnal incontinence in many children and that the use of endocrine substances which are known to produce precocious maturity of the genital organs will prove beneficial.

4. Incontinence is not a physiologic condition occurring at a certain age and its abolition does not come about through the establishment of precocious maturity of certain structures, but rather through the further development or maturation of these structures to a stage corresponding to the child's age.

5. Various reports from the literature have been summarized to show the effects of the various endocrine substances on these cases of enuresis.

6. A case of enuresis in a 19 year old male is presented to indicate the dramatic and spectacular effect of male sex hormone therapy.

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Editorial Comment

A NEW star has risen in the firmament of medical journalism! Last week Number 1 of Volume I of the *Journal of the American Medical Women's Association* made its appearance in the mail of the editor. Copies have reached a number of others and one is in the Dalhousie Medical Library. On behalf of the editors of the BULLETIN, and we feel sure of all the doctors, both men and women, in Nova Scotia we extend to the editors of this new periodical our warmest good wishes and our congratulations on the very fine first number.

The Medical Women's National Association was formed in Chicago in November, 1915, and incorporated under Illinois law in 1919. In 1937 the association thought it wise to change its name to the present one, the American Medical Women's Association, Incorporated. In 1922 a quarterly bulletin was first published, which has continued ever since, the name becoming *Women in Medicine* some time later. This was the official publication of the Association and it now becomes a monthly magazine with the April, 1946, issue under the new title.

The Editorial Board is a large one of some forty members drawn from all over the United States and including two Canadians, Dr. Edna M. Guest, O.B.E., and Dr. Helen MacMurchy, O.B.E., both of Toronto. Three English women are also included. Thus we of the British world may feel we have a part in this venture.

Such a publication should play a very real part in the life of medical women on this continent. It represents a great achievement when one remembers the relatively few years which have elapsed since women were first able to enter the field.

Abstracts From Current Literature

GASTRIC ACIDITY IN MEN AND WOMEN WITH DUODENAL ULCER. Brown, G. E. and Rivers, A. B.: Amer. Jour. Digest. Diseases, 1945, 12: 33.

Brown and Rivers point out not only that duodenal ulcers are much more frequent in men than in women but that ulcers in women are generally more responsive to treatment and less likely to recur. They investigated the part the chemical factor plays in causing women to respond so much better than men to various conservative methods of treatment of ulcer. They believe that one can evaluate the chemical factor most effectively by a study of the gastric acidity through fractional analysis of gastric contents after injection of histamine. A study on 35 women and 35 men with duodenal ulcer revealed that male patients have much higher values than female patients for free hydrochloric acid and total acid in response to injection of histamine. The higher incidence of hyperacidity may help to explain the greater tendency to intractability of duodenal ulcer in men. Nuerogenic causes, on the other hand, are usually very apparent among women who have duodenal ulcer. The utilization of this information is clinically important in determining the type and intensity of treatment of duodenal ulcer.

USE OF CURARE IN ANESTHESIA: REVIEW OF 100 CASES. Cole, F.: Anesthesiology, 1945, 6: 48.

In the 100 cases reviewed by Cole, relaxation of abdominal muscles was obtained by curare following anesthetization with a general anesthetic agent, cyclopropane being used in all but 2 cases. To obtain relaxation in 100 abdominal surgical procedures, 158 intravenous injections of curare were given. Single doses varied from 8 mg. to 100 mg., the largest total dose used was 240 mg. Excellent relaxation was produced in 92 cases. Severe respiratory depression, which occurred in 12 cases, was easily treated by artificial respiration. There were no fatalities attributable to curare. The average interval between the first and second doses in cases requiring more than one dose was 74.8 minutes. In 42.4 per cent of the cases the relaxation obtained from the initial injection persisted throughout the operation and was adequate for closure. Curare can be used by a competent anesthetist in almost every case. It will produce abdominal muscle relaxation during cyclopropane anesthesia without the difficulty, delay or complications of spinal block. Cyclopropane-curare combined anesthesia may well become the method of choice for abdominal surgery.

BRONCHIECTASIS FOLLOWING ATYPICAL PNEUMONIA. Kay, E. B.: Arch. of Int. Med., 1945, 75: 89.

Kay reports that 20 of 45 patients with bronchiectasis developed the condition following attacks of atypical pneumonia. He thinks that this suggests a cause and effect relationship. In an attempt to determine the permanence and extent of the bronchial and bronchiolar damage in the 20 cases of bronchiectasis attributable to atypical pneumonia, bronchography was repeated over a period of two to six months. In only 3 instances did bronchiectatic

bronchi resume their normal contour and show evidence of clearing. The bronchiectasis of the remaining 17 patients appeared to be permanent. Ten of these 17 patients have had lobectomies. The interval between the atypical pneumonia and the operation varied from six to thirteen months. The bronchiectatic damage in the resected lobes substantiated the permanence of the bronchial destruction. The author presents 7 of the 17 case histories in which bronchiectasis followed attacks of atypical pneumonia. Their attacks of pneumonia were prolonged. Continuance of a productive cough and X-ray evidence of unrelieved atelectasis, measures should be taken to relieve the bronchial obstruction and atelectasis. Such agents would consist of expectorants, steam and menthol inhalations and postural drainage. If these fail, bronchoscopic aspirations should be done, at which time the edematous ulcerated membrane could be shrunken with epinephrine hydrochloride. If the productive cough persists, bronchiectasis should be suspected and bronchograms should be made. Twenty-one of the entire group of 45 patients with bronchiectasis have had lobectomies, with complete relief of symptoms. There was no operative mortality.

HYPOLYCEMIA IN ADENOMA OF ISLETS OF LANGERHANS. Walker, H. and Boger, W. P.: *Arch. of Int. Med.*, 1945, 75: 109.

Walker and Boger state that small adenomas of the islets of Langerhans produce recurrent severe hypoglycemic reactions, which at first yield to progressive increases of the intake of carbohydrates but are finally cured only by the surgical removal of the adenoma. The authors report 2 cases of adenoma of the islets of Langerhans in which the tumors were removed surgically, with successful control after operation. The patients were women aged 24 and 67. Though there are fairly frequent reports of islet tumors, the removal of an adenoma with recovery is still relatively rare. With the reported two cases the number of operative cures of pancreatic adenoma is raised to 56. The symptoms produced by these tumors are those of "insulin shock." Headache, weakness, dizziness, nausea, sweating, tachycardia, hypothermia, lowering of the blood pressure and diplopia are common. Neurologic signs and symptoms may be encountered alone or in any combination. The frequency of a positive Babinski sign, which disappears on the relief of hypoglycemia, is worthy of comment. Hunger has been emphasized in many reports, but both of the described cases illustrate the fact that it is not a universal symptom. Convulsions are common. The lack of correlation between the occurrence of symptoms and the level of sugar in the blood has not been explained. The authors believe that the study of this condition will be furthered if more attention is paid to the alterations produced in the other endocrine glands. Surgical removal of these tumors is the most effective therapy, and this treatment is imperative in order to prevent damage to the central nervous system, as a result of long-standing hypoglycemia.

LIGATION OF FEMORAL VEIN FOR CHRONIC OCCLUSIVE ARTERIAL DISEASE. Glasser, S. T.: *Arch. of Surg.*, 1945, 50: 56.

Glasser reports the results of 118 ligations of the femoral vein performed on 110 patients. The superficial femoral vein was interrupted immediately distal to its junction with the vena profunda. Transfixation of the cut ends

of the vein is a safeguard against slipping of the ligature. In order to determine indications for the procedure and a proper selection of cases, ligation of the femoral vein was performed on all patients with chronic obstructive arterial disease who consented to the operation. Eighty-eight of the 110 patients were admitted with active lesions on the toes; this showed that the greatest number of patients were treated after the phase in which the ligation of the femoral vein might be considered prophylactic. At the time of the final follow-up examination, 25.4 per cent of the entire series were alive. The author concludes that his experience definitely places ligation of the femoral vein in the armamentarium for the treatment of chronic occlusive arterial disease. He considers it indicated for prophylaxis in chronic obstructive arterial disease—before such lesions as gangrene, ulceration and infection present themselves.

GELATIN AND PECTIN SOLUTIONS AS SUBSTITUTES FOR PLASMA IN TREATMENT OF SHOCK. Popper, H., Volk, B. W., Meyer, K. A., Kozoll, D.D. and Steigmann, F.: Arch. of Surg., 1945, 50: 34.

Popper and his associates report the results of intravenous administration of 257 liters of gelatin solution to 162 patients in 213 individual infusions. The quantity of solution administered ranged from a total of 1 to 10 liters per patient. Pectin solution was administered in the amount of 235 liters to 155 patients in 251 individual infusions for a total of from 1 to 9 liters per patient. About half of the patients were hospital control subjects; the other half were patients with various degrees of surgical, traumatic, hemorrhagic and medical shock. It was found that the two solutions produce an equal degree of hemodilution, which levels off with administration of higher doses of both solutions. This leveling off is more pronounced in patients with anemia and hypoproteinemia. A hypothesis is suggested that the hemodilution is started by the macromolecular solution but is maintained by other substances, possibly labile plasma proteins. Gelatin and pectin solutions produce an equal rise in the sedimentation rate, which is considered an index of hematologic changes. The difference between the two solutions lies in the fact that gelatin produces less change in the tissues. After administration of amounts of pectin in excess of those used for patients in shock, splenomegaly and deposition of a peculiar material in various organs may be observed. It is found in phagocytic cells, capillaries, tissue spaces and infiltrating reticulum fibers in the spleen, kidneys, liver and lungs; it resembles deposits of amyloid and causes a reaction of the reticuloendothelial cells. A similar picture was produced in animals by administration of large amounts of pectin. The clinical significance of these changes is unknown. Since the beneficial effects of gelatin and pectin appear equal on the basis of changes in the tissues, gelatin appears preferable to pectin.

ONE DAY TREATMENT OF SYPHILIS WITH FEVER AND MAPHARSEN. Jones, N., Hundley, J. L., Walker, A. E., Carpenter, C. M., Winchester, M. E. and Gourdin, A.: N. Y. State Jour. of Med., 1945, 3: 277.

Jones and his associates report extended observations on the original group of 280 patients for a period of eight months and include data on the treatment of an additional 141 patients observed for a minimum period of three

months. Patients selected for the study are those with clinical evidence of early syphilis who deny previous antisyphilitic treatment. The diagnosis is verified by dark field and serologic examinations. Contra-indications to this type of therapy are active pulmonary tuberculosis, heart disease, renal disease, peripheral vascular disease and extreme obesity. The majority of the patients treated were in the age group from 15 to 24 years. Three different therapeutic schedules were used. With schedule A, mapharsen in the amount of 1 mg. per kilogram of body weight is administered during the induction of fever, but before the temperature reached 103° F. In schedule B, mapharsen in the amount of 1 mg. per kilogram of body weight is injected intravenously in the evening, and fever therapy is carried out the following day. A second injection of 1.5 mg. of mapharsen per kilogram of body weight is given at the termination of the fever. In schedule C, mapharsen in the amount of 2 mg. per kilogram of body weight is given at the termination of the fever. Better results have been obtained with schedules B and C, in which larger amounts of mapharsen (2.5 and 2.0 mg. respectively per kilogram of body weight) were employed than with schedule A. The authors think that this mode of therapy compares favorably with other forms of intensive therapy for early syphilis.

VITAMIN E AND ADIPOSE TISSUE. Menschik, Z.: *Edin. Med. Jour.*, 1944, 51: 486.

Vitamin E deficiency is said to have widespread effects, and morphologic and functional changes have been described in many different organs. Menschik gives particular attention to the connection between vitamin E and the lipid metabolism. Experiments on vitamin E deficiency and the influence of vitamin E administration have been carried on with mice since 1941 in the Department of Anatomy, Polish School of Medicine, University of Edinburgh. Different organs were examined and fixed for microscopic examination. Observations on adipose tissue are described because its behaviour was one of the striking features differentiating animals fed on stock diet, vitamin E deficient diet and vitamin E rich diet. It was found that vitamin E deficiency in female mice, after a period of sixty-five weeks, caused the disappearance of adipose subcutaneous and subperitoneal tissue, although the vitamin E deficient diet was rich in fat. If the same diet is supplemented with vitamin E in the daily dose of 2.5 mg. of alpha tocopherol the amount of adipose tissue is increased considerably in female mice. At present nothing can be said regarding the influence of vitamin E on human fat metabolism.

PLEURAL AND PULMONARY SUPPURATION TREATED WITH PENICILLIN. Roberts, J. E. H., Tubbs, O. S. and Bates, M.: *Lancet*, 1945, 1: 39.

Roberts and his co-workers report the results obtained with penicillin in chest injuries. Initially there was only sufficient for local application, and it was used in hemothorax, pyogenic empyema, tuberculous empyema with secondary pyogenic infection and extrapleural suppuration complicating thoracoplasty and extrapleural pneumothorax. Penicillin appears to lower the incidence of infection in cases of traumatic hemothorax. Twelve cases of acute pyogenic empyema have been treated locally. Sterilization is usually obtained readily, but aspiration and intrapleural injection of penicillin alone

result in so much pleural thickening that operative treatment is required as soon as thick pus forms. Evacuation of all fibrin and subsequent closure of the wound may prove satisfactory in some cases, but the most uniformly good results will probably be obtained by drainage. Intrapleural penicillin will assume its most important role in cases diagnosed at an early stage when the fluid is still thin and localization has not occurred. This applies particularly to those of streptococcal origin with the pneumonic process remaining active, especially in children or the aged. Intrapleural penicillin is a valuable agent in eradicating secondary infection from tuberculous pleural effusions. Other local collections of pus in the chest—e.g. those complicating thoracoplasty—may be permanently sterilized by penicillin. The systemic administration of penicillin in cases of pulmonary suppuration requires much further investigation. The response of diffuse suppuration due to nonhemolytic microaerophilic streptococci appears to be good. The lesion in the lung improved in all 7 cases treated, but extension to the pleural cavity was not prevented in 2 nor was metastatic spread to the brain in 3 others. Improvement was obtained in only one of the six cases of suppuration due to a mixed anaerobic flora. This was surprising in view of the rapid disappearance of such bacteria from 2 empyemas treated locally. A single case of localized pulmonary abscess due to staphylococcus aureus and streptococcus hemolyticus apparently responded well. Two patients with thoracic actinomycosis were treated. One of these showed dramatic improvement and the patient is now well. Follow-up is needed to see if the result is permanent. The other died of pseudomonas pyocyanea pyemia originating from the infused vein.

E. DAVID SHERMAN, M.D.

Abstract Editor

The School-Child's Breakfast

Many a child is scolded for dullness when he should be treated for under-nourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school. A happy solution to the problem is Pablum. Pablum furnishes protective factors especially needed by the school-child—especially calcium, iron and the vitamin B complex. The ease with which Pablum (or Pabena) can be prepared enlists the mother's cooperation in serving a nutritious breakfast. This palatable cereal requires no further cooking and can be prepared simply by adding milk or water of any desired temperature.

Correspondence

184 College Street
Toronto 2B, April 1
1946

To the Executive Committee, Divisional Advisory Committee,
Chairmen, Secretaries of Divisions

Dear Doctor:

Re C.M.P.A.B.

The C.M.P.A.B. held a full meeting on March 6th with the Divisional Advisory Committee Chairmen present.

The Executive Committee of the Board held its final meeting on March 20th. From the two meetings it was agreed:

- (1) That it be recommended to the Department of National Defence that the Board disband on March 31, 1946.
- (2) That the card index record system be turned over to the Department of National Health, which Department has agreed to accept and maintain it.
- (3) That matters relating to rehabilitation of returned Medical Officers be referred to the Department of Veterans Affairs and (or) the appropriate Divisions of the Canadian Medical Association.
- (4) That the residual duties of the Board be assumed by a member of the staff of the Director General of Medical Services. This officer, in turn, will forward to the appropriate places, letters and inquiries which may come to him.
- (5) All necessary arrangements were made for the disposition of the staff and equipment.
- (6) There will, of course, be no further funds at the disposal of the Board subsequent to March 31, 1946. Divisional Advisory Committees cease to be adjuncts of the Board as of that date. It is presumed that the Provisional Divisions of the C.M.A. will provide counsel and advice to returning Medical Officers who ask for it, and that Divisional Advisory Committees will revert to their former standing as Committees of their respective Medical Associations.
- (7) The Board recommended that a continuing co-ordinating inter-departmental medical committee should be maintained with co-opted members from the medical and hospital associations. This resolution is now in the hands of the Government.
- (8) The Board further went on record that, as a war emergency organization, it had served a useful purpose, and, under similar circumstances, some such body as the C.M.P.A.B. should be established forthwith.

All of which is submitted for your information.

Yours sincerely

T. C. ROUTLEY

General Secretary

Personal Interest Notes

CHANGES in staff of Victoria General Hospital. In addition to the recent resignation of Doctor H. K. MacDonald, Senior Attending Surgeon to the hospital, and who is now on the consulting staff, other changes have occurred. Doctor Victor O. Mader, who was Associate Surgeon, is now Chief of a Surgical Service, under an appointment recently made. Doctor W. L. Muir has retired as head of the Department of Anaesthesia, and is now Consulting Anaesthetist to the hospital.

The marriage took place in Toronto on May 4th of Miss Alice Patricia McGuigan, daughter of the late Mr. and Mrs. George McGuigan and Doctor John James MacNeil, son of Mr. and Mrs. James MacNeil of New Waterford. Doctor MacNeil graduated in London in 1941 and is at present on the surgical staff of the Montreal Military Hospital.

Doctor John R. Kerr, Dalhousie 1942, of Fox River, Cumberland County, who had five years' service in the Canadian Navy, has opened an office at Annapolis Royal.

The BULLETIN extends congratulations and best wishes to Doctor G. W. T. Farish of Yarmouth, who celebrated his 84th birthday on April 28th.

Doctor James A. Muir, Dalhousie 1936, who recently completed services as a medical officer in the Canadian Army, followed by a special course at the University of Toronto, has established a practice in Truro. Doctor Muir joined the Canadian Army shortly after the outbreak of war and served as medical officer with the Pictou Highlanders at Mulgrave from February to July of 1940. He then served with No. 7 Canadian General Hospital until November of 1943 when he went to North Africa and joined the 15th Canadian General Hospital. Arriving in Italy in January of the following year Doctor Muir served with the 15th Canadian General Hospital until February of 1945 when he was sent to the 5th Casualty Clearing Station in charge of the medical division. He continued to serve with the 5th Casualty Clearing Station when the 1st Canadian Corps moved into Northwest Europe. Doctor Muir arrived back in Canada in May of 1945 and from June until January of this year was stationed at Debert Military Hospital.

Doctor Arthur G. Shane, Dalhousie 1942, accompanied by his wife, left for England the middle of May to take a special course on Eye, Ear, Nose and Throat.

The BULLETIN extends congratulations to Doctor and Mrs. W. R. Morrison (nee Jean Buck) of Great Village on the birth of a son, Allan Ross, on May 12th; and to Captain and Mrs. I. S. Robb of Halifax on the birth of a daughter on May 15th.

Dr. Joseph A. MacDougall, a native and a graduate of Dalhousie Medical School on January 5, 1943, and recently an air force doctor, has located at Arichat, where Isle Madame hospital was recently opened.

Dr. Basil K. Coady, Dalhousie 1938, and who served with the R.C.N.V.R. during the war, has been appointed to the surgical staff of St. Martha's Hospital at Antigonish.

Doctor Allan R. Morton, Commissioner of Health of the City of Halifax, has been elected one of the vice-presidents of the Canadian Public Health Association.

Six Specialists to be Appointed

Appointment of six Halifax specialists to the consulting staff of the enlarged City Tuberculosis Hospital on honorarium basis has been approved by the Public Health and Welfare Committee. They are: Doctor V. O. Mader, Senior Surgical Consultant and Thoracic Surgeon; Doctor J. W. Merritt, Junior Surgical Consultant and Thoracic Surgeon; Doctor D. M. MacRae, Eye, Ear, Nose and Throat Consultant; Doctor T. M. Sieniewicz, Internal Medical Consultant; Doctor C. C. Stoddard, Anaesthetist Consultant; Doctor C. M. Jones, Radiologist Consultant.

Captain E. B. Howell, Dalhousie 1940, R.C.A.M.C., has returned to Pictou after serving overseas.

Doctor Robert O. Jones of Halifax addressed the monthly meeting of the Halifax-Dartmouth Ministerial Association at Halifax on April 1st. Doctor Jones dealt with the inadequate hospital situation throughout Canada for advanced mental cases and also the need for preventive clinics where early diagnosis and proper psychiatric therapy would obviate the necessity of much hospitalization.

Obituary

WORD has been received from England of the death of Doctor Arthur Morrell Johnson, C.B.E., M.C., D.L., which took place late in March at his home in Bury. Although not in good health for some time, Dr. Johnson's death was rather sudden, occurring after an acute illness lasting only a few hours. He was held in high esteem in the community in which he lived and practised his profession and his passing was sincerely mourned.

Dr. Johnson, who was born in 1887 in the Province of Nova Scotia, was the son of Daniel McIntosh Johnson. One of nine relatives who, at one time or another, were all engaged in the medical profession, he was educated at Dalhousie from whose Medical School he graduated in 1911. After the First World War, in which he served in Gallipoli, Egypt and France, and was awarded the Military Cross, he became a partner of his uncle, the late Dr. I. W. Johnson in his practice in Bury. Apart from further war service from 1940 to 1942 he remained in practice there until the time of his death. In this second period of war service he was in the retreat from Dunkirk. After spending many hours on the beaches he was taken on board a ship and collapsed from exhaustion. This ordeal contributed largely to the poor health from which he suffered until his final short illness. In spite of severely taxed physical resources, however, he continued in the Army Medical Service and was in charge of the 6th General Hospital near Cairo until 1942 when he resumed his civilian practice. In the opinion of his friends and associates and indeed of all who knew him, it was said that he had given all for his profession and his country.

DR. MURDOCK DANIEL MORRISON

On April 24, 1895, Doctor Murdock Daniel Morrison, recent graduate from Bellevue Hospital Medical College, New York, became licensed to practise in Nova Scotia. May 14, 1946, a few days past his fifty-first anniversary, his long life ended in tragedy. Struck by an automobile near his home, he died a few minutes later.

He was born at Englishtown, Cape Breton, the eldest son of Mr. and Mrs. Neil Morrison. After graduating from Sydney Academy and before beginning the study of medicine, he taught school, and his traits as a teacher he bore through his whole professional career. His first practice was at Reserve Mines where he practised with Doctor William MacKay, Senator. A few years later he moved to Dominion, and there remained until coming to Halifax in 1917.

Early in 1917 the Workmen's Compensation Board came into being, created by the recently passed Act. For a time it functioned without a medical officer, the late Dr. W. H. Hattie, then Provincial Health Officer, giving advice on permanent disability estimates. But such an official became a necessity, and after a careful review of possible candidates, Doctor Morrison came to Halifax to fill the position. In this new field of medical endeavor he was one of the pioneers. His methodical training as a teacher, keeping careful and accurate records, stood him in good stead. From his years of practice among them, he was able to deal with sympathy and understanding

with accident cases in the mining districts. He was an excellent clinician as is clearly shown by his records. Functional disabilities claimed his particular interest and after much research and observation he presented his conclusions in an excellent paper before the Halifax Medical Society. That was one of his characteristics: careful study and preparation for any endeavor. The result was something to be relied on—a classic of its kind. In 1934 the late Dr. O. G. Donovan was appointed as his assistant, and they worked together until 1937, when after twenty years of service Dr. Morrison retired.

Besides his professional interests, he had many of a social and intellectual nature. St. Anne's, near his birthplace, was the temporary abiding place of Reverend Norman MacLeod and his pioneer settlers. This most interesting chapter in the history of our Province was first revived and written by Doctor Morrison. He was proud of his Highland Scottish Ancestors, and delighted in the work of the Gaelic College at St. Anne's, and the annual Mod. He was chief of Clan Morrison. The North British Society and Nova Scotia Historical Society, of which he was long a member, were strengthened by his interest and support.

To his son, Dr. Clarence Morrison, and his brother, Dr. J. C. Morrison, as well as the other members of his family, the BULLETIN extends its sincere sympathy.

The death occurred April 18th at Halifax of Doctor John Norris McDonald, son of the late John Harris McDonald, barrister of Upper Dyke, Kings County, and the late Annie Norris of Mill Village, Queens County.

Doctor McDonald was born in Shelburne, December 13, 1879. He attended Shelburne High School and Normal School in Truro and graduated in medicine from McGill University in 1908. He interned for one year at Royal Victoria Hospital, Montreal, after which he went to Newfoundland at Curling and St. John's. He returned to his native province in 1930 taking up practice at his residence on Windsor Street in Halifax. Although in ill health for the past nine years, up to a few months ago he carried on his practice. Surviving are his widow, the former Pheobe Morris of St. John's, Newfoundland, and also a number of relatives. An infant daughter, Jean, predeceased him some years ago.

The funeral took place in Halifax on the 20th, and interment was in Liverpool on the 22nd.

Medical Society Meetings

Cape Breton Medical Society

THE annual meeting of the Cape Breton Medical Society was held on Thursday, May 9th, at the Cape Breton Yacht Club with Doctor J. S. Munro, retiring president, presiding. Special speaker for the evening was Doctor J. Fabian Bates, formerly of Glace Bay now on the staff of the D. V. A. Hospital, Sydney. The following slate of officers was appointed for the coming year:

President—Dr. H. R. Ross, Sydney.

Vice-President—Dr. J. A. McDonald, Glace Bay.

Secretary-Treasurer—Dr. F. J. Barton, New Waterford.

Cape Breton Executive—Dr. S. A. Green, Glace Bay; Dr. G. W. Sodero, Sydney; Dr. W. T. McKeough, Sydney Mines.

Representatives on the Executive of The Medical Society of Nova Scotia—Dr. D. R. McRae, Sydney Mines; Dr. M. G. Tompkins, Dominion; Dr. A. L. Sutherland, Sydney.

The Society went on record as refusing to do autopsies in connection with inquests at the prevailing rate of remuneration of \$5.00 as laid down by the Attorney General's department for the province. It was felt that the responsibility involved and the very nature of the procedure was such that the fee was entirely out of line with the usual medical fees. It was brought out that the only hope for having the fee change rested with the proper approach to the Attorney General's department or the union of municipalities for the province, by the provincial Society. It is suggested therefore that this matter be brought up before the Society at the next meeting.

F. J. Barton, M.D.

Secretary-Treasurer

Cape Breton Medical Society

Valley Medical Society

The Valley Medical Society held its annual meeting at the D. V. A. Hospital, Cornwallis, May 28, with about 40 members present. Dr. Frank W. Morse, Lawrencetown, read a paper on the use of penicillin by bulb atomizer and Dr. Victor Mader of Halifax, read a paper on "The Aspects of Re-Constructive Surgery."

A demonstration was given by Dr. E. A. Fergusson and his staff on "Completed Thoracoplasty and Pneumolysis" after which all repaired to the hostel in Annapolis Royal and enjoyed a banquet presided over by the retiring president Dr. A. B. Campbell, of Bear River.

The following officers were elected: President: Dr. G. R. Forbes, Kentville; vice-presidents: Kings County, Dr. Frank W. Morse, Lawrencetown; Digby County, Dr. J. H. Slayter, Bear River; secretary-treasurer (re-elected) Dr. Roy Moreash, Berwick.

Representatives to executive of Medical Society of Nova Scotia: Dr. P. S. Cochrane, Wolfville, and Dr. H. E. Kelley, Middleton.

Canadian Physicians' Fine Art and Camera Salon

Change Announced in Entry Regulations

A change has been made in the entry regulations for the Canadian Physicians' Fine Art and Camera Salon. Art pieces up to thirty (30) inches in the longer dimension will now be accepted for judgment in the Salon. This change, the request of a number of interested physicians, has been made possible as a result of the obtaining of the Banff School Auditorium as a place of exhibition; and the sponsors of the Salon, Frank W. Horner, Limited, are pleased to announce that the larger exposition place will permit the showing of larger pictures.

Judges this year for the Salon, to be held in Banff, Alberta, concurrently with the Annual Meeting of the Canadian Medical Association, will be Mr. N. de Grand'Maison, A.R.C.A., Mr. Carl Rungius, N.A., and Mr. and Mrs. Peter Whyte.

Mr. de Grand'Maison, the well-known portrait artist, is justly famous for his studies of Western Indian types and his pastel portraits of children, while Mr. Rungius, National Academician and winner of the Speyer Memorial, Carnegie and numerous other prizes, has made a specialty of painting American big game.

Mr. Whyte, a native of Banff, Alberta, attended the Otis Art Institute in Los Angeles, California, and the School of the Museum of the Fine Arts in Boston. From this latter school in Boston, Mrs. Whyte is also a graduate.