

# The Present Status of Antibiotic Therapy\*

By

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## INTRODUCTION

THE advances made in medical therapeutics during the past decade have been so great and new developments have come so rapidly that the medical practitioner today has available an almost bewildering array of chemotherapeutic and antibiotic agents. This is particularly true of the antibiotic weapons, and I think none of us can be blamed if we are, at times, somewhat confused as to which antibiotic is the one of choice in any given infection.

The literature on the subject has become so extensive that the average busy practitioner cannot hope to cover it. For instance, since November 1948 to date there have been 976 published articles in medical journals on Aureomycin alone. In this review, therefore, I will attempt to outline and summarize the specific indications and contra-indications for the use of several of the more important antibiotics against certain more frequently encountered infections.

It is interesting to note, in passing, the trend of developments in this field. Penicillin, the first antibiotic to come into clinical use, proved to be effective against members of the gram positive group of micro-organisms predominantly, active against many bacteria resistant to the sulfa drugs, but less effective (with the exception of the gonococcus) against gram negative bacteria. Streptomycin was then developed and shown to be very active against many gram negative micro-organisms and the tubercle bacillus, but less so against the gram positive groups as a whole. Neither Penicillin or Streptomycin were active against the rickettsia or the true viruses. Next came Aureomycin, Chloromycetin and Terramycin, all of which appear to be efficacious in the treatment of rickettsial diseases, but whose activity against any true virus has not been unequivocally established. However, Aureomycin, Chloromycetin and Terramycin are also effective against a wide range of both gram negative and gram positive bacteria, many of which are more or less resistant to the action of Penicillin, Streptomycin or both.

Thus the list of infections for which no specific chemotherapeutic or antibiotic agent exists has been progressively shortened, as the therapeutic range of the physician's armamentarium against pathogenic micro-organisms has been correspondingly widened. I think it is not unreasonable or unduly optimistic to hope that antibiotics, active against the true viruses and more effective against tuberculosis than is Streptomycin will eventually be developed. In our own research laboratories at Pearl River a very intensive screening program along this line is currently under way. Since it is obviously impossible to cover in detail the whole field of antibiotics in the time at our disposal, I would like to discuss individually the antibiotic therapy of some of the more common infections including those of particular local interest.

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### Tuberculosis

From the experience gained during the years I was associated with Dr. Olds at the Twillingate Hospital, I have a very real and personal knowledge of the importance of the tuberculosis problem in Newfoundland, and the good progress which has been made here in attacking it.

Because of the nature of the fundamental pathology of tuberculosis one would expect that the chemotherapy of this disease would present difficulties, and this is clearly shown to be true by the accumulated experience of a number of groups of clinical investigators. However, Streptomycin and its derivatives have proven to be at least partially successful, where the Sulfonamides, Penicillin, Chloromycetin and Aureomycin have failed. Certainly it represents the most potent weapon available today. It is, therefore, important to evaluate the current status of Streptomycin in tuberculosis and to determine the best possible treatment regime for the various forms and stages of the disease, particularly so because of the facility with which the tubercle bacillus develops resistance to Streptomycin.

One of the most informative recent publications on the Streptomycin therapy of tuberculosis appeared in the *Journal of the American Medical Association* on March 4, 1950. This was a report by the Streptomycin Committee of the U. S. Veterans Administration to the Council on Pharmacy and Chemistry of the American Medical Association, and it describes the results of approximately 7,000 patients with all types of tuberculosis. I would like to quote or paraphrase certain conclusions of the Committee.

The first, which is worth emphasizing, is that in itself—Streptomycin can never (or very rarely) be counted on to cure tuberculosis. Even in tuberculosis of the alimentary tract and of draining cutaneous sinuses in which the drug has been particularly successful, relapse rates are 5% to 10% and in pulmonary disease they are about 35% within 12 months after the completion of treatment; in 416 cases of pulmonary tuberculosis observed for two and a half years the mortality rate was 21%.

The Committee "views with alarm the tendency to treat patients with Streptomycin on an ambulatory basis: a patient sufficiently ill to receive Streptomycin is sufficiently ill to be hospitalized. They view with despondency the common disposition to try a six or twelve week course of Streptomycin therapy to see what it will do." They are generally agreed that, in pulmonary disease, the plan for treatment should be carefully worked out before Streptomycin therapy is started, the surgical staff should be consulted in this planning and, because of the appearance of Streptomycin-resistant tubercle bacilli, collapse or excisional surgery should be employed early in the course of Streptomycin when it is indicated, rather than postponed because of X-ray improvement which might well prove to be transitory. They summarize the present status of Streptomycin therapy, given in daily injections without other chemotherapy: the incidence of toxic manifestations—i.e., eighth nerve damage can be significantly diminished by reduction in dosage to 1.0 grams daily for 120 days with little evidence of concomitant reduction in therapeutic efficacy but the development of resistance of the tubercle bacillus to Streptomycin can be only partially diminished by a reduction in the duration of treatment (to 42 days) and then only with a definite loss of therapeutic efficacy.

In extrapulmonary tuberculosis, the Committee reports that lesions of the



mucous membranes of the respiratory and alimentary tracts, draining cutaneous sinuses (with concomitant surgical treatment) and peritonitis continue to respond promptly, uniformly and favorably to Streptomycin therapy with healing and considerable improvement in 80% to 90% of the cases. There is no evidence that a reduction in daily dosage to 1.0 grams or in duration of treatment to 42 days affected the results adversely. It is generally conceded that, in tuberculosis of the bone or joint, improvement occurred more rapidly and to somewhat greater extent in patients receiving Streptomycin therapy than in those who had no chemotherapy, and that surgical procedures were made possible which would have been impossible without it.

The Committee report also states that, in the cases of genitourinary tuberculosis, cystoscopic and symptomatic improvement is observed in approximately 80% of the cases; genital lesions are not usually improved unless chemotherapy is accompanied with surgical treatment, and renal destruction, demonstrated with pyelograms, is benefited in only 20% of the cases.

The survival rate of patients with miliary tuberculosis in this study was approximately 50% unless it was accompanied or followed by meningitis (in which event it became zero) and was only 15% in meningitis alone.

In regard to the prophylactic use of Streptomycin in pre- and post-operative surgical procedures, the surgeons concerned in this report continue to believe in the routine use of Streptomycin as a prophylactic in excisional surgical treatment.

Dihydrostreptomycin was developed with the hope that it would prove less toxic than Streptomycin. However, using the lower daily dose of 1.0 gram now recommended it appears that dihydrostreptomycin does not have any appreciable superiority with respect to eighth nerve toxicity, and given in higher doses—2.0 grams a day—it is quite capable of producing deafness although less likely to affect the function of the vestibular apparatus. Actually, there is some evidence that dihydrostreptomycin is somewhat inferior to Streptomycin therapeutically when used at the 1.0 gram a day dose level. All in all, it appears that there is no particular advantage in using dihydrostreptomycin as long as a daily dosage of 1.0 grams a day is considered adequate therapy and its chief value may be in the cases of unusual sensitivity to the toxic manifestations of regular streptomycin.

The results with the administration of para-aminosalicylic acid (12 grams orally per day) and streptomycin (1.0 grams intramuscularly per day), although they require further confirmation, appear very promising. The efficacy of streptomycin seems to be definitely increased, and only 30% of the patients who had positive cultures after 120 days of treatment showed streptomycin-resistant strains of the tubercle bacillus, whereas 80% of those treated with streptomycin alone developed resistant bacilli. The use of para-aminosalicylic acid has certain disadvantages. Major skin eruptions do occur, and its administration is frequently accompanied by anorexia, nausea, vomiting and diarrhea.

It has been definitely established by several groups of investigators that the subacute forms of pulmonary tuberculosis respond to streptomycin therapy as well as do the acute, and that even in the chronic forms some improvement may occur. Relapse is more likely to take place in the most chronic stages of the disease than in the more acute stages, and it is therefore important to combine streptomycin therapy with other procedures such as collapse and



excisional therapy. The failure of streptomycin to have a favorable influence on tuberculosis lesions with a large necrotic component must be kept in mind.

It has yet to be finally determined what the one best streptomycin regimen is. One gram appears to be a satisfactory daily dosage, and when given alone the duration of treatment should probably not exceed 42 or 60 days because of the phenomenon of resistance. When para-aminosalicylic acid is administered concurrently, there is evidence that the incidence of resistant bacilli is lower, and that the duration of streptomycin therapy may safely be extended to 120 days.

### Pneumonia

Let us now consider the role of the antibiotic group in the treatment of the pneumonias. Taking pneumococcus pneumonia first, it is usually stated that penicillin is the drug of choice, given as procaine penicillin G in oil with aluminum monostearate added, 300,000 to 600,000 units every 48 hours, or, in severe infections, crystalline penicillin G intramuscularly in aqueous solution 25,000 units or more, every 3 hours. Some investigators believe that Aureomycin is the first choice in pneumococcus pneumonia, others prefer penicillin except where sensitivity to penicillin is present. Streptomycin and chloromycetin are of distinctly less value. Terramycin has been successfully used in a relatively small series of cases. Aureomycin when used is administered orally, the usual dosage being 500 mg. every 6 hours, for a daily total dosage of 2 grams. Occasionally doses up to 4 grams per day are employed in severe infections or when indicated, 500 mg. intravenously two or three times a day. Vomiting may occur at the higher dose levels, but with the new crystalline Aureomycin now available it is much less common. Loose stools, due to the marked change in the intestinal bacterial population, are not uncommon in Aureomycin therapy, and may be considered a physiological side effect.

Either penicillin or aureomycin should be given in full therapeutic dosage during the febrile period; too early cessation of treatment may produce a relapse. Bacterial resistance to penicillin develops rather readily in some cases, but has not been reported with Aureomycin.

Terramycin, the newest of the antibiotics, follows the Aureomycin range of activity quite closely. It has not been studied as extensively as yet, but has been successfully used in the pneumococcus pneumonias. The dosage employed apparently has to be somewhat higher than with Aureomycin to obtain therapeutic blood levels, and nausea, vomiting and loose stools also occur. There is some laboratory evidence that terramycin-resistant strains of bacteria may develop.

Either penicillin or aureomycin, in dosages previously mentioned, have been successfully used in the treatment of streptococcal pneumonias. In staphylococcus pneumonia, however, aureomycin is the drug of choice. Neither streptomycin or chloromycetin are of value in these types.

In primary atypical pneumonia—or so-called virus pneumonia—aureomycin appears to be the first choice. Two series of cases of this type were successfully treated with aureomycin at the low daily doses level of 1 gram—250 mg every 6 hours, and it seems likely that higher doses are not necessarily needed. Chloromycetin is also effective. The recommended dosage of chlor-



omycecin, based on body weight, is 60 mg per kilogram initially, divided into thirds and given orally each hour for 3 hours; the maintenance dose is 60 mg per kilogram of body weight per day thereafter, given in divided doses at 6 hourly intervals.

Penicillin and streptomycin are not effective in the treatment of atypical pneumonia nor are any of the sulfonamides.

It is not always possible for the practitioner, particularly in isolated regions, to determine which type of pneumonia he is dealing with. Delay, while trying penicillin or the sulfonamides, is undesirable, expensive and possibly dangerous. In such cases it appears logical to initiate immediate treatment with full therapeutic doses of Aureomycin—since it is nearly as effective as penicillin in most types, superior in some, and effective where penicillin is not in the virus pneumonias. Because its range of antibacterial activity in both the gram positive and the gram negative series is wider than either penicillin, chloromycetin or streptomycin, its use in bacteriologically unidentified pneumonias seems entirely justified.

### Typhoid Fever

Another infectious disease of some local importance, particularly in the outports, is typhoid fever. The sulfonamides are ineffective as is penicillin. The antibiotic of choice appears to be chloromycetin. In most cases its use in the dosage form previously noted is followed by a gradual drop in the fever to normal within a few days. Aureomycin likewise is effective, but seems less active than chloromycetin on the basis of the relatively few cases studied. Streptomycin should not be used. Some cases are apparently resistant to all of the antibiotics. In the case of either chloromycetin and aureomycin, the administration of the drug in typhoid fever should be continued for some days after the temperature has become and remained normal to guard against relapse. Even so, relapses are not at all uncommon in typhoid under antibiotic therapy. No antibiotic therapy has proven effective in the treatment of typhoid carriers.

### Meningitis

Let us now consider the various types of meningitis. Tuberculous meningitis has been previously mentioned briefly and streptomycin, preferably with the concomitant use of para-aminosalicylic acid, is of course, the drug of choice. In meningococcus meningitis most authorities agree that sulfadiazine, alone or with penicillin, is still the most efficacious treatment. Aureomycin, which readily passes the blood-brain barrier, is also effective but less so than sulfadiazine. Streptomycin and chloromycetin appear to have little value in this infection.

In pneumococcus meningitis penicillin and aureomycin are about equally effective; streptomycin and chloromycetin should not be used. Penicillin and Aureomycin—or both combined, are likewise the drugs of choice in meningitis due to the streptococcus, as they are in other streptococcal infections.

In Haemophilus influenzae meningitis, aureomycin is the first choice, with chloromycetin and streptomycin the second and third choice drugs in that order. In this infection sulfadiazine should also be administered with whatever antibiotic is used.

In other types of meningitis where gram-negative bacteria are the infecting organisms, streptomycin is effective but because of the possibility of



toxicity either chloromycetin or aureomycin may be more safely used since both drugs are active against a wide range of gram negative organisms.

Aureomycin is definitely the drug of choice in staphylococcus meningitis, either alone or with penicillin. This is also true of staphylococcal infections generally.

### Genito-Uninary Tract Infections

Another important group of infections are those involving the genito-urinary tract—excluding, for the moment—the venereal disease group.

*E. coli* is a common infecting organism in this group and *G. U.* infections caused by it respond, in general, to either chloromycetin or aureomycin equally well. Streptomycin both from the standpoint of effectiveness and potential toxicity, is the second choice drug. Penicillin is of little value in *E. coli* infections.

Streptomycin is distinctly the drug choice of *B proteus* infections where aureomycin, chloromycetin, and penicillin are of little value. However, because of the rapid development of streptomycin resistant proteus organisms, the ultimate result of therapy is frequently unsuccessful.

Staphylococcus urinary tract infections generally yield promptly to aureomycin therapy.

Aureomycin has now been used successfully in a large number of cases of trichomonas vaginalis. It is administered by insufflating Aureomycin powder, followed by the daily insertion of an aureomycin 250 mg capsule, tablet or suppository. Usually a week's treatment, with one or two insufflations is indicated, but a longer period or a repeat course of treatment may be necessary.

Puerperal sepsis cases are treated according to the nature of the infecting organism. In general puerperal infections due to gram positive organisms should be treated with penicillin or aureomycin, and those of gram negative group with chloromycetin or streptomycin. Threat of impending puerperal sepsis is indication for the administration of 2.0 grams of aureomycin per day for 3 days.

### Bacterial Endocarditis

The question of acute and subacute bacterial endocarditis is somewhat complicated. In the case of acute bacterial endocarditis due to *B. hemolytic streptococcus* or to the pneumococcus, it is probably advisable to treat the patient with combined penicillin-aureomycin therapy, according to Dr. Perrin Long who has studied this field extensively.

In the case of subacute bacterial endocarditis, I feel very strongly that no antibiotic therapy should be undertaken until the causative organism has been tested for sensitivity to the various antibiotics. The drug of choice will be, of course, the one to which that organism is specifically most sensitive. Therapy must then be given in sufficiently high dosage to attain a therapeutic blood level high enough to match sensitivity of the infecting strain of bacteria to the antibiotic being used. It is, therefore, quite important that these patients be hospitalized and full laboratory sensitivity studies done before initiating antibiotic therapy. Inadequate early dosage may well cost the patient his chance of survival because of the possibility of developing a resistant strain of microorganisms.



### Venereal Diseases

At this point let us undertake a brief consideration of the antibiotic therapy of the venereal diseases. Although streptomycin, aureomycin, chloromycetin and terramycin are all effective against the gonococcus, penicillin very definitely is the drug of choice—a single injection of from 100,000 to 300,000 units effecting a cure in over 90% of the cases.

Penicillin, up to the present, is also the drug of choice in early and late syphilis. Studies on the treatment of syphilis with the newer antibiotics are currently under way but no final conclusions may be drawn as yet. Aureomycin, chloromycetin and terramycin all cause disappearance of the spirochetes from surface lesions and reversal of the Wasserman reaction in early cases, although at a somewhat slower rate than penicillin. The ultimate result of therapy with these antibiotics and the effect on late syphilis must await the passage of time and the completion of studies now in progress.

Lymphogranuloma inguinale and lymphopatheia venereum yield readily to treatment with Aureomycin, chloromycetin and presumably Terramycin. Penicillin and streptomycin are not effective.

### Rickettsial and Virus Diseases

Up to the advent of aureomycin and chloromycetin, no antibiotic had proved to be successful against the rickettsial and viral group of diseases. The results with these new drugs have been most dramatic. Endemic and epidemic typhus, Rocky Mountain spotted fever, scrub typhus, rickettsial pox and psittacosis are rapidly and completely cured with Aureomycin and chloromycetin. Recent studies indicate that terramycin is also an effective therapeutic agent.

Against the true virus infections however, there is no firm evidence that any antibiotic is effective, except possibly aureomycin against herpes simplex and herpes zoster—and reports in these instances are somewhat conflicting.

Careful studies have been done on the common cold, and one is forced to conclude that none of the antibiotics are of primary value. Aureomycin may be of value in the prevention and treatment of secondary complications such as sinusitis and bronchitis.

Equally well controlled studies on poliomyelitis have not revealed any effect on the disease from the use of any of the antibiotics now available.

Mumps, chickenpox and measles are other virus diseases in which the action of the various antibiotics has been tested with negative results. In the case of measles the prophylactic use of Aureomycin may well be justified prophylactically against secondary infections, and in the treatment of such if they occur.

Penicillin and streptomycin are of little or no value in small-pox. Aureomycin and chloromycetin have not as yet been tested sufficiently, but early results have been negative.

There is some evidence that aureomycin may have a favorable effect on epidemic hepatitis but the results are equivocal, and it cannot be definitely said that any of the antibiotics are of real therapeutic value.

### Topical Use of Antibiotics

The topical use of the antibiotics, especially in the fields of ophthalmology and dermatology, has become quite extensive. The use of penicillin ointment



in eye infection is complicated by the high percentage of sensitivity reactions encountered. The incidence of these with aureomycin solution or ointment is much lower.

In dermatology, especially in the treatment of the pyodermas, pustular acne, and as a post-operative dressing after plastic and other surgical procedures Aureomycin has been extremely successful. Because of the low incidence of sensitivity reactions it is preferable to penicillin, and probably more effective. Another new antibiotic, Bacitracin, has also been used locally with considerable success.

### Miscellaneous Infections

There are a number of other conditions in which one or more of the antibiotics are of value. Both aureomycin and chloromycetin have been shown to be of value in whooping cough, in which disease streptomycin also has some beneficial effect.

Penicillin is the antibiotic of choice in the treatment of diphtheria, but of course the use of antitoxin along with it is essential.

The bacillary dysenteries and infantile diarrheas respond well to Aureomycin therapy, but streptomycin and penicillin are usually ineffective.

Brucellosis, hitherto best treated with streptomycin plus sulfadiazine, has been found to be treated with better results with Aureomycin or chloromycetin. The acute cases respond promptly in most instances, but treatment must be continued long enough to prevent relapse—at least two weeks. The response in chronic brucellosis is more variable and unpredictable.

Penicillin and Aureomycin have been used in the treatment of scarlet fever. The course of the disease may possibly be shortened but the most important factor is the prophylactic effect against the sequellae of scarlet fever.

The nose and throat clinic at Johns Hopkins has reported on the successful results obtained from Aureomycin therapy in acute and chronic sinusitis, acute otitis media, and bronchiectasis. They have concluded that aureomycin is the antibiotic of choice in these conditions.

Recent studies have shown that aureomycin and terramycin are quite effective treatments for amoebic dysentery and chloromycetin, streptomycin and aureomycin are all active against the causative organism of tularemia.

Patients with existing congenital or acquired valvular heart disease are always in danger of developing a bacterial endocarditis following tooth extractions and operative procedures in the mouth, nose and throat, and therefore should receive penicillin, aureomycin, or both, before and after such dental or surgical operations.

The pre- and post-operative use of streptomycin or aureomycin, or both, is strongly indicated for patients undergoing colonic surgery, and aureomycin or penicillin is similarly advisable in thoracic surgery, except that in tuberculosis, streptomycin—as previously noted—should be used.

Aureomycin is particularly effective in the treatment of peritonitis due to *E. coli*.

### Other Antibiotics

In this review I have not mentioned a number of other antibiotics, or made only brief mention of them. Some new antibiotics are in the early clinical trial stage only and have not yet been completely evaluated. Some,



now commercially available, have not been used in a sufficiently large number of cases of different infections to draw definite and final comparative conclusions as to their effectiveness.

Terramycin appears to be the most promising of these and I have mentioned it in connection with several of the infections we have previously discussed. In general, it closely approximates the range and effectiveness of aureomycin; it may require slightly higher dosage than aureomycin, and the possibility of the development of bacterial resistance has been mentioned in the literature. Its side effects are essentially the same as those of aureomycin and chloromycetin.

Polymixin is very effective against pyocyanous infections, but has a nephrotoxic potentiality which makes extreme caution necessary in its use.

Bacitracin has been quite successful in topical use against a variety of infections, and a less toxic form is now under clinical trial for systematic administration.

### Conclusion

I have attempted to cover the present status of antibiotic therapy in this review, but there are a number of conditions which have been omitted or mentioned only briefly. However, I hope that I have been able to summarize the therapeutic indications for the use of certain antibiotics in the more important infections in a manner which may possibly be of some interest and help.

In conclusion, I would like to quote Dr. Perrin Long and say that antibiotics should be used only when definite indications of infection are present, or prophylactically when indicated, and that care be used in the selection of the proper antibiotic for the specific case. Giving antibiotics indiscriminately is not good medical practice.



# 97th Annual Meeting of The Medical Society of Nova Scotia, 1950

## First Business Meeting

THE first general business session was held in the Auditorium of the Victoria General Hospital, Halifax, N. S. on Tuesday, September 6, 1950, at 9.40 a.m.

The President, Doctor E. F. Ross, called the meeting to order, and welcomed the members to the 97th annual meeting.

Doctor E. F. Ross stated that yesterday the Executive of the Society had accepted as read the minutes of last year's meeting, as published in the October, November and December issues of the Nova Scotia Medical Bulletin for 1949.

The next item was the letter and resolution from the Valley Medical Society which was passed by them on June 9th. The resolution, published in the Executive minutes, was read by Doctor H. G. Grant.

Doctor E. F. Ross: "The Executive Committee referred it to the incoming Committee on Economics. You can see it was a very indefinite letter, and they had asked for a special meeting during the meeting of the Canadian Medical Association. Time was very difficult to obtain for a meeting, and their letter did not state anything that was tangible. The subject matter has been referred to the Committee on Economics, when the report of hospital survey is available."

Next was a letter from the Winnipeg Medical Society."

This letter, published in the Executive minutes, was read by Doctor H. G. Grant.

Doctor E. F. Ross; "I might explain that this Society did two things; they donated \$100.00 to the general fund, and secondly sent a wire to the President offering any help that we could give."

Doctor A. D. Kelly advised that the Canadian Medical Association had also communicated with the Manitoba Division, and their suggestion was to advise doctors everywhere if they felt so inclined to make personal contributions to the Manitoba Flood Relief Fund.

Doctor E. F. Ross advised that a letter had been received from Doctor A. D. Kelly re sickness survey. This letter is published in the Executive Minutes and Doctor A. D. Kelly was asked to speak on this matter.

Doctor A. D. Kelly: "In brief, under the Federal Health grants there has been added a new service in the form of a sickness or morbidity survey which will be carried out in every Province. You heard from Doctor Robertson yesterday there would be established very shortly a survey of lay enumerators who will call on a certain number of homes, and these enumerators will not themselves call on or bother the medical practitioner at all. We ask that you co-operate with the enumerators by telling the people that it is a good thing and urging them to give all the information they can."



Doctor E. F. Ross: "The Executive recommended that the Society give its full co-operation to this project, and we would like ratification from the main meeting."

Doctor Eric W. Macdonald moved that this Society go on record as agreeing to facilitate the work of the enumerators in any way possible. This was seconded by Doctor H. R. Corbett. Carried.

Doctor E. F. Ross: "At this time it is the President's duty to appoint a Nominating Committee, from whom we require a report at this afternoon's meeting. I would like to suggest for the Nominating Committee, Chairman, Doctor W. A. Hewat, members Doctor D. F. Macdonald, Doctor H. F. Sutherland, Doctor G. A. Dunn and Doctor A. R. Morton.

"Next is a notice of motion to change the By-Laws, actually a report of a committee which sat last year. To attempt to bring you up to date. The Executive has risen to about fifty-three members. Originally it was on the basis of one person to twenty members. Your Committee felt that the Executive had grown to be too large and recommended that it be reduced."

The present Executive is composed at present of two members each from the Valley, Lunenburg-Queens, Cumberland, Colchester-East Hants, Pictou, Antigonish-Guysborough, Western Nova Scotia Medical Societies and the Nova Scotia Society of Otolaryngology and Ophthalmology, four members from the Cape Breton Medical Society, nine from the Halifax Medical Society, one from the Nova Scotia Association of Radiologists, the chairman of the various standing committees, totalling eleven, the Council of the Canadian Medical Association numbering seven, and the officers of The Medical Society of Nova Scotia numbering five, making a grand total of fifty-three. The Committee recommended that the Executive should in future consist of the representative of the Canadian Medical Association, two representatives each from the Halifax and Cape Breton Medical Societies, one representative from each other Branch Society, and one representative from each special interest society, or affiliated organizations, such as Eye, Ear, Nose and Throat and Radiology.

Doctor C. B. Stewart asked how many members there would be on the proposed Executive, and the answer was twenty members.

Doctor K. P. Hayes stated that the various specialities were already represented on the Executive.

Doctor H. J. Devereux said that if the original Constitution were followed, the number on the Executive would be twenty, and that there would not be any trouble.

Doctor H. G. Grant read as follows from the Constitution and By-Laws: "The Executive Committee, which shall consist of the Officers hereinbefore mentioned and other members elected with a view to representation of each branch of the Society, on the following basis; each branch to have a representative for every (20) twenty members or fraction of such number. Portions of the Province in which no branch is established shall be equitably represented on the Executive Committee."

Doctor W. A. Hewat: "I think there is an objection in reducing the number of Branch Society representatives from two to one. It is very difficult at the last minute to get an alternate."

Doctor H. G. Grant: "I would move that this report be accepted with this amendment that that part of the report recommending specialty repre-



sentatives i.e. the Branch of Ophthalmology and Radiology, from the Society be deleted." This was seconded by Doctor A. G. MacLeod.

Doctor A. D. Kelly: "I do not believe that in any Provincial Division of the Canadian Medical Association that a similar representation of Provincial organized Societies is commonly found on the Executive. In the Canadian Medical Association itself we have a number of affiliated societies, which just means friendly relations between the two societies. No such representation of affiliated societies takes place."

Doctor G. B. Wiswell: "It means that in the future there will be no representation of specialities."

Doctor E. F. Ross: "It has been moved that the report of the committee be amended and that there shall not be representation from the Nova Scotia Society of Otolaryngology and Ophthalmology and the Nova Scotia Association of Radiologists; otherwise the report is accepted completely." Carried.

Doctor H. G. Grant: "I hereby give notice of motion that at the next annual meeting of The Medical Society of Nova Scotia I shall move the resolution which has been approved by this Society."

Doctor E. F. Ross asked Doctor J. P. McGrath if he could enlighten the Society on the resolution passed by the Valley Medical Society, but he replied that unfortunately he had not been present at that meeting. Doctor C. B. Stewart stated that he could not understand the gist of the resolution himself. He said that the hospital report should be studied by the Committee on Economics, that it was not a report which affects Government policy in any way, that anybody had the opportunity of criticising and suggesting changes in the report, which was complete as far as they could go.

Doctor E. F. Ross welcomed Doctor N. H. Gosse, the President of the Canadian Medical Association, Doctor A. D. Kelly, the Assistant Secretary, Doctor R. W. Brownrigg, the new President of the New Brunswick Medical Society, and Doctor F. L. Whitehead, secretary of the New Brunswick Medical Society, who were present at the meeting.

Doctor N. H. Gosse was called on and gave a report on the progress of Maritime Medical Care Incorporated in which he showed a very great increase in the number of subscribers from January first to July thirty-first of this year amounting to 130%. He intimated that the plan is endeavouring to expand as fast as possible but that naturally they are writing those first who cost less to secure. He showed that in some sections of the Province the usual amount of effort had met a considerable amount of sales resistance, but that it was hoped that they would soften with time and renewed effort. The Corporation appreciated the very fine co-operation which the doctors of the Province have given in the securing of new groups.

From the financial side he reported that from the waiting period backlog or other prepayments, opportunity was taken to discharge all obligations to the Bank, and to carry on an income-disbursement basis from month to month. He reported heavy demands for services beginning April which made it necessary for the first time to pro-rate doctors' accounts, which was done at 15%. He paid a high tribute to the Taxing Committee for their painstaking care in the taxing of accounts. There were few a glaring examples of over-servicing, but in the main men were obviously endeavouring to play the game.



He reported on the fact that persons taking trips abroad were using the opportunity to visit clinics for medical examinations, and having the cost charged to Maritime Medical Care. Some of these were quite excessive. The Taxing Committee recommended that these bills be not recognized. The Executive of the Maritime Medical Care however decided that they would accept and tax only those cases referred to such centres outside of the Province by a *participating physician*, and the amounts allowed would be only what would have been allowed if the services had been rendered locally. He pointed out however, that this does not affect the protection of subscribers with respect to services rendered of an emergency nature any where.

He showed that the matter of setting an income limit under which persons may be admitted as subscribers had been given some consideration. Up to now no action had been taken.

With respect to the Welfare Agreement in which Maritime Medical Care is the agent of The Medical Society of Nova Scotia, he showed that considerable difficulty and annoyance was met during the first month of operation because a statement which it was expected that the Welfare Department would have sent out to the beneficiaries explaining the scope and use of the scheme, did not go out, leaving it to the doctors to do the explaining and the pacifying of those who expected complete rather than limited care. He showed that demands for service under the scheme were much higher than was anticipated; that there were some flagrant cases of over-servicing, not great in number, and that mileage was out of all proportion to what would appear reasonable. On the other hand, he said that there were a fair number of reports from doctors of pensioners calling the doctor to go many miles to see them for some trivial thing, so that a person or persons actually requiring the doctor could see him for the price of a house call, the mileage being charged to the welfare plan. He indicated that some of the over-servicing was said to be due to that fact that pensioners frequently requested service which was quite unnecessary, and suggested that it would be necessary for the doctors to carry on a prolonged campaign of education if this element were to be reduced; that our obligation under the agreement is to give necessary medical care as is ordinarily given at the home or in the doctor's office.

He intimated that it appeared that it would be necessary to make corrections or modifications in the agreement with the Government, but indicated that it was not within the province of Maritime Medical Care to offer suggestions with respect to that. He also said that it had come to their knowledge that an occasional doctor was billing the pensioner for the balance of their pro-rated bills, and that that was also a matter for The Medical Society of Nova Scotia.

Doctor Gosse reported that the matter of an over-all plan for Canada, probably to be known as Trans-Medical Services, was progressing satisfactorily.

At this point there was a ten minute intermission.

Doctor G. B. Wiswell stated that he would like to question the authority of the Executive Committee of Maritime Medical Care to give instructions to the Taxing Committee which made the ruling that paediatricians are not specialists, and that they were general practitioners as far as the collection of fee was concerned. He said they had been carrying on now for two years



and their accounts had been at the rate of \$3.00 for a house call and \$2.00 for an office call, which is the general practitioner's scheduel.

Doctor N. H. Gosse: "When we set up a plan of medical affairs in this province we undertook to take our experience from a plan which had a good deal of experience, and we have endeavoured to follow the plan of Physicians' Services Incorporated of Ontario, and have found a good deal of headache, which they have had. We have endeavoured to conserve the fund as far as possible so that there will be as much spending for all doctors. We have tried to keep within a reasonable limit. One of the problems that came up was the business of babies coming in to the specialists' office. They have decided that that did not lie in the class of specialists' fees. In Ontario they have allowed \$10.00 per year for well baby work. The matter has not been reconsidered by the Board of Directors of Maritime Medical Care. I am perfectly certain that the general feeling is that the thing would be too expensive to take so high a proportion of funds."

Doctor G. B. Wiswell: "If Maritime Medical Care are going to carry out that principle they will not pay general surgeons. They are paying these specialists for all their work. I do not see how they can discriminate. We feel that to do baby work properly is not in the range of the general practitioner. We see the ill effects later on; the hospitals are full of such mistakes. We still claim that feeding the baby, routine care of the baby, is to a certain degree paediatrician's work, and is done much better by the specialist, with all due respect to the general practitioner. I do not see why he singles out paediatricians and allows all the other specialities."

Doctor N. H. Gosse: "A great many of the things that are done by the surgeon are paid for at the general practitioner's rate."

Doctor H. G. Grant: "What proportion of the money paid out is for specialities?"

Doctor N. H. Gosse: "I have not got that figure."

Doctor G. B. Wiswell: "It would be interesting to the whole Society to know what percentage of the funds of Maritime Medical Care are paid to surgeons for surgical service, what proportion of the funds available to the whole group, what proportion is paid to the general practitioner. I have been on the Taxing Committee. The impression we get is that the surgeons are collecting large amounts from the total fund. General practitioners have been collecting a very small amount of that fund. General practice as a rule makes up a considerable degree of the surgeons total, I would say 50%."

Doctor J. W. Reid: "I feel that Doctor Wiswell is not entirely alone in his thinking for the paediatrician. The medical problems of the profession come in for pretty much the same beating as the paediatrician paid by the Maritime Medical Care. It is a very difficult problem and I do not think there is any satisfactory answer to it. One thing I do think is that the salesmen for Maritime Medical Care should be instructed to be a little less aggressive in their selling, and a little more truthful. I do not believe that Maritime Medical Care should attempt to pay specialists' fees. Some change should be made whereby the public would know that they are purely general practitioners. It will enable the specialist to collect his fee without the public feeling that they are being gypped. I would like to move that the Nova Scotia Medical Association terminate this agreement with the Provincial Government, providing medical care for old age pensioners."



Doctor H. G. Grant: "I do not think we should throw any criticism at Maritime Medical Care because they have paid out 30% of their money to the surgeons. We gave them our scale of fees and they have followed it. I can see Doctor Wiswell's point. I think the only way to settle that is a law amongst ourselves. The question should be settled within The Medical Society of Nova Scotia. I think it is an important matter and I think that for future peace we should have these matters aired."

Doctor C. H. Reardon: "If I sent a patient to the paediatrician is he allowed \$10.00? If I send a patient to the surgeon for an appendectomy is he allowed \$100.00?"

Doctor N. H. Gosse: "The plan of prepaid medical care provides for giving general service to the people, but also provides for specialists' opinions. It has been regarded that one of the most important things that a specialist can provide is knowledge. There is no question about these fees covering a specialist who is a participating physician. Under the terms of agreement he operates upon a person and charges say \$125.00. The Maritime Medical Care will allow him \$100.00, and if pro rated 15% less, and as a specialist he is allowed to bill the patient for the balance. He should not bill for that 15%. He has a perfect right to bill for that \$25.00."

Doctor C. H. Reardon: "I feel that there is a gross injustice. If the general practitioner is pro rated on a two dollar account, and has to accept it, it is only common sense that the surgeon should be pro rated and have to accept it. Why should he be allowed to charge an extra fee? Most medical practice is carried on by general practitioners. I do not think that under Maritime Medical Care specialists should be allowed to charge the extra fee. As for paediatricians I think we must recognize them as specialists. We have to accept them as specialists and be glad to have them. We must accept them as specialists outside of routine baby care."

Doctor N. B. Coward: "I do not know what Doctor Gosse or the surgeons experience relative to the collecting from the patient for the extra fee. My practice is limited to the paediatric group, and consequently I will not practise at the rate of two dollars for an office visit. The people are not prepared to pay the extra fee to the specialist."

Doctor H. J. Devereaux: "Are the people told that they get complete coverage?"

Doctor N. H. Gosse: "Definitely not. I think if any doctor will ask the patient to bring in the contract and will read just one little paragraph in the contract he will see just what the difference is between the general practitioner and the specialist. They are allowed \$25.00 for an X-ray. If that patient goes to a hospital the hospital sends the bill in and it is pro rated 85%: then they send a bill for the difference to the patient."

Doctor J. W. Reid: "I have heard some of the surgeons speak about the accumulation of the pro rated funds, that they would be paid sometime in the mystical future. These should be paid back at the end of ten years. I think that we should come to some sort of understanding. The pro rate of 15% represents a very considerable reduction in income in these days, and if this thing goes on it is going to build up into quite a fund."

Doctor N. H. Gosse: "There are twelve or fourteen groups in Cape Breton. Cape Breton is the hardest one to sell in. I think it should be said at this point that the real reason why we have not been doing as well in Cape



Breton is because the doctors have their own private plans. Maritime Medical Care has not a ghost of a chance until the doctors themselves do something about it."

Doctor H. J. Devereaux said that he would like to have the names of the private groups.

Doctor N. H. Gosse: "Our general manager is a Cape Bretoner, and he has spent a good deal of time there. There are at least three in Sydney that he knows of. He met some of the T.C.A. and he told them that our feeling is that the cost of doing business in Cape Breton is too high. Our people were advised to keep out until difficulties were settled."

Doctor A. W. Ormiston advised that they were trying to sell it to the big firms on their own down there, and they had been told that it was being held in abeyance, and asked whether Maritime Medical Care wanted to sell in Cape Breton or whether they did not.

Doctor H. F. Sutherland thought that Maritime Medical Care was too select in not offering service to the mass of the people, and he could not understand the inconsistency. The Trans-Canada scheme approve Blue Shield in Quebec, but we do not approve Blue Shield in Cape Breton. If Blue Shield extended their services to house calls he did not think that Maritime Medical Care would have a leg to stand on in Cape Breton.

Doctor A. E. Blackett: "I would like to say one thing to the reference that we did not recognize Blue Shield in Nova Scotia, but in Quebec. That is not the way I view it. The medical profession does not support Blue Cross in Nova Scotia. The Quebec Division of the Canadian Medical Association, who are the doctors of Quebec, possibly do recognize Blue Cross and approve of it in Quebec. It is good business to his country and that is why we approved Blue Cross in Quebec, only because our confreres in Quebec chose that system."

Doctor C. H. Reardon: "It came up in the old age pensions that patients are asked to give their doctors. I do not think that Maritime Medical Care should ask who is their doctor. Maritime Medical Care have over-looked the best group in the old age pensions, and that is the doctors themselves. About the salesmen of Maritime Medical Care we must have happy salesmen."

Doctor N. H. Gosse: "I cannot answer the last question. Three or four persons were going around from the very beginning, and there are some who have not been doing so well."

Doctor H. W. Schwartz: "Can anyone recall the wording of the advertisements that have appeared in our newspapers? They were concerning complete medical care."

Doctor M. J. Macaulay: "We believe that Maritime Medical Care has absolutely neglected us and made no effort whatsoever to try and sell us. The salesman came down and spoke to a meeting of the Cape Breton Society. Since then he has been back a number of times in Sydney, and while he was there he did not make it clear that he was at the 'Isle Royale'."

Doctor N. H. Gossee thought that the doctors of the Province should get behind Maritime Medical Care as far as possible, and stated that it had cost more to get what they had out of Cape Breton than in any other part of the Province.

Doctor G. B. Wiswell: "I would move that this Society recognize the fact that certified paediatricians are specialists and that the Taxing Committee of Maritime Medical Care be instructed to pay them specialists' fees."



This was seconded by Doctor N. B. Coward.

Doctor P. O. Hebb: "I think the paediatricians are specialists in internal medicine and should be treated the same as specialists in internal medicine. I cannot see any reason why they should not be treated the same."

Doctor N. H. Gosse: "The suggestion was made that this body instruct Maritime Medical Care. Legally that is not possible. You may instruct the nominees to act; you cannot instruct the group."

Doctor G. B. Wiswell changed his motion to read that through the House of Delegates we instructed Maritime Medical Care to do certain things, and that we instruct our nominees to the House of Delegates accordingly. Carried.

Doctor C. H. Reardon: "I would like to move that The Medical Society of Nova Scotia, through their delegates, request that all participating physicians, specialists and general practitioners, accept the pro-rated fee as full payment, and not be allowed to charge the difference to the patient."

This was seconded by Doctor Eric W. Macdonald, with the addition of the words, that they will accept the Maritime Medical Care payment as full payment for their account.

After further discussion it was moved by Doctor W. G. Colwell that The Medical Society of Nova Scotia would accept the fees of Maritime Medical Care as full payment, provided a ceiling is placed on the income of the individuals who are eligible to become subscribers. This was seconded by Doctor J. J. Carroll.

Doctor C. L. Gosse did not think that any motion should be hastily passed and he moved that a committee be set up, named by the Chairman, to go into this matter and report back at the meeting at the first opportunity. This was seconded by Doctor J. W. Reid. The amendment to the amendment was carried.

Doctor C. L. Gosse: "I would suggest that this be a special committee and that Doctor Reardon be on that committee."

Doctor D. M. MacRae moved that all Presidents of all Branch Societies be on that committee. This was seconded by Doctor H. J. Devereux.

Doctor G. B. Wiswell through it would be better to have the Chairman pick the committee, and that probably five would be the number for the committee.

Doctor W. G. Colwell moved that the Chairman appoint this committee.

Doctor J. C. Wickwire stated that the Society were very appreciative of the services of Maritime Medical Care and hoped that nobody would direct any criticism against Doctor N. H. Gosse.

Doctor E. F. Ross: "It would be very remiss if this Society did not recognize the work that Doctor Gosse has done, and I would like to thank him for the work he has done and for the continuation of it."

Doctor N. H. Gosse: "My only hope is that both you and I speak out from time to time."

It was moved by Doctor H. J. Devereux that the meeting adjourn at 12.45 p.m.

The second business meeting of The Medical Society of Nova Scotia was held at the Auditorium of the Victoria General Hospital, Halifax, N. S. Wednesday, September 6, 1950, at 3.05 p.m.

President E. F. Ross was in the chair.



Doctor E. F. Ross stated that the matter of medical care for pensioners was becoming a very important subject and had been discussed at the executive meeting yesterday.

Doctor H. G. Grant read the resolution which had been moved by Doctor H. F. Sutherland: "That the Executive go on record as approving the principle of the welfare group and insist that an effort be made to have the per capita tax raised to an adequate standard on the basis of our past year's experience." He said: "I think that most of you will remember that after a certain amount of discussion we were offered an arrangement by the Department of Welfare of the Provincial Government. We were not consulted before they made that offer, seventy-five cents per pensioner per month to provide medical care of a modified kind. We decided to go ahead with it, although certain of us thought that the offer was not very generous. We started in and it is my impression that the allotment to date has not been satisfactory. On the agreement made there has been dishonesty by a few of the doctors so as to lessen the amount going to other doctors. Personally I think that amount, seventy-five cents, is too low. So we brought the matter up at the Executive. The representatives of the Welfare Department were present, and they were asked to clarify certain items, and to speak to certain points such as why the Department of Welfare impresses the pensioner altogether in the wrong way that a first class medical service included everything, and the pensioners were making too many demands on the doctors. They said that they had tried to make it very clear that it was not an inclusive medical service. This is a one-year agreement, but if you want to break it, you must give notice right now, because the agreement will continue for three months. There may have been certain points that I missed out. Following that the resolution was moved and passed by the Executive."

Doctor E. F. Ross: "Regarding mileage, that it would begin two miles from the doctor's office, naturally that was not made clear in the agreement."

Doctor R. O. Jones asked to have the resolution read again, which was done by Doctor Grant.

Doctor H. A. Fraser thought that the Society should go on record as approving one dollar per pensioner per month, and nothing less.

Doctor J. F. Hogg stated that lack of information had been a mistake, and had sent the whole scheme off to a very bad footing. There were doctors who refused to honor the cards at all, and some threw them away. They have no idea what benefits are going to them. Another point was that certain doctors have certain equipment in their offices, such as X-ray, and so on, and asked if this scheme would pay for any of these things as administered by the doctor.

Doctor E. F. Ross: "The agreement is that we will provide only ordinary medical care in the home or in the office."

Doctor H. G. Grant read from the agreement as follows: "Medical Services' includes medical advice and attention in the residence of a recipient or in the office of a member of the Society together with the drugs and dressings ordinarily used by a doctor in making a call or attending a patient in his office but does not include:

- (1) surgery other than minor procedures
- (11) medical aids, appliances or supplies."



Doctor N. H. Gosse stated that medical attention meant such as is ordinarily given in an office.

Doctor D. F. Macdonald stated ordinary medical care meant blood counts.

Doctor E. F. Ross: "I feel that the scheme did not state the use of special antibiotics and things of that nature. We should attempt to clarify it."

Doctor J. P. McGrath advised that there was the question of refraction, that in an opticians office refraction is an ordinary office procedure. He stated that at the House of Delegates meeting the evening before figures for payment had been broken down and perhaps Doctor Gosse could give the figures. Doctor Gosse replied that \$4,000 has been for ordinary medical care and \$16,000 for mileage.

Doctor H. G. Grant then read the summary of the Provincial Welfare Account as published in the Executive minutes.

Doctor N. H. Gosse: "A very significant fact has been recognized. In June \$3,000 went for office calls, \$5,000 for home calls, and out of \$20,215 available for that month, \$16,315 was for mileage and \$8,900 for home and office calls, out of \$20,000.

Doctor A. D. Kelly stated that the mileage picture is becoming more and more important, and that mileage could not be taxed. In Ontario they pay twenty-five cents per mile during the six summer months, and fifty cents per mile in the six winter months.

Doctor F. L. Whitehead advised that in British Columbia no mileage was paid within the city area, and where mileage was paid it was done on the basis of five miles from the nearest doctor's office.

Doctor J. W. Reid: "We all know that this scheme is not good, is not giving service to the aged and sick, and not giving adequate remuneration to our doctors. I made a motion this morning in which I moved that we terminate this agreement. We all know that old age pensioners are very close to us. I think our safest plan is to drop the whole thing, to terminate our present agreement and open negotiations with the Provincial Government. I would like to move that this Society terminate its agreement with the Provincial Government whereby it provides medical care in the welfare group and that we offer to enroll the welfare group in Maritime Medical Care under the premiums and terms of the Maritime Medical Care contract. Mr. Farquhar said they arrived at the figure of seventy-five cents after having studied the Ontario system which now is eighty-three cents, including drugs."

Doctor A. G. McLeod seconded the motion.

Doctor H. J. Devereux: "I cannot agree with Doctor Reid that it should be dropped. As for the people who are concerned we have started giving them medical care and we are getting paid. We as a profession should consider that we approve of the principle. It is more important that we should outline the service that we should give."

Doctor Eric W. Macdonald: "It would be very bad policy on the part of this Society to terminate this agreement. We have entered into an agreement as honorable men for a year with the understanding of giving notice three months before the termination of the contract, if the Government recognized that we had rendered service at a loss. Down through the years we have prided ourselves that we were a charitable profession. Now since this contract has been signed all these people have money to pay their way.



You are inconsistent. There is no doubt about it, we are being paid adequately. You can see that if the mileage is pro rated and the accounts are pro rated, certainly the man that has the mileage is going to get the larger share of the funds. Twentny-five or fifty cents is very inadequate. You might make it sixty. We are endeavouring by our Maritime Medical Care and by our Canadian Medical Association and Trans-Canada Health to ward off health insurance, to win the good graces of Government, and we have the support of the Government by accepting poorer pay, and to show them that we are capable of looking after the welfare of the Canadian People. If we want voluntary schemes to go into effect in place of state medicine we must be prepared to go along with the Government of Canada."

Doctor A. E. Blackett: "I would like to go on record as speaking for the men in Pictou, that we would not be in favor of terminating this contract. We have to think of the devastating effect on the public. For that reason I would not be in favor of terminating it."

Doctor J. J. Carroll: "There is no question that they abuse the privilege of calling country doctors. I think they should get a letter from the Department saying that it is not their privilege to call doctors thirty or forty miles."

Doctor W. W. Bennett: "Do the old age pensioners pay for part of the mileage? Would it be possible for the old age pensioners to contribute towards the mileage?"

Doctor P. E. Belliveau: "One dollar a mile is probably high. I do not see that twenty-five cents will do in this country. As far as charging the patient, I do not think that it would be very practical, as the patient does not pay."

Doctor Eric W. Macdonald: "I just said those figures as perhaps they would conserve our funds and make things more reasonable. I do not do country practice. I mentioned sixty cents in the winter and forty cents in the summer. If we had a committee of three of rural practitioners in different parts of the Province they might at least arrive at a figure."

Doctor F. J. Hogg asked if there were any possibility of limiting the mileage. If we could limit the distance of the call that it would still pay the patient to come to the doctor's office.

Doctor C. H. Reardon: "I think some of them have the wrong idea. The patients do not think the doctors are giving them free medical care, but that it is the Government."

Doctor S. Marcus: "Could the Government be induced to provide a transportation fund to get these people to the doctor? The Compensation Board recognizes cost of transportation and does pay some of the patients coming to our offices. Mileage is a headache to us, and I think if funds were provided some other transportation locally would bring them to our offices. The number of people who are coming to our offices is increasing."

Doctor N. H. Gosse: "We have to be a little careful on the question of charging the patient. The Government has set up something and advertises the fact that we are giving something to the people. I agree with Doctor Wickwire that everybody should contribute. With respect to a fund for transportation the Government will look at what has been done over the rest of Canada. They will say if it has been done in this province why can it not be done in Nova Scotia. It becomes of utmost importance that we should



see some basis of agreement. I submit that we ought to have a committee that would go to the Government and say that we are not satisfied with it; at the same time I think we ought to be ready to accept some reduction. I would like to throw this out as a basis of mileage. We have accepted sixty cents from the Workmen's Compensation Board. We should proceed on the basis of a sixty cents mileage and see how we get on. The Government are not concerned about mileage. I suggest that as a basis for agreement that the mileage be set at sixty cents."

Doctor H. F. Sutherland: "I move that the resolution that was presented first be adopted, and that a committee be appointed to settle these matters."

Doctor W. A. Hewat: "We cannot determine Government policy and I feel that the question of mileage must be settled by us this afternoon. I would move that we accept sixty cents instead of one dollar mileage." This was seconded by Doctor N. H. Gosse.

Doctor J. W. Reid: "I think we should remember that we are still asking the Workmen's Compensation to have the mileage raised. I do not believe we will gain anything by so doing, and it will certainly handicap our efforts to get higher mileage from the Workmen's Compensation Board. I do not think that we can allow ourselves to be made suckers by a Government. Instead of reducing the mileage just make an agreement to pro rate the mileage to sixty cents before the bills are pro rated at all."

Doctor H. F. Sutherland: "The suggestion was made yesterday that they pay the full shot for the call and then pro rate the mileage."

Doctor H. J. Devereux: "I would like to make an amendment to Doctor Reid's motion that this entire question of old age pensions, including mileage and including the interpretation of medical care be submitted to a committee named by the chairman, and that the decisions of that committee would be binding."

This was seconded and carried.

Doctor E. F. Ross advised that it was necessary for the Society to endorse or otherwise the resolution which had followed yesterday's debate on this subject, which resolution was again read by Doctor Grant: "That this Executive go on record as approving the principle of the welfare group, and insist that an effort be made to have the pro rate tax raised to an adequate standard on the basis of our past year's experience."

Doctor J. R. Macneil moved that this resolution be endorsed which was seconded by Doctor H. R. Corbett. Carried.

Doctor Eric W. Macdonald moved that the matter of negotiations with the Government be left with the incoming Economics Committee. This was seconded by Doctor J. R. Macneil.

Doctor A. E. Blackett: "The same men should be on this committee which would approach the Government again, a continuation of personnel."

Doctor Eric W. Macdonald: "We have an Economics Committee, I think that this is part of their field. I would move that further negotiations to improve matters be given to our Economics Committee." This was seconded by Doctor R. O. Jones.

The report of the Special Committee re a full time secretary, as published in the Executive minutes, was read by Doctor C. B. Stewart.

Doctor R. O. Jones: "His estimate is a little low. In my experience ex-



penses go up a little bit all the time. I think that ten or fifteen dollars would be skating on pretty thin ice."

Doctor H. G. Grant: "Did the Committee consider the whole four Provinces?"

Doctor C. B. Stewart: "In the initial report, yes."

Doctor E. F. Ross: "I may say that we had information yesterday from Doctor Margaret Gosse that Prince Edward Island have finished their meetings, and have agreed to join with New Brunswick in the joining of their secretary."

Doctor H. G. Grant: "I do not think that Newfoundland should be excluded. Two good men could easily handle the four provinces, and it may not be the time to consider that, but I think it should be borne in mind."

Doctor H. R. Corbett: "Would it be possible to send out a questionnaire?"

Doctor J. R. Maeneil: "What would be the members reaction to making it compulsory?"

Doctor C. B. Stewart: "I think that arrangement is used only in those provinces which has an annual licensing fee, and the fee for the Provincial Medical Society and their Board is collected in one sum. The Provincial Medical Board would have to change their legislation, and they would have to have an agreement to collect that fee along with ours. The initial proposal was that the four provinces should get together and have one executive secretary. But it was felt that it would be too big a job for one man, and it was felt that there was a need for a full time person. One full time secretary for medical organizations in this province alone, rather than to combine with the other three provinces. The major hold-up will be in getting the money, particularly when it cannot be made compulsory. In the Province of Manitoba they have a graduated scale of fees, internes or recent graduates are not expected to pay as much as those on salaries; that affects fifty-nine men in this province, as they are not allowed to take it from their income tax. \$25.00 for salaried persons and \$35.00 for practitioners."

Doctor C. H. Reardon: "I think that if it were explained to every practitioner in the province that the question of having a full time secretary to keep an eye on things for them that you would not have any trouble. I think that a fee of \$50.00 is not unreasonable. I think it is important that we get a full time secretary and that we get a good man."

Doctor H. W. Kirkpatrick: "Have we any near record of the number of practising physicians in the province of Nova Scotia who would not pay that fee?"

Doctor C. B. Stewart: "There are 490 physicians in the province."

Doctor E. F. Ross: "Doctor Whitehead is from New Brunswick. Would you care to make any comments at all?"

Doctor F. L. Whitehead: "I have no prepared brief on this matter as far as Nova Scotia is concerned. There is no doubt whatsoever in my mind that it would be a good thing and neither Doctor Kelly nor myself have any doubt that the job is worth doing. I have had the opportunity of trying it. Whether one man could take on these four provinces I do not know. I do not think one man is physically capable of doing all the travelling which would have to be done, nor would it be possible to do all the travelling in New Brunswick and Nova Scotia. First determine if you want a permanent man, then how much it will cost you, and how you are going to get the man. I do not



think that one man could do the whole thing. I am wondering if Nova Scotia should not look forward to a full time man in your own province. I think there is probably plenty of work for one. I do not think you are just ready to take the final step. We must not leave Newfoundland out of this. Prince Edward Island area will be admitted in the very near future. One man devoting his full time to New Brunswick and Prince Edward Island, and one man to Nova Scotia should be able to help Newfoundland. It may take another six months or a year to get this thing under way. If you wanted me I might be able to help you. I think the meetings in New Brunswick and in Prince Edward Island have shown greater co-ordination between the provinces. All of this sickness survey information should have been in the hands of all doctors in Nova Scotia a month ago. I would like you to know that the New Brunswick Executive is very anxious to see more co-operation."

Doctor A. D. Kelly: "I have had the advantage of attending a previous executive meeting of this Division, and hearing Doctor Stewart's previous report. Would your interests be not effectively served if you had the full time of a doctor working on your behalf? I agree with Doctor Whitehead that he cannot separate himself to do a job throughout the whole Province of New Brunswick and Nova Scotia. I believe I can assume the final obligation of Prince Edward Island, and I know that within a month hence they are going to come in. Your Nova Scotia Society is going to require a man. I believe that it should be possible to discover a man, a man young enough to grow up in this job, and that to promote Maritime unity between the adjoining provinces it would be wise I think to get someone with some experience, the benefit of some training. The next thing is how best can you finance it. In New Brunswick they voted a very substantial increase in fees. If you did likewise and the effect on your voluntary membership could be not noticed in a year or two I would be very very much surprised. So I am glad of the opportunity of saying something. I believe this Division would be wise in securing the appointment of a full time secretary."

Doctor E. F. Ross: "This report was approved by the Executive without comment."

Doctor N. H. Gosse: "I think over the last two days we have seen a good bit of evidence among our own people of the fact that we are not as closely knit as we might be, more particularly on the disbursement of information throughout the province. The need for that in this province is very manifest. I was over in New Brunswick the week before last, and quite a number of things there impressed me most favorably and invariably I was told this is the work of our full time secretary. A year ago it was not this way. We might get someone who will give us a good deal of time."

Doctor H. F. Sutherland: "I would suggest that the information we have at hand be circularized to the Society as a whole, and further action be deferred until the December meeting of the Executive. I would like a motion that we circularize every paid up member of the Canadian Medical Association, make some kind of a form, some way that the individual member could indicate their wishes, and put it off until the December meeting of the executive."

Doctor A. E. Blackett: "I would be pleased to change that, that it be sent out to each Branch Society."

Doctor H. F. Sutherland: "I would be pleased to change it."



Doctor E. F. Ross asked that they advise the secretary exactly what they wanted in the questionnaire.

Doctor A. E. Blackett asked if they could find out how much the annual fee would be.

Doctor Samuel Marcus: "Each Branch Society could determine that in a very few days. Each Secretary of the Branch Societies could undertake that."

Doctor R. O. Jones: "Could the Executive be empowered to go ahead with this and take advantage of Doctor Whitehead's offer to co-operate with him?"

Doctor H. F. Sutherland moved that the Executive be empowered to begin negotiations with Doctor Whitehead to explore further the possibilities.

Doctor H. W. Kirkparick thought that there was an important thing confronting the Society and that was how many of the profession of the province would be behind this scheme, that the pros and cons of the scheme would have to be made very clear to them. He did not think the executive could raise the fees unless they had some idea of just what the profession thought as a whole.

Motion carried.

Doctor E. F. Ross: "Would you leave it to the present executive to arrange the type of letter that is to be sent out? By that I mean the President, Secretary and the Treasurer, perhaps in consultation with the committee you would like us to go ahead and work out this questionnaire." Agreed.

Doctor R. Q. Jones moved that the Provincial Medical Board report and the Treasurer's report, both of which are published in the Executive minutes, be not read, but be printed in the Bulletin.

The report of the Editorial Board Committee, also published in the Executive minutes, was briefed by Doctor M. E. B. Gosse.

Doctor A. D. Kelly stated that other Divisions looked with a great deal of envy at the Nova Scotia Medical Bulletin. He thought it would be a good idea if the Editorial Board would negotiate with the other Divisions asking if they would donate articles for the Bulletin, or some material other than scientific.

Doctor R. O. Jones stated it would help financially. He moved that the Editorial Board be given power to negotiate with the other Maritime Division, namely New Brunswick, Prince Edward Island and Newfoundland.

This motion was seconded.

Doctor Eric W. Macdonald: "Would it not mean that the name of the Bulletin would of necessity have to be changed? Or is it still going to be Nova Scotia?"

The answer was that if it were going to be supported by the other Provinces it would eventually mean a change in name.

Motion carried.

The reports of the Cancer Committee, the Public Health Committee, Historical Committee, Medical Museum Committee, and Cogswell Library Committee, all published in the Executive minutes, were not read, as there was nothing controversial in any of them.

The report of the Workmen's Compensation Board Committee, which was not received in time for the Executive meeting was read by Doctor H. G. Grant.



Halifax, N. S., September 6, 1950

Dr. H. G. Grant  
Secretary  
Medical Society of Nova Scotia  
Halifax, N. S.

Dear Dr. Grant

The Workmen's Compensation Board Committee, of which I am Chairman, have not had an occasion for a meeting during the past year. We have contacted the different members of the Committee during recent weeks, and although all of them have not been heard from, no problems have arisen or points for discussion suggested for our fall meeting.

As there is nothing further to report, the Workmen's Compensation Board Committee have concluded their duties. All of which is respectfully submitted.

Yours sincerely

(Sgd.) W. K. House

Doctor R. O. Jones gave a brief report of the Provincial Medical Board report, which is published in the Executive minutes. The Government felt that Nova Scotia was fairly adequately supplied with doctors and that there was no special need for reciprocity.

Doctor J. S. Robertson said that this matter had been taken up at an open hearing of the Government, and that the Medical Board representatives arrived an hour late, and the matter was opened again on their arrival. "I was asked how many doctors did I feel that Nova Scotia could use and I hazarded a guess, about twelve. Doctor A. B. Campbell and Doctor H. L. Scammell were also asked the same questions and they said about twelve. It was taken as a slight on the British Empire that certain members were to be excluded from Canada."

Doctor H. G. Grant stated that it was thought that this legislation had been inspired by the medical profession, as it came about shortly after the New Waterford racket. In the past four or five years ten or twelve doctors had come to Nova Scotia.

Doctor R. O. Jones stated that the Provincial Medical Board was in no way responsible to this Association. The Government representatives on the Board number The Medical Society representatives.

Doctor J. S. Robertson stated that apparently there was some feeling amongst the members in connection with this, that it had been discussed thoroughly amongst the New Waterford group.

Doctor N. H. Gosse stated that the Society had a Committee on Public Relations. He thought that there was enough information to show that it had been known beforehand that the thing would fail.

It was agreed that the report be accepted.

The Treasurer's Report was accepted, as published in the Executive minutes.

Doctor H. G. Grant then read the list of obituaries, when one minute of silence was observed.

The Report of the Cancer Committee, as published in the Executive Minutes, was not read. Doctor S. R. Johnston stated it represented an attempt on the part of the Cancer Committee to do something.

It was moved by Doctor R. O. Jones and seconded by Doctor A. E. Blackett that the usual salary to the Secretary be paid. Carried.



Doctor A. E. Blackett stated that following the reading of the correspondence regarding the change of name of The Medical Society he advised that the present letter head carried both names, and that if we merely reverse these two names for sentimental reasons we still have the same name, The Medical Society of Nova Scotia.

It was moved and seconded by Doctor R. O. Jones that the names on the Society's letter heads be reversed to read Canadian Medical Association, Nova Scotia Division, The Medical Society of Nova Scotia. Carried.

Doctor E. F. Ross stated that the matter of public relations was certainly deserving of some consideration. Following a letter from Doctor A. D. Kelly he had appointed a Committee of Public Relations with Doctor A. Ernest Doull as chairman, and he appointed his own committee. One of their duties was to supply speakers who would go out and speak on general subjects and attempt to inform the public.

Doctor A. D. Kelly: "It is unnecessary for me to elaborate on improving public relations. So far, the past couple of years, the Canadian Medical Association has been giving a good deal of thought for improving public relations for the profession. Improvements for improving relationships between the profession and the community in which he lives. So the first line of defence is to attack it through his own practice. On the other phase of public relations the National Committee on Public Relations is fairly active. It devised a film script describing medicine as a career, designed to assist that section of the public who is attending high schools, and in addition to that function we have endeavoured to incorporate in the pictures certain of the ideals which we think important for the public to understand. We have engaged the services of a public relations man, trained in public relations as they affect our profession. Doctor Ross has referred to our most recent activity, a roster of speakers. We are preparing material in the form of talks. We must have the names of speakers who are available, so we have asked the secretary of each division to choose the names of those able to present a talk as interesting as possible. It we value the good opinion of the public we feel that much more effort can be made to cultivate their good opinion. So I would urge you to co-operate with us in this latest roster of public speakers. More particularly to study the National Health Services Act because public interest in that Act is very wide spread. It is very important that we have your approval in the steps we have taken so far and I hope that we will be able to do more about it."

Doctor E. F. Ross: "Should it be an annually appointed committee, a standing committee of this Society?"

Doctor G. H. Grant: "I would move that we leave it to the incoming President to appoint a committee on public relations."

This was seconded by Doctor J. R. MacLean. Carried.

Doctor E. F. Ross stated that the representative and alternate on the Executive of the Canadian Medical Association were ratified by the Executive last evening, namely Doctor A. E. Blackett and Doctor H. A. Fraser. Also the representatives on the Nominating Committee, Doctor G. R. Forbes and Doctor D. F. Macdonald. He also read the names of the General Council who had been nominated, and the list of delegates to the House of Delegates of Maritime Medical Care Incorporated.



The Committee to discuss the question of mileage are as follows: Doctor P. E. Belliveau, Doctor J. C. Wiekwire and Doctor M. J. Macaulay.

The Committee to study the question of income limits in Maritime Medical Care Incorporated, and report back to the Executive are Doctor G. B. Wiswell, Doctor C. H. Reardon, Doctor J. J. Carroll and Doctor H. J. Devereux.

It was agreed that nominations for senior membership in the Canadian Medical Association would be in the hands of the Secretary for the semi-annual executive meeting.

Doctor A. G. MacLeod moved that the General Practitioner Section be received as a section in The Medical Society of Nova Scotia.

This was seconded by Doctor W. A. Hewat. Carried.

Doctor E. I. Glenister: "My understanding was that it had to be submitted to the Executive and then in turn submitted to the general meeting."

Doctor H. G. Grant quoted from the By-Laws—"Any medical society at present existing in the Province of Nova Scotia or any society which may, in the future, be organized in the Province, may upon application become a branch of The Medical Society of Nova Scotia."

Doctor E. F. Ross stated he would welcome the section on behalf of the Society.

Doctor C. H. Reardon stated that the Ontario Medical Association in lieu of the general practitioners charging a separate fee had donated \$3,000 to its section when it started. The Canadian Medical Association last year gave them \$1,000. The General Practitioners Section had had a meeting last night and he moved that The Medical Society of Nova Scotia make a grant of \$500 to the General Practitioners Association to enable them to complete their organization. This was seconded by Doctor J. R. MacLean. The motion, after some discussion, was changed to read that a sum up to \$500 would be placed at the disposal of the General Practitioners Section. Carried.

The report of the Nominating Committee was next given by Doctor W. A. Hewat.

President—Doctor J. J. Carroll, Antigonish.

First Vice-President—Doctor L. M. Morton, Yarmouth

Second Vice-President—Doctor J. W. Reid, Halifax.

Treasurer—Doctor R. O. Jones, Halifax.

Secretary—Doctor H. G. Grant, Halifax.

Legislative Committee—Doctors C. L. MacMillan, W. J. MacDonald and A. R. Morton.

Cancer Committee—Doctors S. R. Johnston, V. O. Mader and H. R. Corbett.

Public Health Committee—Doctor J. S. Robertson and the Executive of the Nova Scotia Medical Health Officers' Association.

Historical Committee—Doctors P. E. Belliveau, J. E. LeBlanc, and J. A. Webster.

Workmen's Compensation Board Committee—Doctors H. D. O'Brien, J. R. Macneil, H. F. MacKay and H. A. Fraser.

Editorial Board Committee—Doctors Margaret E. B. Gosse and C. B. Stewart.

Medical Museum Committee—Doctors J. W. Abbiss, and the Secretaries of the Branch Societies.



Cogswell Library Committee—Doctors D. J. Toning, R. M. MacDonald and R. L. Aikens.

Medical Economics Committee—Doctors H. J. Devereux, M. J. Macaulay, H. F. Sutherland, J. C. Wickwire and E. F. Ross.

Pharmaceutical Committee—Doctors A. L. Cunnigham, P. R. Little and T. A. Kirkpatrick.

Divisional Representative, Editorial Board of Canadian Medical Association—Doctor A. L. Murphy.

Industrial Medicine Committee—Doctors C. B. Stewart, A. W. Ormiston and R. C. Zinek.

Doctor W. A. Hewat moved the adoption of this report which was seconded by Doctor A. E. Blackett. Carried.

Doctor E. F. Ross: "With that the insignia of office goes to Doctor J. J. Carroll of Antigonish. I expect two or three comments might be in order. It certainly has been an interesting year for me and I have learned a great deal of the many branches of the profession that I did not know existed. First of all it is gratifying to know that the membership has reached an all time high. Secondly, the Maritime Medical Care Incorporated is now a going concern and should be supported by all members of the profession. I am certainly pleased that the old age pension scheme has not been discontinued; many things can be done to improve it. The high light was the annual meeting of the Canadian Medical Association in Halifax and we are gratified that it went off so well. I am particularly pleased and feel that we should try to increase its membership and make it of wider scope. I certainly feel that we should try to have as a goal something of the New England plan of medicine. I do not believe there is anything of any great importance to add except to thank you for your support during the year, for your forbearance, and that you give Doctor Carroll an equal amount. I would like to turn the chair over to Doctor Carroll."

Doctor J. J. Carroll: "My troubles start now."

Doctor A. E. Blackett: "I would like to express the appreciation of this Society to our recently retired President, and to let him know that his efforts throughout the year have been appreciated, and we would like to thank him.

There being no further business Doctor N. H. Gosse moved that the meeting adjourn at 6.40 p.m.

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### PHYSICIAN REQUIRED

The Algoma Steel Corporation Limited of Sault Ste. Marie, Ontario, are advertising for a physician, no special training required. Further particulars may be had by writing to H. G. Grant, M.D., Faculty of Medicine, Dalhousie University, Halifax, N. S.

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### PHYSICIAN NEEDED

The community of Lower Wood Harbour, which is situated on highway No. 3 in Shelburne County, between Barrington and Yarmouth, are in need of a doctor. The population within a radius of eight miles is approximately eighteen hundred. Further information may be obtained from the Secretary.



# The Diagnosis and Treatment of the Anaemias In General Practice\*

JOHN W. SCOTT\*\*

OF all the many complex substances which make up the mammalian body, haemoglobin ranks highest. Without it human life, as we know it to-day, would be impossible. Anaemia, defined in simple terms, is a condition in which there is a deficiency of haemoglobin.

Our interest in the anaemias was greatly stimulated just twenty-five years ago when Whipple demonstrated in carefully controlled experiments in bled dogs the blood building value of such substances as iron and liver. A year later Minot and Murphy, by feeding liver to patients with pernicious anaemia, made a monumental contribution in the field of haematology.

Within the last twenty-five years our knowledge of blood formation and blood destruction in health and disease has made tremendous strides. We have come to think of the haematopoietic system as a complex inter-related group of organs, including bone-marrow, lymph nodes, liver, spleen, stomach and reticulo-endothelial system. We no longer are content to accept a stained blood smear as evidence of the change going on in the anaemias or leukaemias. We learn from vital stains, from marrow and liver punctures, and from biochemical tests facts that help us to form a dynamic concept of what is going on in blood disorders.

Of the many disorders of the blood forming organs, so called blood diseases, the anemias are by far the most common in the field of general medicine. Many surveys of the general population indicate that anaemia is more common than one realizes. Moreover it often occurs in the absence of any symptoms. A study of haemoglobin levels in hospital patients has shown that ten per cent or more show haemoglobin levels below ten grams per one hundred c.c. of blood and may be considered in the anaemia group.

One may ask on what haematological criteria do we decide that a patient has anamia. In general terms one can say that the normal range of haemoglobin in adults of either sex is from twelve to sixteen grams with an average of 14.5 grams, and that the normal red cell count ranges from four to six millions with an average of five million. As is well known, the figures are somewhat higher in males than females.

I believe it should be emphasized that a haemoglobin determination offers less likelihood of experimental error than a red blood count and is of more value to the general practitioner. I believe that in office practice the acid haematin method of haemoglobin determination, using a standardized apparatus, is more practical than the photo-electric colorimeter. There are certainly fewer things to go wrong. Such a haemoglobin determination and a brief examination of a stained blood smear should be a part of every complete examination. If the haemoglobin level is below twelve grams, then further examination of the blood including a red and white blood count and differential is advisable in most cases.

\* Presented at the Dalhousie Refresher Course, Halifax, N. S., October 20, 1950.

\*\* Dean of the Faculty of Medicine and Professor of Medicine, University of Alberta, Edmonton, Alberta.



Having decided that the patient has anaemia—what then? One need hardly say that one should not rest there and accept “anaemia” as a diagnosis any more than one would accept “dyspnoea”, “diarrhoea” or “jaundice” as a diagnosis. An attempt should be made to classify the anaemia as to its type and possibly its cause. This is necessary before any measure of intelligent treatment can be instituted. The practice of saying—“Well, this is anaemia. It may be due to iron deficiency or deficiency of the liver principle. Let us take no chances and use both liver and iron,” is to be deprecated. Such a program leads to confusion and often makes accurate diagnosis difficult at a later stage.

How do we classify the anaemias? As in all classifications simplicity should be aimed at and an attempt made at an aetiological grouping. Before attempting to present any such classification, may I remind you of a few basic facts in blood formation.

In the adult the red blood cells are formed in the capillary sinusoids of the bone marrow of the flat bones and the proximal ends of the long bones. These sites where blood flow is slowed down offer ideal breeding places for new cells.

Haemoglobin, which is the essential constituent of the red blood cell, is made of multiple building stones, the most important of which are protein, iron and the haemopoietic liver factor. The matured red blood cells leave the bone marrow to enter the general circulation. Here they live a busy life of about four months, or 120 days, during which they make many million trips to and from the lungs acting as carriers of carbon dioxide and oxygen. During this short but useful life they are threshed about in and out of the capillaries, finally being broken up with the liberation of haemoglobin and its conversion to bilirubin by the reticulo-endothelial system. Most of the liberated iron is re-utilized by the marrow for the re-building of new haemoglobin. There is a daily loss, however, of 12-16 mgs. which must be replaced. The protein globin is an essential part of the haemoglobin molecule. To provide this building stone there must be available an adequate quantity of animal protein in the diet.

The third essential building stone in the haemoglobin structure is the erythrocyte-maturing factor of liver which Castle in 1931 demonstrated is due to the inter-action of an extrinsic factor in the food and an intrinsic factor in the stomach. The latter is absent or diminished in pernicious anaemia. The introduction of Viatmin B12 within the past few years has led to some modification of Castle's theory. We know that as little as one thousandth of a milligram per day of this fascinating substance is sufficient to maintain normal haemoglobin synthesis in the patient with pernicious anaemia.

To recapitulate then, iron, protein and the liver factor are of paramount importance in haemoglobin formation and most of the anaemias we see in general practice are due to some abnormality related to them.

To arrive at the cause of anaemias in a patient, one should ask oneself at the outset two questions:

- (1) Is there abnormal removal of red blood cells from the circulation?
- (2) Is there impairment of red blood cell formation?



## Increased Removal of Red Blood Cells

There are two disease processes in which red blood cells are abnormally removed from the circulation:

- (a) Haemorrhage
  - (1) Acute
  - (2) Chronic
  - (3) Recurrent
- (b) Haemolysis
  - (1) Haemolytic icterus
  - (2) Septicaemia
  - (3) Incompatible transfusions
  - (4) Chemical agents.

Haemorrhage is the most common cause of removal of red blood cells from the circulation. It may be acute, chronic or recurrent. In the male such blood loss is most common from disease in the gastro-intestinal tract. In females one should think of the genital tract. One thinks of peptic ulcer, gastric and intestinal polyps, oesophageal varices, erosion or congestion at the site of a hiatus oesophageal hernia, gastric cancer, large bowel cancer, particularly in the proximal region, and the lowly haemorrhoid.

In the female the degree of blood loss with the menstrual periods may be an overlooked cause of anaemia. Bleeding from uterine fibroids and the abnormal bleeding at the menopause are also frequent causes of anaemia.

Haemolysis as a cause of anaemia is much less common in medical practice. Haemolytic icterus or acholuric jaundice presents with a familiar picture of recurrent attacks of jaundice, sometimes a family history, splenomegaly, spherocytosis, reticulocytosis and increased red cell fragility. It may mask as pernicious anaemia in the older patient. Its recognition is important in that splenectomy offers a cure. Septicaemia is now less commonly seen as a cause of blood destruction. Incompatible blood transfusion reactions are readily recognized. The chemical agents assume importance in industrial practice. Phenols, benzol, lead toluol and arsenic compounds may produce anaemia from blood breakdown.

## 2. Impairment of Blood Formation:

What disease states lead to impaired blood formation? Here we think of the bone marrow and the multiple body disorders which may affect its function. Let us recall the essential elements for haemoglobin synthesis—iron, protein and the liver factor. The iron deficiency anaemias and the macrocytic anaemias constitute well defined groups. Protein intake may be deficient and may be a contributing factor in both groups.

- (a) *The Iron Deficiency Anaemias*
  - (1) Hypochromic anaemia of Pregnancy
  - (2) Idiopathic hypochromic anaemia
  - (3) Hypochromic anaemia of Infancy
  - (4) Chlorosis



It is well recognized that the so called physiological anaemia of pregnancy with increased plasma volume does in many cases merge with a true iron deficiency anaemia of the hypochromic type. The demands for iron on the part of the growing foetus deplete the maternal supply. It has been estimated that the mature foetus contains 300 to 400 mgs. of iron. This represents the iron content of 600 to 700 c.c. of blood. The anaemia of pregnancy is most manifest, as one would expect, in the third trimester. It is now a recognized practice to give 15 grains of ferrous sulphate to all women during the latter half of pregnancy.

Idiopathic hypochromic anaemia occurs in the forties and fifties. It is most common in women and is often accompanied by gastric anacidity. Some doubt its existence as a distinct entity claiming blood loss is usually present. In any event it responds to iron. Doses of five to ten grains of ferrous sulphate three times a day over long periods improve the blood picture and the symptoms of weakness, anorexia, tingling of the feet and occasionally sore tongue. The condition must not be confused with pernicious anaemia. It does not respond to liver.

The hypochromic anaemia of infants said to be due to prolonged milk feeding, is now less common due to the modern generous diet of infants. It responds readily to iron.

Chlorosis has all but disappeared from the haematological map, and needs no comment.

(b) *The Macrocytic Anemias*

- (1) Pernicious Anaemia
- (2) Sprue
- (3) Pregnancy Pernicious Anaemia
- (4) Gastro-intestinal lesions

Pernicious anaemia rarely presents problems in diagnosis. Addison's original description of a hundred years ago in which he described the insidious onset, the progressive weakness, the anorexia and the pallor is still a clinical classic. The majority of patients present with generalized weakness, some with gastro-intestinal symptoms in the foreground, some with neurological symptoms and a minority with cardio-vascular complaints such as chest pain, dyspnoea and swollen feet.

Over the years one can recall diagnostic problems in distinguishing pernicious anaemia from carcinoma of the stomach and proximal colon, idiopathic hypochromic anaemia, aplastic anaemia, haemolytic icterus and, strange as it may seem, from subacute bacterial endocarditis.

The laboratory offers us valuable assistance in diagnosis with the demonstration of gastric anacidity, increased blood bilirubin, a megaloblastic picture on marrow puncture, and a macrocytic hyperchromic anaemia.

May I again re-emphasize the importance of an accurate diagnosis before instituting shot-gun therapy. I have nothing new to tell you by way of treatment. Parenteral liver and Vitamin B12 brings about dramatic improvement. Folic acid has no place in the treatment of pernicious anaemia. Iron may be used following the institution of liver therapy to correct the hypochromic picture which occasionally develops.

Non tropical sprue is more common than we realize. The patient presents with chronic diarrhoea, a failure to absorb fats and a macrocytic anaemia,



presumably due to faulty absorption of the liver factor. The anaemia responds to liver injections or injections of Vitamin B12 as does pernicious anaemia.

Pernicious anaemia of pregnancy is as rare as hypochromic anaemia of pregnancy is common. The patient may be extremely anaemic and extremely ill. She responds to liver therapy and carries on to term. The anaemia disappears after delivery without further medication. Some respond to folic acid but not to liver.

Gastro intestinal lesions such as total or sub-total gastric resection or resection of the small bowel do not give rise to macrocytic anaemia as frequently as one would expect from Castle's theory. When it occurs it responds readily to liver therapy.

Having excluded the deficiencies as a cause of anaemia from impairment of blood formation, what is left? There is still a host of conditions all of which might be grouped under depression, displacement and destruction of the bone marrow.

(c) *Depression of Blood Formation*

- (1) Chronic infection
- (2) Malignant Disease
- (3) Bright's Disease

Chronic infection is one of the more common forms of anaemia presumably due to a depressant action of the bacterial toxins on the bone marrow. In practice we see it in rheumatoid arthritis, rheumatic fever, chronic ulcerative colitis, and sub-acute bacterial endocarditis. Iron and liver are of little or no value in the treatment of the anemia of chronic infection.

In Malignant disease there may be many factors contributing to the anaemia besides marrow depression. Blood loss, deficient protein or iron intake or absorption or metastases to the bone marrow may each contribute to the anaemia. Anaemia may constitute the presenting feature in malignancy.

We are all familiar with the hypochromic anaemia which is seen in nephritis and pyelonephritis. Blood transfusions give temporary help here, iron and liver little or none.

(d) *Displacement of the Bone Marrow*

- (1) Leukemia
- (2) Myeloma
- (3) Metastases

In all the leukaemias, acute or chronic, anaemia is common due to a crowding out of erythroblastic activity in the marrow. There may be temporary improvement following X-ray therapy in the chronic leukaemias. Liver and iron are of no value. Repeated blood transfusions may make the patient comfortable. One is impressed by how much compatible blood one can pour into a patient with chronic leukaemia without any appreciable improvement in the blood picture. It is possible there is a haemolytic factor at work, particularly in those with splenomegaly. Cortisone and A.C.T.H. have been disappointing in their effects in chronic forms of leukaemia.

Myeloma is often missed. The only presenting features may be weakness and anaemia. In one such case recently studied on our service, the diagnosis of multiple myeloma was made by the finding of plasma cells on marrow puncture.



Bone Marrow Metastases as a cause of anaemia occur as a part of a terminal picture of carcinoma and the lymphoblastoma group. Its chief significance is that it indicates an advanced state of the disease.

(e) *Destruction of Bone Marrow (The Aplastic Anaemias)*

- (1) Chemicals—arsenic, gold and benzol
- (2) Irradiation by radio-active materials
- (3) Idiopathic aplastic anaemia.

Destruction of the Bone Marrow as a cause of anaemia is rarely seen. In industrial medicine, arsenic and benzol have to be thought of. Gold therapy as used in rheumatoid arthritis may produce an aplastic anaemia. In this atomic age we should be alerted to the effect of radio-active substances in producing aplastic anaemia. The blood picture is one in which all the formed elements, red cells, white cells and platelets are decreased in numbers. The idiopathic form is now rarely diagnosed as many such diagnoses were proved to be erroneous and on further examination turned out to be aleukaemic leukaemias. Repeated transfusions offer the only helpful therapeutic agent.

This brief review of the anaemias will serve merely to highlight some of the more important characteristics of this common and interesting condition.



# Interesting Experiences With Chorionic Gonadatropin in Migraine

ROBERT F. ROSS, M. D., Truro, N. S.

**T**HIS substance, which is obtained from the urine of pregnant women, is similiar to one of the hormones obtained from the anterior lobe of the pituitary. The endocrinology is very interesting and can be investigated in any of the standard textbooks. This article is a report of some of the results of the use of this substance clinically in some common conditions during my years of practice.

Chronic gonadatropin is available commercially as Antuitrin-S and Synapoidin (Parke, Davis) and A.P.L. (Ayerst, MacKenna and Harrison). I have used all three and have not noted any great differences in effect. In all cases, where possible, the strongest available form was used. This was the Antuitrin-S with 500 units per c.c. The usual dose given was 0-5 c.c. once a week.

The hormone, or group of similiar hormones, has been recommended for relief of sterility, amenorrhoea, hypomenorrhoea, functional uterine bleeding, and underdevelopment at adolescence. In my experience over the past seven-teen years, I have found it to be chiefly effective in the treatment of sterility and migraine headache. I have not had much success with it in treating the other things mentioned. This article will deal with my results in treating migraine headache with chronic gonadatropin.

The usual migraine headache is a periodic, paroxysmal, prostrating headache often associated with vomiting and disorders in vision. A very recent excellent text on therapy says that "there is no known way of preventing an attack" and lists the following agents which are useful in the treatment; amytal, aspirin, caffeine, codeine, ephedrin, ergotamine, atropine, glucose, histamine, neo-synephrine, nicotinic acid, phenobarbital, procaine, and vitamin B. An unusually long list of drugs, all of which we have prescribed many times, usually with a sense of frustration, and a few qualms of conscience, because they only relieve temporarily and many of them are dangerous and habit forming.

The headaches that I have found to be relieved by Antuitrin-S are almost identical with those of migraine and I believe that many migraine cases are really cases of anterior pituitary deficiency or of similiar etiology. The main characteristics of these headaches are as follows. They are:

1. Periodicity: The period between headaches is fairly constant for each person. There are some patients who have a headache every day, others every week, some every two weeks, and some at regular intervals of a month or more. They do not appear to have any definite relationship to the menstrual cycle. They very often develop on week ends.

2. Pain: The pain may be a dull ache but is more often a severe prostrating pain over the eye, or in the frontal and temporal region. Photophobia is general.

3. Vomiting: Vomiting is very common during the attack. Nausea and retching add to the distressing picture.



4. Sudden relief: Sudden spontaneous relief from the headache occurs after a day or more of prostration. This occurs whether medical treatment has been given or not. This is accompanied by a wan, but triumphant, feeling of well being.

5. Relieved by pregnancy: This type of headache can be definitely diagnosed in a woman of the child bearing period by the relief which occurs after the second month and continues until a month or two after the birth of the child.

6. Relieved by ergot: Most of these cases get relief from the use of ergot, as the fluid extract, if tolerated, or in the form of ergotamine tartrate.

7. Sex Incidence: Practically all these cases are in women patients. Of course this is true in migraine, as in my experience women outnumber men ten to one as sufferers from headache. I have had one case in a high school boy.

8. Glasses do not help: Practically all these patients have had glasses fitted without relief.

9. Many have other symptoms of anterior pituitary deficiency such as dysmenorrhoea, sterility, and profuse frequent periods.

This picture, which must be a fairly familiar one to all general practitioners, has several features which suggest a hormonal cause. Occurring in women almost exclusively, periodic, relieved by pregnancy and relieved by ergot, the picture is one of a deficiency in the hormones connected with the female genital mechanism or its governing pituitary. As we know that chronic gonadotropin is normally present in the body and is produced in enormous quantities during pregnancy the use of this substance is logical.

The following cases illustrate some of the results obtained:

1. Mrs. S. I., 45. Housewife. Mother of large family. Blood pressure, 220-120. Once every three weeks this woman was prostrated in bed for two days with a severe migraine type of headache, with nausea, vomiting, and severe nervous depression. Antuitrin was tried with the result that the headaches have practically stopped. This patient is still under treatment but finds that an occasional treatment is all that is required.

Incidentally her blood pressure has dropped to 160-100 but I do not believe that there are any grounds for attributing that to the treatment.

2. Mrs. R. N., 29. Housewife. Three healthy children. Headaches with the typical over-eyebrow pain began when she was 14. Improved during pregnancies. Tonsils, teeth, appendix and gall bladder removed without affecting attacks. A course of Antuitrin-S gave relief. Only occasional treatment required at present.

3. Mrs. F. H., 26. Housewife. Vigorous, active, volitale type. Two healthy children. Menorrhagia. Headache of dull type, especially in occipital region, for two years, which disappeared during last pregnancy, to return after the birth of her baby. Some nausea. Antuitrin-S ( $\frac{1}{2}$  c.c. weekly, gave relief.

4. Mrs. E. H. 29. Housewife. Periodic headaches, about one each month. Prostrated, nauseated and vomits. Pain over the right eye. Lasts two days with sudden relief. No children altho anxious for children. Antuitrin-S in usual dose gave some relief but not as satisfactorily as usual.



5. Mrs. W. B. 32. Housewife. Three small children. Severe headaches of six years duration, relieved during pregnancies. Headache occurred every two weeks, unrelated to menstrual period. Prostrated in bed for two days, with nausea, vomiting, photophobia and depression.

0.5. c.c. Antuitrin-S (500 units per c.c.) once a week per hypo controlled the situation. Patient could not come for treatments very regularly but headaches were much further apart and not severe. Later she left the neighborhood and got along well for several years. She had a hysterectomy for menorrhagia by her new doctor after which the headaches began to return. She came back and obtained a new supply of Antuitrin-S as "the only treatment that had ever helped her."

6. Mrs. G. F. 35. Healthy virogous type. One child ten years old. Weekly headaches which were quite a nuisance but not disabling. Antuitrin-S was given sporadically, whenever she thought that she needed it, sometimes a year or six months passing between treatments. These kept her comfortable.

7. Mrs. H. H. 45. Three healthy children. Headaches all her life, except when pregnant. Pain more toward the back of the head than over the eye. A course of twelve Antuitrin-S treatments relieved the situation.

8. Miss L. K. 16. Student. Severe headaches requiring absence from school at weekly intervals. Began between 14 and 15. Relieved by treatments.

9. Mrs. A. C. 28. Housewife. Married several years, no children. Never menstruated after her mother's sudden death when she was sixteen. Severe prostrating, migraine, with vomiting, nausea, and photophobia occurred every two weeks, beginning when she was about eighteen years old. She had had appendectomy, tonsillectomy and teeth extracted in attempting to get relief. Ergot helped somewhat if given during an attack hypodermically but did not prevent the next one. Pain was over the left eye and temple.

0.5. c.c. Antuitrin-S was given weekly at the office for two months and continued for about a year by a nurse living near her home. The headaches were stopped with the first dose and she has at present only an occasional headache of a mild type. She has not needed any treatments for several years. The treatments did not reestablish menstruation or affect the sterility.

10. Mrs. C. C. 42. Housewife. Headaches began at about age 30. Pain tended to be at occipital area.

Relieved by a course of Antuitrin-S in weekly doses as above at age of 36. At age 38 had gall bladder removed making good recovery. At 42 headaches returned to be relieved by another course of Antuitrin-S.

11. Miss M. B. 22. Stenographer. Headaches beginning gradually while at high school. Weekly, usually on Sunday. Able to keep going by taking codeine compound tablets but becoming gradually worse and unable to work at times. Pain over eyebrow. 0.5. c.c. Antuitrin-S weekly controlled attacks. No recent data.

12. Mrs. E. R. 27. Housewife. Chronic periodic headaches since twenty one years of age. Pain over left eye, with collapse, nausea, vomiting, photophobia and nervous depression. Headaches cleared up rapidly after a two day bout in which she lost five and ten pounds in weight. Father suffered from headaches as a young man. Attack every two weeks, usually on week



ends. Headaches disappeared during each pregnancy in second month. Had glasses fitted, teeth and tonsils removed without relief.

Antuitrin-S given sporadically between pregnancies with treatments stepped up when headaches began controlled the attacks and rendered them much less frequent. This was the first case treated and treatment was not at all systematic. Headaches are rare at present.

13. Mr. E. D. 16. High school student. This boy was my only male patient. He had terrific headaches which kept him home from school about three times a month. He had to go to bed when headaches were severe. Examination showed that he was very short for his age. Genitals were normal for his age and his intelligence was normal. But he was very small, being about the size of a boy of eleven or twelve.

Antuitrin-S was begun as an experiment, as he was different from all other cases. His headaches cleared up quite rapidly and in addition a rapid shooting up in his height took place with the result that in a year he was approximately the same size as his classmates. He was very faithful in taking his treatments which were administered for me by a nurse in his neighborhood. He has had three courses of twenty treatments and has not needed any recently.

Conclusion. A series of cases have been presented in which varying amounts of relief from the "status migrainus" by the use of chorionic gonadotropin. The headaches were stopped within a week of the first injection as a rule. Further attacks were presented and after a course of weekly treatments some permanent relief appears to have developed. I have no theories as to how the effects have been obtained, but I know that it is not the psychic effect of a hypodermic injection. The patients soon notice if the wrong substance is given or if a weaker dose is used. I believe that any stubborn case of migraine certainly deserves at least a trial of this simple and safe treatment.



# December 6th, 1917

BERTHA O. ARCHIBALD\*

**D**ECEMBER 6th—what a beautiful morning—so clear, with just a nip in the air to remind us that this was December. People were hurrying to work, among them the Associate Pharmacist of the Victoria General Hospital. She quickened her step as she hurried along Carleton Street, and took the short cut across the field to the north driveway of the hospital. It was quite an open field, as neither the Grace Maternity Hospital, the Medical and Dental Library nor the Dalhousie Public Health Clinic were in evidence then.

Shortly after entering the Dispensary Miss Lottie Flick, so attractive in her nurse's uniform (she was one of the nurses whom they lost during the great Flu Epidemic of 1918) appeared in the Dispensary. Being rather the friendly type, the Pharmacist followed her to the door, and while standing there they heard a terrifying blast, first one and then another, which made the floor tremble beneath their feet. The Pharmacist remarked "Well, that was quite a blast". The nurse replied "That was more than a blast—we must be bombed." Then they noticed the windows crashing in, three of them—and the glass showering down in all directions around them. They had just time to crouch behind the counter, which was between them and the windows. The Pharmacist received a slight gash in her hand, but as she straightened up she noticed just above her head an arrow-shaped spear of glass about nine inches long, driven well into the hardwood moulding. She broke it off with difficulty—and the balance is still in that moulding. The nurse was unhurt.

Rushing to the front of the building they looked for the plane that had bombed them. Everybody was out on the grounds—among them was Dr. G. H. Murphey in his operating gown, gloves and all as he had been waiting for his patient to be anaesthetized when the skylight fell with a crash. The doctor was cut, and to this day is suffering from the effects of that gash. Dr. Fred Lessel, who had his back to the window when the blast came, told the nurse to duck, and leaning over his patient whom he was about to anaesthetize protected her from the flying glass. When he stood up he was encased in the anaesthetic room window-frame, and glass was strewn in all directions, but—miraculously, his patient was not hurt.

As the people gazed upward, instead of a plane, they saw an awesome sight. It was a tremendous cloud, of a grayish whiteness, floating over the north end of the city. They looked in astonishment.

Soon patients came in droves, some on foot and others brought in various conveyances. Presently the whole building was filled, every bed, every cot, every stretcher, then, when no more were available, the wounded and dying were laid gently on the floors of the wards, the halls, the offices and the basement—not the basement as it is today, but a dark dirty cellar. But at least they were under shelter. (The Pavilion was not built at that time). Archdeacon W. J. Armitage was one of the first who came to give courage to the injured and the dying. He entered Ward 17 and, kneeling on one knee he stooped down and took the hand of each of those poor souls lying on the floor, and prayed, and spoke so kindly to each of them. The Pharmacist thought

\* Formerly pharmacist, Victoria General Hospital—now retired.



—that is just what the Master would do if He were here. Dr. Armitage truly represented his calling that day, and for many days to come.

Wagons laden with little children were brought to the hospital and everyone who could lend a hand to get them into the building. Most of them were taken to Ward 45. Their little faces and hands were black from the powder fumes, and their clothes tattered and torn. One little fair-haired boy was handed to the Pharmacist, who rushed with him to the ward. He was sobbing bitterly for his mother. She deposited him and went back for another child. He too was sobbing. Two children had to be placed in each bed. The little fellows put their arms around each other and their sobs grew less and less as they comforted each other.

The Pharmacist found it difficult to keep her own eyes dry. She went back to her Dispensary, which was open to the elements, and next day a terrible snowstorm was beating in. She noticed someone walking, oh, so slowly up the front walk, leaning heavily on his cane, resting every few steps. Yes, it was Dr. Murdoch Chisholm. He could not find Mr. Kenney, the Superintendent, who was in the United States attending a convention, nor could he find Dr. Charles Puttner, the Assistant Superintendent and Chief Pharmacist, who was a busy man those days, so the old Doctor came to the Dispensary in a fainting condition. "Oh," he said—"do get me a bed." "A bed!" answered the Pharmacist "there isn't a vacant bed in the place." Then she thought of the internes' quarters—she helped him to their rooms and there he remained for days.

Dr. Thomas's office, which was not far from Dr. Chisholm's home was flooded with patients. He stood it as long as he could and then remarked, "Why do not some of you go to Dr. Chisholm? I cannot look after all of you." "We were in there, but he is dead," replied one of them. Dr. Thomas darted out of his office and into Dr. Chisholm's. There was the doctor unconscious with blood spurting from his temporal artery, which had been severed. He resuscitated him—sutured the artery and told him to try to get to the hospital.

Days passed, and the Pharmacist made a visit to the internes' quarters to see how the old surgeon was progressing. Someone had brought him the morning paper—the first that had been printed since the explosion. There, in striking headlines was the notice of the death of Dr. Murdoch Chisholm,—the old gentleman was reading his own obituary. With blue eyes twinkling and his glasses well down on his nose, he threw back his head on the pillow and said "That man Chisholm. He was quite a man."

On the third day Dr. Putner, an elderly gentleman possessed of a very tender heart who also had been working night and day, could stand it no longer and keeled over on the floor of the office. Mr. Webber, the book-keeper, went to his assistance—they put him in the same room as Dr. Chisholm and he was there for many days.

About the second day the nurse in charge of the operating-room came to the Dispensary and with tears in her voice remarked, "Cannot something be done? We cannot handle all these cases. Could not some be sent to Camp Hill?" little knowing that Camp Hill, which was the largest hospital in the city at that time was full to the doors, and that patients were even lying on stretchers out doors awaiting entrance.

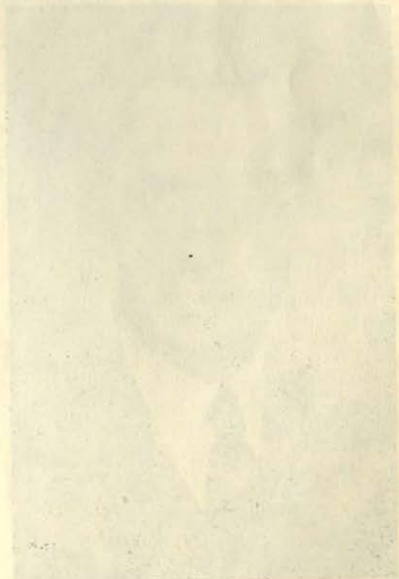


Those doctors, those surgeons, those internes, those nurses! How they worked, night and day! Only the records of Eternity will tell the story.

Nearly all the reserve supplies of the hospital were used, and also those of the wholesale houses. The Boy Scouts then came to the rescue, and went from door to door collecting and bringing in bandages, adhesive, scissors; helping to keep the thinning supplies replenished until more could arrive from outside towns and cities.

Soon help came from all directions—particularly from the State of Massachusetts, where so many Nova Scotians live. As in times of illness one experiences the kindness of friends, so in times of great disaster a city too will find her friends. This was shown in the tangible way the communities of Canada and the United States responded with assistance in personnel, supplies and financial aid.

In this old city no matter what the future may hold—the people will never forget their experiences of December 6th, 1917.





### PRESENTATIONS AND HONORARY MEMBERSHIPS

At a very well attended buffet supper held at the Lord Nelson Hotel, October 19, 1950, presentations were made to the visiting teachers whose efforts had done so much to make this Refresher Course an outstanding success. The presentations took place immediately preceding the John Stewart Memorial Lecture by Mr. Rodney Maingot. Doctor A. L. Murphy, Chairman of the Refresher Course Committee, introduced President Kerr of Dalhousie University. Doctor Kerr thanked the visiting speakers and congratulated the Refresher Course on the excellence of this type of post-graduate education. He stressed the value of the exchange of ideas of British, American and Canadian teachers so well exemplified in these annual Refresher Courses. On behalf of the University he presented silver salvers engraved with the Dalhousie Crest to Mr. Rodney Maingot of London, England, Doctor Malcolm B. Dockerty of the Mayo Clinic, Rochester, Minnesota, Doctor Emmett Holt, Jr. of New York University, New York, Doctor Wendell S. Muncie of Johns Hopkins University, Baltimore, Maryland, and Doctor John W. Scott of the University of Alberta, Edmonton, Alberta. Doctor Holt's salver was presented in absentia as he had returned to his home earlier in the day.

Mr. Rodney Maingot and Doctor Malcolm Dockerty were made honorary members of The Medical Society of Nova Scotia and were presented with illuminated scrolls of membership in The Society by the President.

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The appointment of Dr. John' H. Laurie as Manager of the Medical Department of Merck & Co. Limited has been announced in Montreal by the President of the company, R. I. Hendershott. Dr. Laurie was formerly with the Nova Scotia Department of Health where he served as medical superintendent and Clinical Director of a large hospital.



A graduate of Trinity College, Cambridge, and St. Thomas Hospital, London, Dr. Laurie is a veteran of the Royal Canadian Army Medical Corps and has served in an administrative capacity with UNRRA in China and with the British Red Cross Commission in Germany. He is a member of the Royal College of Surgeons (London) and a Licentiate of the Royal College of Physicians (England).

In his association with Merck, Dr. Laurie will direct approved programs of clinical investigation and in addition, will act as consultant on promotional policies and procedures as they relate to medical and ethical standards. He will also be responsible for matters related to the company's plant health facilities.