

*The Uses and Abuses of Bromides.

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SINCE 1857 when Bromide therapy was introduced, this drug has served a useful purpose because of its sedative effect in the treatment of various nervous disorders. Of late it has been receiving some attention in the literature as a cause of mental illness. The diagnosis of bromide intoxication is readily established by the quantitative estimation of the bromine in the blood. However, bromide intoxication is overlooked as a cause of symptoms that suggest psychosis.

For the purpose of this discussion I have reviewed the cases that have been admitted to St. Michael's Hospital during the past year. In the Department of Biochemistry, blood bromine estimations of over 50 mgm. per 100 c.c. have been found in 33 patients. The highest recorded is 438 mgm. in one case; and 435 mgm. in another case. In still another case it was 381 mgm., in 6 cases it was between 200-300 mgm. percent; in 8 cases between 100-200 mgm.; the balance of 16 cases were between 50-100 mgm. percent. These estimations were the first recorded in each case. It must be recognized, however, that the severity of mental symptoms do not necessarily correspond to the high estimations of these original bromine concentrations in the blood.

Generally speaking, the cases in which the blood estimations were high had more severe symptoms than those of low concentration. It appears that the duration of bromide intoxication is as important as a high concentration of the salt in the blood.

In this group of 33 cases there were two deaths in which bromide intoxication was the important factor.

The first case that I wish to review is that of a man, 36 years of age, who was brought to the hospital in a semi-conscious condition having been found on the 5th of January under a pile of lumber. His relatives informed us that he had been taking triple bromides in excess for some weeks. The only reason for this man taking bromides appeared to be that he was addicted to alcohol. He had a fever of 103 deg. which suggested the possibility of a bronchial pneumonia, and he was dehydrated. There was no evidence of a bromide rash. Clinical examination was essentially negative; there were no signs of pneumonic consolidation. His white blood count was 18,500; the bromine content of his blood was 435 mgm. percent; spinal fluid bromine 409 mgm. percent; blood sugar 117 mgm. percent; urea nitrogen 17.3 mgm. percent; there was 4 plus acetone in the urine. He was given 1600 c.c. of 5 % glucose in distilled water intravenously. He died within 24 hours and at the autopsy the gross findings were oedema and congestion of the lungs and brain. The cause of this man's death was poisoning by bromide and alcohol. He should probably be classified as an acute bromide intoxication.

The other death was in the case of a man 48 years of age with a history that he had been taking sedatives and alcohol for many years for nervousness. He had a haemorrhage from a duodenal ulcer in 1937 and a fractured skull in 1942. One week before admission to hospital, he was particularly restless and

on his own responsibility took 4 oz. of the elixir of triple bromides in one night. Following this overdose of bromide he remained semi-conscious. He had fever up to 100 deg. until the day of admission to hospital when he suddenly became worse with high temperature and signs of pneumonia in his left lung. He was admitted in a comatose condition. Temperature by rectum 105 deg.; broncho-pneumonia in the left lung; some cyanosis and difficulty in breathing. His white blood count was 16,000; the bromine content of his blood was 281 mgm. percent; blood cultures were sterile; urine showed a trace of albumen and sugar. He was given 500 c.c. 10% Glucose in saline and 1500 c.c. of 5% Glucose in distilled water. Also, one gram of soluble sulphathiazol intravenously every four hours. He died 48 hours after admission and there was no autopsy.

These two cases definitely illustrate that bromide intoxication can be fatal.

The next is a case of high bromine concentration in a woman who recovered. This thirty-one year old woman had been taking bromides for one year for sleeplessness. It is recorded that she had been disturbed by the recent death of her physician and by some difficulties with her husband. On a motor trip, she obtained a 20 oz. bottle of a bromide mixture, some nembutol and codeine. The bottle was found with only 5 oz. of the mixture remaining. On arrival in Toronto she was quite violent and had to be admitted at once to hospital. She was confused, irrational, very talkative; disorientated and attempted to get out of bed. Her speech was slurred and she had alternating periods of excitement and drowsiness. Her temperature was elevated to 101 deg. The bromine in the blood the day following admission was 435 mgm. percent.

She was given 1 gm. of sodium chloride per day and sufficient morphia or paraldehyde to reduce her restlessness. For two weeks she had a low-grade fever which subsided when the bromine content of the blood was 180 mgm. percent. She remained in hospital 25 days by which time her bromine concentration had dropped to 80 mgm. percent. She went on to uneventful recovery. This patient had regularly taken bromide for some time and suddenly increased the dosage to an unusual amount. This is the explanation of the high concentration of bromine in the blood. The mental symptoms which were presumed to be the result of domestic difficulties and the death of her physician, were actually a manifestation of the chronic bromide intoxication. In fact, the sudden increase in dosage probably was also a manifestation of the drug poisoning.

The next group consists of six patients, all women. They were admitted to hospital with neurotic symptoms which were found to be due entirely to bromide intoxication. In this group, domestic difficulties were the common feature in all six cases. The bromine concentration varied from 81 mgm. percent to 282 mgm. All of these patients had the symptoms that suggested anxiety neurosis. In one case, a woman of 54, hyperthyroidism was suspected. In this instance, the patient was admitted to hospital for the investigation of the function of the thyroid. However, the basal metabolic rate was within the limits of a high normal. The bromine in the blood was 246 mgm. percent. The outstanding symptoms were: tremor, loss of weight, weakness, inability to concentrate, loss of memory for unimportant recent events, staggering gait, for a period of three or four months. She was given one gm. of sodium chloride daily and went home after a week's hospitalization. Her recovery was uneventful.

In another case, a woman of 52 years, gastrointestinal symptoms were associated with the neurosis. In fact, she was brought to the emergency ward because it was thought that she had a bleeding peptic ulcer, but the outstanding complaint was of paranoid type in that she complained of her husband's cruelty and faithlessness. She had not been in good health for some years and had lost some 55 lbs. in weight within two years; she tired very easily. She stated that she staggered on the street as though she were drunk. The bromine in the blood was 122 mgm. percent. She left hospital six days after admission against our advice.

Another woman of 47 years was admitted to the hospital because of a nervous condition which in her opinion was due to domestic difficulties in which she accused her husband of neglect, excessive drinking and attempting to have her admitted to a mental hospital. In fact, the domestic situation became such that advice in respect to legal separation was sought. It appears that this patient of nervous temperament, had found a bottle of medicine that had been prescribed for her husband's nerves six years before. She took this medicine, had had the prescription which contained bromides, refilled repeatedly. The bromine content of her blood was 282 mgm. percent. When the bromide intake was discontinued her mental symptoms began to clear. She now apparently is perfectly well, and the home difficulties have ceased to exist.

Bromides are frequently prescribed in cases of chronic alcoholism. Patients of this type also often attempt some self-medication in the use of bromo-seltzer and other mixtures containing bromide. In attempts to cure alcoholism the use of bromide is a common therapeutic measure. In these cases, the unbalanced diet and the low salt intake may be contributing factors to the complication of bromide intoxication. The following case, a man 38 years of age, was admitted to the hospital from the jail. He had been picked up by the police and lodged in jail on a charge of being intoxicated. He walked into the jail but shortly afterwards passed into a comatose condition with rapid respiration and cyanosis. The jail physician suspected that he had been poisoned by alcoholic preparations such as lilac lotion and bay rum. On admission to hospital he could not be roused, and did not respond to any form of stimulation. He had cyanosis and was breathing stertorously. His respirations were 28 and his temperature 100 deg.; pulse 90. There was no evidence of head injuries, paralysis or any serious physical disability. Three days later he was very drowsy, stuporous, difficult to arouse; his speech was slurred; he was mumbling and unintelligible. He was disorientated as to time and place and persisted in trying to get out of bed although he was not violent. Since this intoxicated state persisted for longer than is usual in alcoholics, a bromine estimation of the blood was done and revealed 381 mgm. percent. He was transferred to the Psychiatric Hospital for further treatment.

Another group of 6 cases had other serious diseases for which they were admitted to hospital. The majority were for cardiovascular disease. In all of these cases bromides were being administered as a sedative. Two patients, aged 65 and 54 died of the cardiovascular disease. In one, the bromine content was 192 mgm. percent and at the autopsy it was found that death was due to myocardial infarction. In the other, the bromine content of the blood was 238 mgm. percent. At the autopsy it was found that death was due to emboli of the pulmonary arteries.

In another case, a 52 year old man had carcinoma of the bladder which was extensive and somewhat difficult to fulgurize. The fulgurization of the bladder

tumour was done on two occasions, three months apart. During the hospitalization for the latter period of fulgurization, the patient developed a well-marked bromide psychosis of such severity that he had to be transferred to a mental hospital. His blood bromide was 89 mgm. percent.

In one case there was a bromide rash. This woman of 28 years had rheumatic heart disease of a mild character in which tachycardia and palpitation were the outstanding features for a month before admission to hospital. She was admitted to hospital with painful joints and a temperature of 103 deg. which promptly subsided with the administration of salicylates. Eight days after admission to hospital she developed a rash. This rash was considered to be due to bromides. The concentration of bromine in the blood was 54 mgm. percent. There was no mental disturbance whatever. This is the only case of rash that occurred in this series of 33 cases.

Symptoms:

A study of these cases reveals the seriousness of bromide intoxication. The outstanding symptoms are mental confusion, slurring of speech, staggering gait, disorientation and to some extent faulty memory. Drooling of saliva and lack of ability to concentrate are sometimes present in the severe cases. The presence of a bromide rash is notable by its absence. On no psychotic case in this series was there any evidence of a bromide dermatitis.

Diagnosis:

The diagnosis of bromide intoxication is based on:

1. Clinical picture of disturbed mental functions mentioned previously;
2. The history of bromide intake;
3. The finding of excess bromine in the blood;
4. The return of mental function to normal when the drug is discontinued and an adequate amount of salt is added to the diet.

Pathology:

Bromine is readily absorbed and slowly excreted with the result that it is retained in the tissues. Normally, there is 2.5 mgm. of bromine per 100 c.c. of blood. Sodium chloride in some manner aids the excretion of bromine.

In the presence of kidney damage or cardiovascular renal disease, the administration of bromide should be watched carefully for signs of intoxication. Alcoholics, who frequently are on an inadequate diet and an inadequate salt intake are more susceptible to the drug than a person on an ordinary diet with an adequate intake of sodium chloride. The drug is more slowly excreted in older people probably because of relatively poor function of the kidney.

Treatment:

The treatment of this condition is the withdrawal of the drug and the administration of 15 grains of sodium chloride daily. The duration of treatment varies from one to three months depending upon the rapidity with which the bromine is excreted. Improvement will be noted promptly in the uncomplicated cases. Although bromides are not a habit forming drug, it is considered that during the early stage of treatment the patient should be either hospitalized or there should be competent nursing supervision until the mental state has cleared and the patient can be relied upon to carry out instructions.

Prevention:

1. It is essential that adequate amounts of sodium chloride be given to patients receiving bromides as a sedative. It is obvious, therefore, that bromide therapy is definitely contra-indicated in persons on a salt free diet.
2. The advisability of prescribing bromides to old people is questionable; also, in cases of impaired kidney function, cardiovascular renal disease, hypertensive heart disease and myocardial failure.
3. It should not be possible for the public to obtain any mixtures containing bromides without the written order of a physician. Physicians in prescribing bromides should mark each prescription "Please do not repeat."
4. Efforts should be made by organized medicine to bring to the attention of the proper authorities of the Federal Government the necessity for placing bromides on the list of drugs that can only be obtained on the written order of a physician.

Summary:

1. Attention is directed to the frequency of this disability.
2. Illustrative cases.
3. Diagnostic methods indicated.
4. Methods of prevention have been outlined.

Fractures of the Neck of the Femur*

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THIS is a subject as old as time, and is now introduced not to review the whole subject, but to remind ourselves of some of its more important features, and to indicate some important improvements in the management of our cases.

Anatomy:

You will, of course remember your anatomy very well, in which event you are a better man than I am for I so frequently forget mine. At least we will remember that the capsule of the hip joint is extended out over the neck of the femur like a sleeve, to be attached along a line nearly to the intertrochanteric line in front but stopping posteriorly when only half way out the neck.

Classification:

For many years we classified our hip fractures as intracapsular and extracapsular, but obviously such a classification may not be adequate. They are better described as (a) fractures of the neck and (b) trochanteric fractures. The former are those that occur in the narrow part of the neck. If they occur nearer the head, they are *sub-capital* or true intracapsular fractures, while those between the sub-capital and the base of the neck are intermediate, and are part inside and part outside the capsule. Trochanteric fractures are, of course, all extracapsular and include intertrochanteric, transotrochanteric and those which occur at the base of the neck.

Aetiology:

While we do see a fair number among relatively young adults that are frequently the result of severe accidents, generally speaking they are found in persons beyond middle life. Of the two types, the trochanteric fractures are found in patients averaging five to ten years older than those having fractures through the narrow part of the neck. It probably need not be stated, that while in younger persons considerable force is necessary for the production of these fractures, in older persons, a slight twist may be enough to produce a fracture of the narrow part of the neck, or a slight misstep enough to produce the trochanteric type of fracture. Perhaps, however, it is still necessary for us to keep reminding ourselves that it takes so little to produce these fractures, and that they may easily be missed if the trauma seems slight, and especially if it lacks the classical signs of external rotation and shortening.

There has been a disposition to consider neck fractures as being more serious than those about the trochanters, and it is true that from the point of view of non-union, necrosis of the head and things of that sort the sequelae of neck fractures would seem to be of greater importance. At the same time there is a disposition to say, "As for trochanteric fractures, they will heal anyway," and so, to regard them more lightly.

When one looks into the mortality in the two classes of fracture, a different story is to be found, for that of trochanteric fractures is very considerably higher, indeed, it may be as much as 3 to 1. And if we consider the matter for a moment further, such a difference is quite reasonable. For in the average

*Read before The Medical Society of Nova Scotia, July 5, 1944, and presented with clinical cases at the 20th Dalhousie Refresher Course, Halifax, October 12, 1944.

the patients are considerably older; there is more damage to bone, more extravasation of blood, more shock, the patient is less able to move in bed, and all the other factors that make for mischief in the neck fractures, are here in more marked degree.

Treatment

What are our objectives in treatment?

- (1) To save life, and
- (2) To restore function, of course.

Now many of these persons are old. So old and so debilitated by other disease, that it is certain that if we stretch them out on the broad of their backs with a fractured hip, in many cases, they won't last long. We have all seen this and realized its significance. To prevent the consequent hypostatic pneumonia, we have seen patients gotten out of bed in a chair, and the fracture practically disregarded. *But pain can be as devastating as pneumonia in these persons,* and they die of the consequent exhaustion. The mortality rate in this form of treatment is very high, and if they survive, non-union or malunion is their portion. If they are of the sthenic type, *immediate* reduction, and immobilization in plaster in abduction, is good treatment for neck fractures, while the Thomas or Hodgens Splint may be adequate for those about the trochanters. To this, however, in both cases, should be added, *if that is all you have at your disposal.*

However, for your poor old miserable creatures, who are the worst possible subjects for these fractures, *immediate internal fixation has become a necessity,* while for your younger, athenic persons it is very definitely the treatment of choice. What young man wants to be tied up in plaster, or even a Hodgen's splint for months, if he can get about on crutches?

But with respect to old persons there will be the argument "too old to stand the operation." One grows tired of hearing our consultants say, "She can't stand any surgery," in this and other surgical conditions, even when it is clear that the alternative is a very few days or weeks of pretty miserable life. It is now frequently possible to prove them wrong.

We have come a very far cry from the days when chloroform stood alone in our practice of anaesthesia. One has only to see an old lady eighty years of age, who had her hip nailed only yesterday under local anaesthesia, now sitting up in bed on her back-rest free of the pain of her fracture, bright and relatively comfortable. Experiences of this kind have brought us to the view that such persons should be done by this method *as soon as possible after the accident,* as soon that is, as any signs of primary shock have passed.

For internal fixation in neck fractures, we like the Smith-Petersen three flanged cannulated nail. If the person is young, perfect reduction by the Leadbetter method should be obtained before fixation, while if the person is old and debilitated, a position somewhat less than perfect may be accepted without recourse to extensive manipulation.

Technique:

Employment of the Smith-Petersen nail in neck fractures is now almost ancient history, and as with most things there are many variations in technique. For our part we have avoided all the fancy gadgets recommended by this one and that, and depend simply upon a Michel clip on the skin over the

joint, placed before the first X-ray picture is taken, and then upon our ability to place the guide-pin.

We began the use of this method several years ago, indeed I believe we were pioneers in its use here. Since then we have, no doubt, made many mistakes, and I shall show you some of them on the screen in a minute or two. However, mistakes with the S.P. nail should not now be so easily made, *if we use it in the right cases*. With proper reduction it is a matter of simple mechanics to place the pin; it is checked for satisfactory position, and the nail is driven home. Simple things like length of nail, the preparation of the subtrochanteric cortex are, of course, respected and the fragments are impacted. This impaction episode is the only difficult one in the use of local anaesthesia. The anaesthetic fluid must find its way into the joint, and even then occasionally a whiff of cyclopropane or other quick anaesthetic may be necessary for the final stroke of the mallet. I have, however, done quite a few with local alone, with some preoperative sedative of course. We find that the prior removal of a small bit of the cortex, which we did not do at first, makes nailing much easier, especially when using local anaesthetic alone.

When we come to treat the trochanteric fractures, matters are not quite so simple. They are occasionally so comminuted that nailing is impossible, and except in fractures through the base of the neck, it is rare indeed that a Smith-Petersen nail will give enough stability to prevent its becoming loose and extruded, with resulting varus deformity, at least. Consequently there has been a reaching out for something to stabilize the shaft to the neck at the proper angle. The first attempt was through the Hawley bar, attached to the head of the Smith-Petersen nail and screwed to the shaft. This was reasonably good, though in a considerable number of cases recorded the nail and bar attachment loosened and the reduction failed to hold.

A considerable variety of appliances have since been devised, but that which appeals to us most, of those we have seen or used, is the *Neufeld Nail*, or its somewhat similar Moore-Blount blade plate. We have only recently begun the use of the Neufeld Nail. It was introduced to me at the Naval Hospital in Philadelphia, late last autumn, and then when we came to use it could find none in Canada, and had to order it from California. (I believe that it may now be procured through regular channels.) We like it very much. We believe that its use is the treatment of choice in all cases where it can be applied, and we believe that it will also find wider application in some greater degrees of comminution which would not otherwise be treated by internal fixation. Although we have not so applied it, we see no reason why its upper screw may not be utilized to fix the lesser trochanter which is so frequently broken off and displaced in this injury. We believe it to be even more important here than in neck fractures that the method should be employed as soon as possible after the injury, so that the pain may be controlled, and so that the patient may assume the semi-sitting position as soon as possible.

After-care:

We believe that in neck fractures patients should be kept in bed for varying times, with a bar fastened with plaster to the foot to prevent external rotation; that the shorter the proximal fragment the greater care that must be exercised in post-operative handling of the patient, and the longer the bed rest required, *and no weight-bearing is allowed on any neck fracture until there is X-ray evidence of bony union*. In trochanteric fractures treated with the Neufeld nail or similar

internal fixation, they are allowed up in five or six days and allowed to use their crutches at once. Correction of the angle to prevent varus deformity is most important here, and the more vertical the nail, the earlier will weight bearing be possible.

Prognosis:

No matter what method is employed, some patients will die. One of ours, after a lovely nailing under local, up and died a few days later of uraemia. Another old lady survived the nailing well and died a few days later of complications arising out of other injuries which included a colles fracture and a fractured skull. We had one infected case. It was early in our use of the S. P. nail and in an old and terribly debilitated woman, whose mental faculties were not so good and who succeeded in tearing off her dressings. It was a bad infection too, rapidly spreading, against which there seemed to be no resistance and for which no treatment was effective. Nonetheless, the Smith-Petersen nail has very greatly reduced the mortality in neck fractures, and it is now submitted that the Neufeld nail and similar appliances will further reduce mortality and help to restore better function in the more serious trochanteric injuries. The employment of local anaesthesia in these cases must be held to make a still further contribution to a lower mortality.

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(a) *Neck Fractures*

Mrs. L. T.—72. Left hip—Neck.

Fractured March 6, 1938. Reduced and immobilized in plaster in the Whitman position. X-ray reported "excellent position." After a series of casts, it was found 7½ months later that there was non-union. It was then nailed. She was kept in bed for a couple of weeks and gotten up and was doing well when one morning she reached forward for something and fell off her chair and hurt her nailed hip. You may imagine our fright! But X-ray showed everything ship-shape.

We tried to get her back for a check, but she wrote the hospital some six months later saying she was walking around fine and didn't need to come back.

Mr. D. H.—68. Left Neck.

This was a case of advanced cardio-vascular-renal disease. Under local anaesthesia he was nailed April 2, 1941. Discharged after sixteen days. July 16, 1941 X-ray showed firm bony union, and he is still on the go without hip symptoms.

Mrs. J. C.—68. Left Neck.

Fracture of left femoral neck, and right colles fracture December, 1939—nailed.

May, 1940—X-ray showed neck absorption. The nail was now too long but could not be extruded because of bone reaction around its head. It passed inwards through the head into the joint but causing no symptoms. Nail withdrawn and one of proper length substituted.

August, 1940—"Moderately firm bony union but bony striae not completely developed."

March, 1941—In with a new colles fracture. Hip now shows good bony union. Nail withdrawn. This final slide taken in a follow-up nine months later shows the well developed striae and the lines showing path of nail. It also shows the persisting irregularity of the head but to April of this year, when last seen, there has been perfect hip function.

Mrs. A. H.—75. Left Neck.

Poor type of old person, 75, and very nervous. Fractured left neck. Nailed March, 1939.

Local and Intravenous Paraldehyde—(we were trying out various basal sedatives).

Discharged from hospital in 11 days.

Here is her X-ray at 3 months.

Here, at 6 months—good bony union, and excellent function.

Mrs. E. M.—59. Left Neck.

Nailed September, 1943. These slides show the fracture reduced and the nail from two positions.

Mrs. A. G.—60. Left Neck.

Cardio-renal, mildly mental case, gave her age as 60, was probably 75-80. Nailed Dec. 30—Local and Ethyl Chloride. About 10 days after had bad spell—cerebral and circulatory. We were able to prop her up in bed and kept her going without lung complications. Recovered. Discharged.

(b) Trochanteric Fractures

Mrs. M. P.—78.

Here is one, which though a trochanteric fracture, is of the kind that occurs at the base of the neck. With care it lends itself to the use of the S. P. nail. This again is a left sided fracture. This patient was 78 and had severe urinary and bronchial infection.

Under local anaesthesia, S. P. nail was inserted October, 1939. Re-examination February, 1940: "Good alignment with good bony union." June, 1940, on request to return for examination, replied: "Am getting along fine. Don't require an examination." Slides show fracture, nail in position and subsequent pictures.

Mrs. H. R.—72.

Here is one which shows what not to do. It is, you see, a low trochanteric fracture. It was done several years ago.—I know better to-day.

Nailed under local anaesthetic.

Position reported "good," by X-ray.

But watch; here you have the normal neck angle nailed, and in the next—two weeks later, you have this breaking away and extrusion of the nail, and then this awful cox vara.

The answer, of course, is in the fact that the S. P. nail is useless in these low trochanteric fractures. It should never have been used, but we had no other then. Nail was removed, position corrected and plaster used. She was an old cardiac and we had quite a time keeping her going. She made the grade but only that.

Mr. R. J.—35. Left trochanteric—industrial accident.

Nailed October 1st—Spinal. S. P. nail was used because we felt there was probably enough bone outside the fracture to give stability, but watch:

December 3rd—Returned to hospital showing considerable absorption in approximately the upper 2/3 of the fracture line. No evidence of union, (X-ray). This was obviously a border-line case, or as he was a rather difficult patient he might have used it too much.

January 26th—"Moderately firm bony union. Upper part only partly fused." Because the lower 2/3 or more showed good firm union he was allowed full weight bearing. We would not now use the S. P. nail in such a case.

Mr. R. G.—65. Left Trochanter. Comminuted intertrochanteric fracture. Accident April 22, 1944.

Old man very thin. Treated at first with Thomas Splint. Definitely not suitable for S. P. nail.

Difficulty in keeping skin of back from breaking.

Nearly a month before we could get the new type nail.

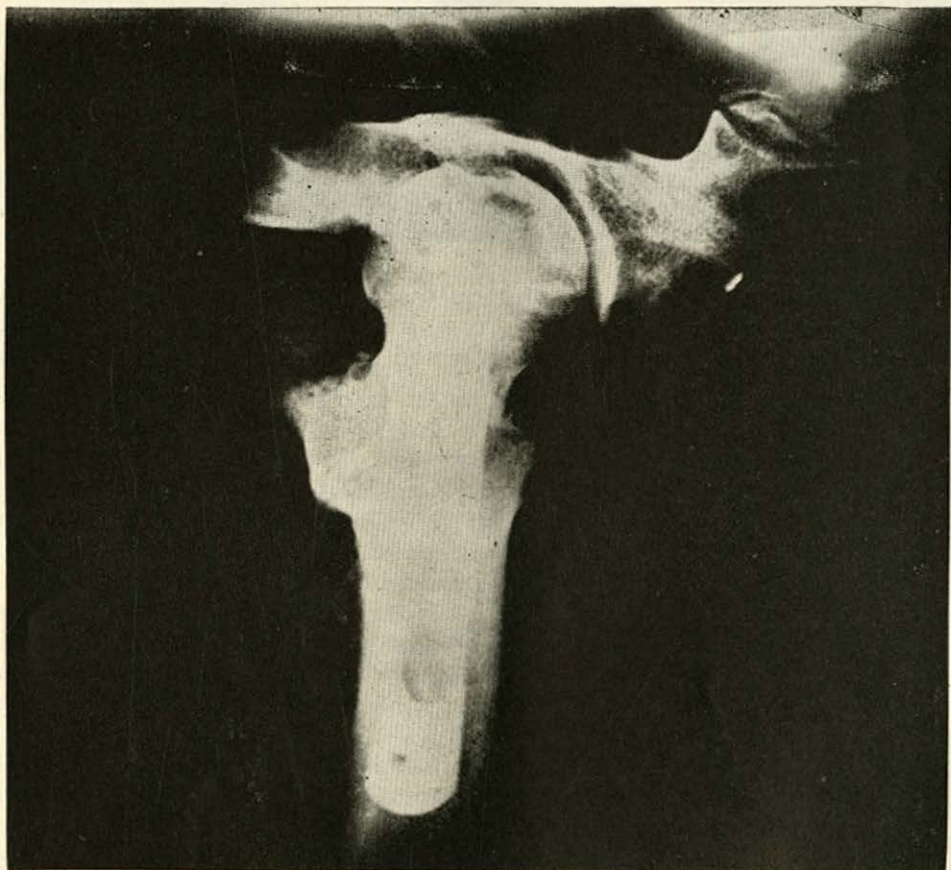
Neufeld nail inserted May 16, 1944—Local—Up in a chair in 5 days. Home, 30 miles away, in 12 days.

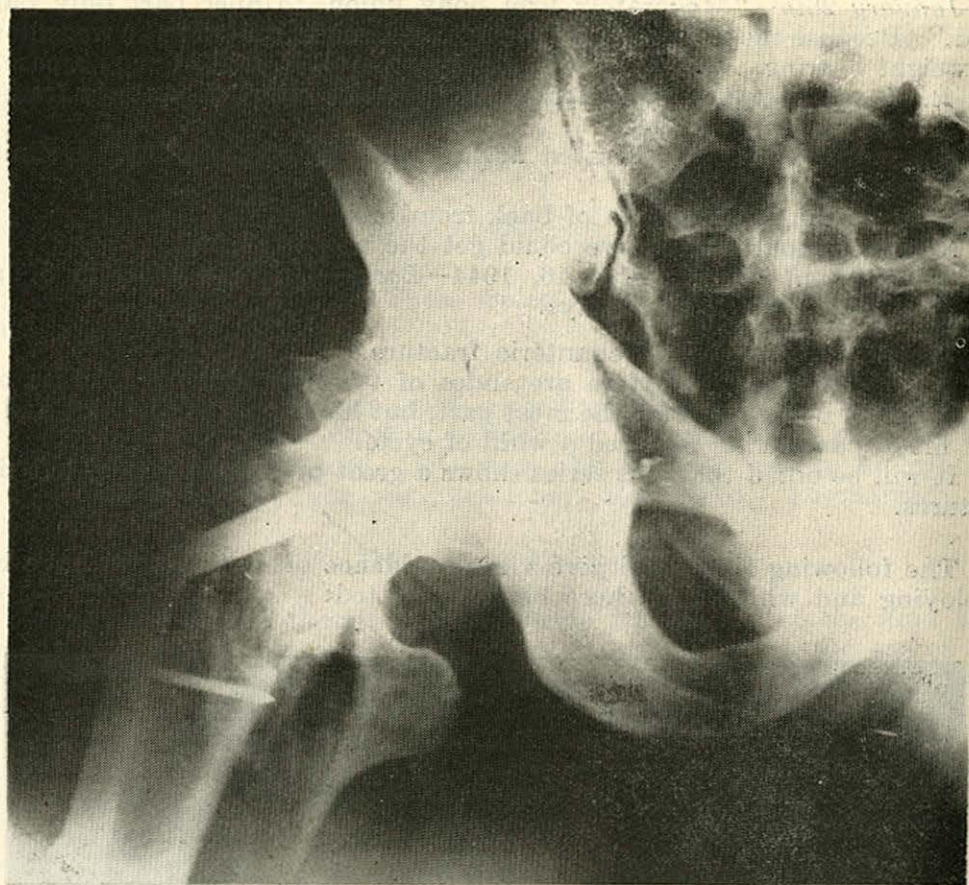
Mr. J.—37. Right intertrochanteric fracture.

Industrial accident. Here are slides of the new nail used at its best. It was put in under local for the most part, but his bone was like flint and the final bit of hammering required a whiff of cyclo.

It will be noted that this series shows a great preponderance of left sided fractures.

The following slides will give visual evidence of methods we have been employing and which have here been submitted:





BULLETIN finances do not admit of the publishing of all the forty slides shown. The above two represent an antero-posterior view and a lateral view of the Neufeld nail in position in a bad trochanteric fracture.

Acute Thoracic Empyema and Lung Abscess*

V. D. SCHAFFNER,

Surgeon Nova Scotia Sanatorium

SOME weeks ago Dr. Graham wrote and asked me to address this meeting on the subject of acute thoracic empyema and lung abscess. Had the request been made four years ago I would have asked that the first condition named be omitted, as so much has been written and said concerning acute empyema that further discussion would seem unnecessary. However, since the introduction of sulpha drugs in the treatment of the various types of pneumonia, our concepts of management and treatment have altered considerably, and at the moment the subject is really a timely one.

Before the use of sulpha drugs the pneumonias were complicated by empyema in approximately five per cent of cases. Reported series range from four to ten per cent but this is the accepted average. Since the advent of sulpha treatment the complication of empyema has been reduced to about one per cent. This on the face of it would appear to be a decided advance. Unfortunately, however, in spite of better control and lower mortality rate of pneumonia, and the lowered incidence of complicating empyema—the number of chronic and difficult cases has apparently not been lowered. They may be even higher. It is my impression that they are, but I can find no exact figures on the subject. Doubtlessly they will be forthcoming in the next few years.

In former years the treatment of empyema depended largely upon the type of pneumonia it complicated, the age of the patient, toxicity, etc. Physicians had ample time to diagnose whether the pneumonia was lobar or of the diffuse bronchopneumonic type. Sputum cultures and typing were important as the pneumococcal pneumonias were largely treated with specific sera. Since the use of sulpha most of this exact diagnosis has become unnecessary or is disregarded, as all cases are similarly treated, with the result that the picture early becomes confused. Seldom to-day can a physician, in referring a case of empyema, state that the pneumonia was of this or that specific type.

As you know, before the use of sulpha, empyema complicating pneumococcus pneumonia occurred after the subsidence of the initial disease. This meant good pulmonary reserve, firm pleural adhesions and open drainage. Empyema complicating streptococcal or influenzal pneumonia occurred during the height of the pulmonary disease. This meant decreased pulmonary reserve at the time of the complication, and flimsy or no pleural adhesions; open drainage could result only in suffocation and death. Failure to recognize these differences resulted in an unwarranted high mortality in the treatment of empyema.

During and after the first Great War empyema complicating pneumonia was accompanied by a mortality ranging from forty to seventy per cent. It is quite proper to state that empyema per se seldom kills a patient, but improperly selected procedure does. Following the war an Empyema Commission was set up in the United States and from their investigations much was learned concerning the treatment of the disease. Incorrect procedure also, unfortunately, converts a relatively simple problem into a very difficult

* Paper delivered at the Dalhousie Refresher Course, Halifax, N. S., October 9, 1944.

one. Chronic empyemata, which are difficult to handle, should not occur, and yet they do in an unwarranted number of cases.

The principles of treating empyema are definitely linked up with the mechanics of respiration, and in particular those of open pneumothorax; no procedure should be applied for the drainage of pus from the chest until due consideration has been given to the effect that it will have on the respiratory reserve of the particular patient in question. A procedure proper in one case can definitely not be applied in another, due to different conditions existing in both the lungs and pleural space.

I will take a moment to remind you of the mechanical effect of open pneumothorax upon the function of respiration, in a person with healthy lungs and pleurae. During quiet respiration air passes in and out of the lungs in a volume necessary to supply the respiration need at the time. This volume of air is known as "tidal air." It of course varies with exercise. The maximum amount of air that can be exhaled after a complete, forced inspiration is known as "vital capacity." The difference between the two of course represents, in a way, pulmonary and respiratory reserve. Under extreme exercise a person may require his entire vital capacity for the function of respiration. The same is true when diseased conditions of the lungs exist. Under such conditions the volume of tidal air may reach that of vital capacity.

When an opening is made into a healthy chest, air of course will pass in and out of this opening with each respiration the same as it will pass up and down the trachea. The vital capacity must therefore be reduced, the amount depending upon the size of the opening. It is only mathematics that if the volume of air passing in and out of the thoracic opening reaches a volume in excess to the difference between tidal air and vital capacity that the patient must of necessity die of suffocation.

These simple principles, before the use of sulpha in the treatment of pneumonia, were all important insofar as the handling of a complicating empyema was concerned. Any disregard of them meant an unnecessary high mortality rate. Let us review briefly their application before the use of sulpha.

In children and infants empyema was accompanied by a very high mortality rate. The reason for this was that they of course, have a very low vital capacity to start with and that the pneumonias were usually of the diffuse type, thus further reducing the vital capacity. Adhesions in the chest were flimsy or non-existent and any open drainage could result only in suffocation and death. The proper procedure, therefore, was to aspirate the pus until such time as the lung disease had been well controlled and the pleura had become adherent. Even at this stage closed suction drainage was preferable to open drainage. A child's or infant's chest should only be opened if the lung condition has cleared and aspiration and closed drainage have failed.

Before sulpha, a streptococcal or influenzal empyema occurred during the course of the pulmonary disease. It occurred at a time that vital capacity was markedly reduced due to diffuse lung disease. The empyema pus was thin and pleural adhesions weak. Open thorocotomy resulted in many deaths from suffocation. To successfully treat these cases it was necessary to do repeated aspirations until the lung disease was controlled, and the pus thick enough to warrant closed or open drainage. It was necessary to avoid open drainage until such time as one was sure that it could be tolerated. Empyemata

complicating pneumococcus pneumonia could usually be treated by open thorocotomy and drainage from the first. This was due to the fact that pneumococcus empyema occurred after the subsidence of the lung disease, the pus was thick and pleural adhesions firm. Open thorocotomy would not therefore reduce vital capacity or interfere with respiratory reserves. Streptococcal and influenzal empyemata occurred at a time of poor respiratory reserve and insecure lung adhesions, while pneumococcal ones occurred at times of good respiratory reserve and firm lung adhesions. The necessity of treating them differently is obvious.

Since 1938, all types of pneumonia have been pretty generally treated by one or the other sulfonamide drugs. Such treatment as stated above has markedly reduced the incidence of complicating empyema but has made it more difficult to detect a developing empyema, and once detected, more difficult to cure. In the first place the occurrence of empyema is masked by the use of the drug. Formerly, an increasing fever during the course of a streptococcal pneumonia or recurrence of fever after the subsidence of a pneumococcal one, usually meant empyema. Such conditions are not found in sulpha treated patients. In sulpha drug treated patients the pneumonic disease is usually brought under control rapidly, but rather thin pleural effusions may occur. It is from these pleural effusions that empyema may eventually develop, but the change to thick pus is a slow process. It is strange, however, that rather extreme thickening of the pleurae occurs at a relatively early date, and adhesions develop earlier than one would expect from the character of the fluid. These fluids are sterile on culture in about thirty-seven per cent of cases, and yet serious empyema may develop.

Once the lung disease has been brought under control sulpha drug treatment should be discontinued. Its continued use, when pleural effusion is present, serves only to give a false sense of security, and masks the presence of a developing empyema. It definitely is not to be used as a treatment for a *known* empyema. I presume the same can be said regarding penicillin, but opinion concerning this latter substance, of necessity, has to be delayed until more experience has accumulated.

With due regard to the principles of open pneumothorax, as briefly outlined above, empyema following sulpha treated cases should be treated by open thorocotomy as soon as possible. The thinness of the pus may suggest adopting repeated aspirations or closed drainage but, as mentioned, pleural reactions are rather exaggerated, and with lung disease well controlled, such procedure is well tolerated. If adequate drainage is not instituted at an early date, the pleura becomes so thick that re-expansion of the lung becomes impossible and chronic empyema results, requiring more extensive operations for cure. It should be warned that empyemata following sulpha treatment have a far greater tendency to pocket than was found formerly, and adequate drainage of one pocket may leave another untouched. Good antero-posterior and lateral X-rays are essential. Also interlobar empyema seems to be relatively more frequent, and these are both more difficult to detect and to treat. In doing diagnostic aspirations in such cases one has to be sure that the needle does not pass through free pleural space as in such a case massive infection of the pleura is apt to occur. Also, to reach such a collection of pus the needle has to pass through lung tissue. Under such circumstances the proper precautions have to be taken to prevent cerebral air embolus and sudden

death. The treatment of acute interlobar empyema is similar to that of most cases of lung abscess.

To summarize, the treatment of empyema consists, both in cases that have and have not been treated with sulpha drugs, of (1) repeated aspirations, (2) closed drainage, and (3) open thorocotomy. Which procedure is to be adopted depends largely upon the following factors:

1. The age of the patient. (Children and infants stand open thorocotomy poorly.)
2. The type of the pneumonia the empyema complicates; i.e., the state of the lung disease at the time empyema develops.
3. The presence or absence of pleural adhesions.
4. The pulmonary reserve of the patient.
5. The intensity of sulpha treatment for the pneumonia.

The factors that most frequently convert an acute into a chronic empyema are:

1. Delay in adequate drainage, thus allowing the pleurae to become so thickened that re-expansion of the lung is impossible.
2. The development of bronchopleural fistula, which in itself is usually secondary to delay in adequate drainage.
3. Inadequate drainage. It is absolutely essential that drains be placed at the most dependent part of the cavity. For drains we prefer large, internal flange tubes, such as the Lahey, to the ones that project far into the chest.
4. Too early removal of drains. No drain should be removed from an empyema cavity until it can be demonstrated beyond doubt that only the tube sinus persists. When it will hold no more than 5 c.c. of fluid, it is safe to remove the drain, but not before.

Time does not permit the discussion of the more complicated treatment of chronic empyema and its various complications.

Lung Abscess

Until recently, distinction was made between lung abscess and gangrene. It would appear that no such distinction is necessary, as both result from the same causative factors, and either one may progress or regress into the other. The problem of management is much the same for both.

Abscess of the lung may appear from a variety of causes and it is extremely important that the cause be determined at an early date in order that rational treatment may be applied.

The common causes may be briefly enumerated as follows:

1. Aspiration of infected blood or tissue in nose and throat operations.
2. Aspiration of foreign bodies such as bits of teeth, tartar, bits of metal, seeds, etc.
3. Following pneumonia. (Rare).
4. Following post-operative atelectasis.
5. Lung wounds.
6. Carcinoma and other growths of the bronchus.

7. Infected emboli, occurring mostly as a post-operative complication.
8. Cases of unknown etiology.

In the majority of incidences the onset of pulmonary abscess is characterized by the occurrence of a very acute illness. Pain in the chest is practically always present. High fever with recurrent chills are the rule. Foul or bloody sputum may not occur for some time; that is, it may not occur until rupture into a bronchus has taken place. The patient, as a rule, is extremely toxic. Appetite is lacking and weight loss rapid and marked.

This acute phase, if the patient lives, passes on in a matter of days or weeks to the chronic state. The chronic state is characterized by continued fever, loss of weight and strength and cough with the expectoration of a purulent, foul sputum.

It is not necessary to discuss the physical signs of abscess, beyond stating that they are unreliable. The so-called "typical X-ray" of cavity and fluid level is seldom seen except in the hyper-acute abscess and in certain very chronic ones. In the majority of incidences, dense areas appearing like marked pulmonary infiltrative changes are to be seen. In others, dense rounded areas with little surrounding parenchymal change, appearing like metastatic tumor, are to be observed.

It is obvious that cases of lung abscess should be bronchoscoped at the earliest possible moment. Bronchoscopy is of particular value diagnostically, but in certain cases is of value as a treatment measure. If the lung abscess is secondary to the presence of a foreign body, this of course must, if possible, be removed. If carcinoma is discovered, it is the major surgical problem, and has to be approached differently than a simple abscess. Many abscesses following nose and throat operations are placed near the hilus and can be successfully treated by bronchoscopic drainages and these should be given a trial before proceeding with more major surgery. Abscesses placed centrally or peripherally are not amenable to bronchoscopic drainage and no attempt should be made to treat them in this manner.

Abscess of the lung, like abscess elsewhere in the body, is essentially a surgical problem. It is true that about twenty per cent of lung abscess will go on to spontaneous cure under so-called conservative or medical care. It is equally true that while the one out of five gets better, the other four get progressively worse, or the patient dies, under similar treatment. There is no way of telling at the onset which will be the fortunate ones under medical care, so it becomes obvious that for the sake of the majority the cases should be regarded as surgical from the start.

At the moment, no differences of opinion exist concerning the surgical treatment of lung abscesses that have existed for some length of time. However, until fairly recently it was generally accepted that hyper-acute and acute abscess should not be surgically drained. This idea was based on the concept that abscess in the acute stage is not a localized process but is a part of an ill-defined and extensive parenchymal infiltration. Neuhof and Touroff, of Mount Sinai, have operated upon a large number of acute abscesses with exceptionally good results and a very low mortality. Their opinion has been supported by Shaw, publishing from the results attained at University Hospital, Ann Arbor.

Formerly it was believed that an acute abscess should be conservatively treated until the acute phase was over. This time might amount to from two

to eight weeks. Neuhof's results, however, are convincing and more authorities are to-day agreeing that early surgical treatment, in the acute stage, is the method of choice.

In comparing figures, it is interesting to note that acute cases operated upon give a much higher cure rate than do chronic ones, and the majority of authors quote a lower mortality in the acute than the chronic cases. For instance, Shaw reports on 33 cases operated upon in 1939-40, after the adoption of the idea of early operation, as follows:

	No. of Cases	Cured		Improved	Died
		No.	Per Cent		
Acute.....	8	8	100 %	0	0
Sub-acute.....	9	6	66.6%	2	11.1%
Chronic.....	16	3	18.8%	9	25 %

These results are significant when compared to the results obtained in 227 cases treated in the same hospital between 1926 and 1937. These 227 were treated according to the older concepts of delayed drainage and medical care during the acute phase:

	Cured	Died
Medical.....	21.6%	30 %
Surgical.....	59.4%	40.6%

It is to be noted that in the older series of chronic cases a mortality rate of 40.6 % existed while in the later ones it was only 25%. This can be explained, I believe, largely on a basis of improved operative technique, which will be briefly discussed later. In operating upon 122 acute cases, Neuhof reports a mortality of 3.27%. Such results, of course, are excellent, and the accepted mortality of 30% for conservative measures during the acute phase of the illness, would appear to be an irrefutable argument for early surgical drainage.

It must therefore be agreed that the treatment for acute abscess is early surgical drainage in all cases except those situated near the hilus and already draining freely into a bronchus. These latter may be treated by bronchoscopic drainages, provided progressive improvement is to be noted. If the abscess does not progressively decrease in size, even these should be surgically treated.

It is my belief that one is justified in controlling lung disease and septicaemia with sulpha drugs or penicillin, but there is no justification in trying to treat an established abscess with the same agents. Fever and general toxic symptoms may be controlled, but the abscess itself progresses to a chronic state when results of surgical drainage are more uncertain and the percentage of cures less. Experience is not sufficient to speak with authority regarding penicillin, but it appears quite improbable that it, in itself, could cure undrained abscess, and that attempts to do so will be detrimental to patients. Its logical use, it would appear to me, would be to use it concurrently with surgery. Its true value will be known only at a later date when experience has accumulated.

At the moment, few thoracic surgeons are fortunate enough to see their cases in the acute phase when most can be expected in the way of complete restoration of health and a complete restoration of tissues to anatomical and physiological integrity. The majority of patients are referred after weeks or months of illness.

A few points will be mentioned in regard to technique. It is essential for best results, in the acute cases, to use the one stage operation. Early in

the disease the pleurae over the most superficial part of the abscess, become adherent. This point of adhesion may be small, but it is through it that drainage must be accomplished, as otherwise severe empyema and lung collapse would result. Exact localization of the abscess is therefore essential. Good antero-posterior and lateral X-rays are necessary, along with careful fluoroscope studies. A point of intercostal tenderness usually is present and indicates the area of inflamed, adherent pleurae.

Having located the suspected adherent spot, incision is made over it and a section of the overlying rib removed subperiosteally. This must not be too long, for if too long sections are removed, non-adherent pleura will be uncovered and the chance of empyema thereby increased. After removing the section of rib it can be told from inspection whether or not the pleura is adherent. Having determined that it is, the pleura and lung are punctured with an exploring needle, the syringe of which is filled with saline. The abscess cavity is entered and its depth noted. Following this procedure the needle is left in place and the lung cauterized through to the cavity along the side of the needle. Sufficient of the roof is cauterized away to allow of adequate drainage. The cavity is usually lightly packed and the wound left widely opened. In a few instances no adherent pleurae will be found but this is unusual, if proper study has been made. In such cases it is necessary to place an irritating pack against the pleura and close the wound over it; and the abscess opened at a second stage in about ten days. For packing, various substances are used, such as iodine soaked gauze. Personally I use the method proposed by Fraser Gurd, namely, after dehydration of the wound with alcohol, a thin layer of B.I.P.P. paste is applied to it and then a gauze pack over it and the wound closed. This produces dense adhesions and healthy granulations.

Formerly, both in acute and chronic abscess this two-stage procedure was widely used, but the results, as proven, were definitely not as good.

In general, chronic abscesses are treated by the same method of surgical drainage, but as stated above, with much poorer results. Complete closure of the cavity is more infrequent, loculated cavitation and lattice lung is often seen, and complicating bronchiectasis not uncommon. Permanent bronchocutaneous fistula, which are difficult to close, are often seen after drainage of chronic abscess.

Although not generally accepted, it is my opinion that some chronic abscesses are best treated by lobectomy or pneumonectomy. Complicating features may prevent one from performing such an operation and force one to adopt the more uncertain procedure of drainage. At the same time, complicating features such as bronchiectasis or repeated haemorrhage may make the operation of resection the one of choice regardless of the slightly added operative risk. We have performed both lobectomy and complete lung resection on a few cases of abscess, with excellent results.

Before closing, I would like to mention the two chief dangers in opening lung abscesses. The first is air embolus from opening into pulmonary veins, and the second is haemorrhage. It is well, when operating upon a lung, to have the patient in a rather low Trendelenburg position. This will prevent air from going to the brain with a sudden fatal outcome. The danger from both air embolus and haemorrhage can be minimized by cauterizing through the lung tissue with a low, coagulating, actual cautery. Lung should never be incised with a sharp instrument.

Editor's Column

Halifax, N. S.
July 21, 1944

Dear Fellow Member:

The Medical Society in session at White Point Beach, under the presidency of Doctor J. C. Wickwire, has laid upon us the very pleasant duty of addressing you.

Our members wish to have you know that they have been thinking of you, and that they have missed the presence of many of you whom we met so frequently at such meetings.

We realize that you are extensions of ourselves, called upon at this time to share the greater part of the load in our common duty, and we appreciate the cost to you, in the prolonged separation from loved ones, and in the disruption of your aspirations and plans.

We sincerely pray that victory will speedily crown our arms and those of our allies, and that you may soon come back, to again take your place in our provincial and community life and to help us with your counsel in meeting the problems that lie ahead. We hope that when that happy day does arrive, you will find our appreciation expressed in that practical help and co-operation which we shall want to extend to you.

Meanwhile we send you from each and every member the best wishes for your health and success.

Yours on behalf of the Society

(Sgd.) N. H. GOSSE
H. W. SCHWARTZ
H. G. GRANT

(Above is a copy of the letter sent to all Nova Scotian Doctors overseas.)
(The following are some letters received.)

18 Oct., 1944

Lt.-Col. H. D. O'Brien
No. 5 Canadian General Hospital
R.C.A.M.C., A.A.I.

The Medical Society of Nova Scotia

My dear Friends:

Your letter bearing greetings and good wishes has just now reached me, and I am very pleased to receive it and learn of your kindly thoughts and appreciation of the small amount of service which I am able to give to the magnificent effort the Canadian army has performed overseas.

It has been a pleasure to have been able to do something for these boys who have risked their all. They are so appreciative of all that is done for them. They know how to take it and have done so on many occasions in this very difficult fighting country, but most important they know how to give it back.

The medical service has been as good as any army in the world. In the Hitler line show it was superb and we doff our hats to no one on that score. I have made it my business to visit various British and American medical installations, talk to their operating surgeons, and am as proud of the medical

men in our units as they are of theirs. Professionally we can hold our heads with any of them.

War surgery has changed its complexion a great deal in the past six months, especially with the more abundant supply of Penicillin, but this wonder drug does not supplant good surgery, is merely an adjuvant to it. It has been truly amazing to see the transformation that has occurred in the treatment of wounds and compound fractures, particularly, closed and healed in weeks less time than could have otherwise occurred under the most favourable conditions.

I know you have all been bearing a heavy burden with added work and increased taxes, and many of you still carrying the torch for our sakes when you should be living in slippered ease. We are not unmindful of all these arduous duties.

It may be of interest to you that our hospitals are now made up of personnel from all over Canada, which in itself tends to unite the profession more closely than ever and will be a good thing in the days to come, of better understanding and appreciation of one another's problems and capabilities.

We hope the day is not far off when we shall return home to our daily tasks, our families and loved ones. We know we have changed and expect that conditions at home will have changed, so that we shall be able to render even better medical service to the public.

Please convey my kindest thoughts and best wishes to my many personal friends in the Society and hope that at the next annual meeting I shall be there.

Sincerely yours

(Sgd.) H. D. O'BRIEN

9 Canadian General Hospital
Canadian Army Overseas
12 October, 1944

Dear Dr. Grant:

The very kind letter from the Medical Society bearing greetings and good wishes was most gratefully received. That we have become so widely out of touch during these five years is perhaps understandable. Certainly, I can see where I have been guilty of neglect in keeping up my end. But at least one's sentiments have always been of warm regard and interest, and I feel sure that any regression of former happy relationships must be more apparent than real.

Oddly enough I have learned a great deal about Canada since coming away, and although one sees our province as only a small part of that splendid country, nevertheless, whenever an infrequent contact has brought together two or more medical "Bluenoses", it has always been a special occasion for keeping up to date with news from home. The attractive gifts from the Gerald Burns Fund have warmed our hearts on many occasions, and it is a grand thrill to have such a letter as the Society sent from White Point Beach. I really am grateful.

I have recently returned from a year in Italy, fortunately in splendid health, and am now much more comfortably ensconced in a base hospital as officer in charge of surgery and as temporary commanding officer. My experiences in the army have been varied—from that of a Regimental medical

officer with the P.L.F. to the commands of a field dressing station, a field ambulance and a casualty clearing station. Although "enjoyable" is hardly the word, certainly there has been plentiful interest. And now it is satisfying to relinquish the more soldierly aspects in favour of the purely clinical, of which during these months, there has been so much.

Mrs. Noble moved from Halifax early in the war, and as my main supply of society news came (and still comes!) from that source, there must be a vast amount of interesting items of which I am ignorant. How overwhelming will be the renewal of acquaintances and friendships!

Please give my very best regards to all whom I know, my greetings to Mrs. Grant, best wishes to yourself, and my thanks again, to the Society for the kind expression sent by Dr. Gosse, Dr. Schwartz and by yourself.

Sincerely

(Sgd.) ARNOLD NOBLE

12 October, 1944

The Secretary
The Medical Society of Nova Scotia

Dear Dr. Grant:

Received to-day, the Society's letter of good wishes. It says many things good about us, some of which are undoubtedly true.

I was very happy to have read the BULLETIN re the Annual Meeting and did enjoy it very much. The article written by Dr. George Murphy did cause me some nostalgia. It is always a pleasure to get the BULLETIN if only to see familiar names.

Am now the sole officer member of the 22nd Field Ambulance, which left Halifax in July, 1941. The 22nd is still despite the many changes of officers and other rank personnel predominantly Nova Scotian. We landed in Normandy on D Day and so far have seen a good deal of France, Belgium, and some of Holland. There have been apprehensive moments.

During the past four months I have seen a good many Nova Scotians. It is always a pleasure to meet them. I think most of us wonder what Nova Scotia will be like on our return home.

Thank you and your Society for your kind letter.

(Sgd.) GERRY TANTON

Major G. P. Tanton

22 Canadian Field Ambulance

Canadian Army, B.W.E.F.

Abstracts from Current Literature

SOME HARMFUL EFFECTS OF RECUMBENCY IN THE TREATMENT OF HEART DISEASE. Levine, S. A.: Jour. Amer. Med. Ass., 1944, 126: 80.

Levine points out that rest in bed, which has been the backbone of our treatment of heart failure, needs reconsideration in the light of some possible harmful effects. There is both clinical and laboratory evidence to show that recumbency may be very harmful for certain patients with heart failure. The heart may be made to work more rather than less, and pulmonary congestion may be made worse rather than better at certain stages of heart failure by placing the patient in bed. Making the bed slant downwards by placing 9 inch blocks of wood under the head posts is a simple method of minimizing this undesirable effect. At times it is wise to treat patients with heart disease in a chair rather than in bed. Cardiac as well as non-cardiac patients who are confined to bed for any appreciable length of time should be instructed to exercise their legs frequently or to have massage of the legs to prevent venous thrombosis of the legs and pulmonary emboli.

THE ARMY AIR FORCES RHEUMATIC FEVER CONTROL PROGRAM. Holbrook, Col. W. P.: Jour. Amer. Med. Ass., 1944, 126: 84.

Under the supervision of the Air Surgeon, a program for the control of rheumatic fever and streptococic infections has been established in the American Army Air Forces. The exact etiology and pathogenesis of rheumatic fever is still unknown. Whether it is a sequela disease to a group A haemolytic streptococcus infection, the result of a congenital susceptibility, the result of climatic and meteorological factors, a combination of these or due to an agent as yet undiscovered remains for further studies to determine. Their experience and that of others indicates that in the majority of instances the development of the acute rheumatic fever syndrome is related to a preceding haemolytic streptococcus infection. At least it is certain that they have not seen an epidemic incidence of rheumatic fever without a preceding high incidence of haemolytic streptococcus infection. It therefore appeared logical to attempt prophylaxis of rheumatic fever in those areas of high incidence by reducing or preventing the haemolytic streptococcus infections and the associated respiratory diseases.

This paper deals with the rheumatic fever control program and is limited to a report on the use of sulphadiazine prophylaxis. The conclusions indicated that acute rheumatic fever shows a striking geographic variation in its distribution as indicated by the incidence rates per thousand troop population in the various geographic areas. Acute rheumatic fever occurring in high incidence during this study in every instance has been preceded by a high incidence of haemolytic streptococcus infections. A 50-75 per cent reduction in the incidence of respiratory diseases and streptococic infections has been accomplished by the use of sulphadiazine prophylaxis under carefully controlled conditions and on a significantly large troop population. No serious drug reactions occurred. From the partial data at hand it would appear that the reduction in rheumatic fever parallels that of respiratory and streptococic diseases. The possibility of utilizing these prophylactic methods, thus saving millions of hospital days, avoiding serious complications and adding millions of effective man days to the war effort, should be given consideration.

EPHEDRINE SULFATE IN NOCTURNAL ENURESIS. Kittredge, W. E., and Brown, H. G.: *New Orleans Med. and Surg. Jour.*, 1944, 96: 562.

Parkhurst suggested in 1930 the use of ephedrine in incontinence of urine. Kittredge and Brown used the drug for the control of enuresis in 25 children who were chronic bed wetters. Twenty-three of these immediately became continent, and remained so as long as the drug was administered. It was given in a single dose of $\frac{3}{4}$ grain (50 mg.) each night at bedtime, and no other measures were taken to influence the bed wetting habit. The drug was continued in each case for two weeks and then withdrawn. It was then noted that enuresis returned in 11 of the 23 children; the other 12 remained well. The 2 who were not influenced, were incorrigible children of low mentality. Each case is first carefully studied to eliminate organic pathologic conditions which might cause frequency of urination stimulating enuresis. It is always necessary to eliminate the possibility of infection in the urine, mechanical obstruction to the emptying of the bladder with resultant retention, or neurologic defect which would interfere with normal function of the bladder. The drug is recommended because of its ease of administration, absence of disagreeable reactions and excellent results.

MYOCARDIAL INFARCTION WITHOUT CORONARY ARTERY DISEASE. Simmons, W. K. and Wolfson, S. A.: *Military Surgeon*, 1944, 95: 33.

Simmons and Wolfson report that a man aged 31, was hospitalized because of substernal pain which radiated to the left shoulder and down the inner aspect of the arm to the third and fourth fingers. He had been free of complaints up to the day of illness. Immediately after the noon meal he attempted to climb a sharply graded mountain, approximately 1600 feet in height. About one-third of the way up he experienced some nausea and stopped to rest. After a brief period he continued climbing but soon felt a substernal fulness as though "gas was crowding his heart." He rested a second time and proceeded to climb. About two-thirds of the way up he experienced a substernal ache. He rested a third time and climbed more. A few minutes later the pain became severe and radiated to the left shoulder and down the inner aspect of the left arm to the third and fourth fingers. This time the pain persisted in spite of rest. The patient was taken by litter and ambulance to the hospital. During hospitalization he continued to have mild substernal distress and numbness and tingling of the left arm in decreasing intensity through the fourth day. The patient was at bed rest for three weeks, was then allowed up for a short interval at a time in a wheel chair and was gradually permitted restricted activity. Convalescence was uneventful. The problem of acute heart strain resulting in myocardial infarction is still a controversial subject. Parsonnet and Bernstein concluded that acute heart strain occurs in the healthy as well as the diseased heart, reasoning that the man who is working at full capacity, and who then adds a little more to this exertion, may suddenly find himself with an inadequate blood supply to a portion of his myocardium, with resultant changes identical in every respect to those seen after a coronary occlusion or thrombosis. The sequence and progress of events in the case here reported make such an occurrence likely. The authors consider it probable that such other cases will be observed with greater frequency as more men are inducted into the service and participate in physical exertion foreign to them in civilian life.

INFECTIOUS MONONUCLEOSIS. Contratto, A. W.: Arch. Int. Med., 1944, 73: 449.

According to Contratto, a young adult with symptoms of cold, sore throat, and grip, should be suspected of having infectious mononucleosis, and the necessary laboratory tests should be made. The author and his associates attended a large number of young men suffering from this disease. From 1935-1943 there were 12,601 men admitted to the Stillman Infirmary, of whom 249 had a discharge diagnosis of infectious mononucleosis. Of this number 53 were eliminated as not presenting a typical enough picture. Type and severity of symptomatology varied greatly. Sore throat was the most common symptom. Although it did not occur as the presenting symptom in more than 50 per cent of the cases, it developed at some time during the course of the illness in all except 18 per cent. Headache often heralded the onset of the disease. Fatigue and general malaise were frequent. Gastro-intestinal symptoms were not prevalent, but anorexia was common. A presenting symptom of stiff or sore neck was usually referable to the swollen cervical lymph nodes. The onset of the lymph-adenopathy was usually found in this area and often on the left side. The symptoms of ordinary infections of the upper respiratory tract with nasal congestion, fever and chills were conspicuous. The spleen was palpable in 91 cases. In several cases the spleen was definitely tender. The diagnosis of infectious mononucleosis cannot be made unless either the heterophile reaction of Paul and Bunnell is positive in high dilution or the blood smear is typical. The author stresses the importance of making frequent tests and smears during the course of the illness, since there is often a delay of days or even weeks before the hematologic changes are conclusive enough to permit an accurate diagnosis.

SULFATHIAZOLE PROPHYLAXIS FOR GONORRHEA. Gooch, J. O. and Gorby, A. L.: Military Surgeon, 1944, 94: 339.

Gooch and Gorby describe three different plans of sulfathiazole prophylaxis in units with venereal disease rates in excess of 100 per thousand a year. The use of regularly established prophylactic stations (these stations do not administer sulfathiazole) as soon as possible after contact was encouraged, directing that sulfathiazole should be considered as an adjunct to such measures rather than supplanting them. It was emphasized that sulfathiazole in no way protected against syphilis and that syphilis prophylactic measures should not be neglected. At the time the sulfathiazole prophylaxis was put into effect the annual gonorrhoea rate of the units affected averaged 170 per thousand. After two and one-half months of application the annual rate was reduced to an average of 70 per thousand. The rate as it now stands is due to cases contracted on furloughs, which often means that the men are away from the organization for fifteen days. They frequently return from furlough with acute gonorrhoea. Aside from the method in use with those units exhibiting high venereal disease rates, different methods were used to establish the most efficacious dosage, the smallest effective dose, the proper timing of the dosage and to compare sulfathiazole gonorrhoea prophylaxis with the standardized venereal disease prophylactic method using soap, five minute urethral instillation of 2 per cent solution of strong protein silver and ointment of mild mercurous chloride. After describing the prophylaxis used in four different

groups the author says that in those using sulfathiazole the drug was entirely administered after the exposure except in group 4. In this group 2 Gm. of sulfathiazole was given as the man left his company area on pass and when he returned, the drug being given before and after exposure. During the period covered by this report there was a reduction in the venereal disease rate from gonorrhea alone from an approximate annual figure of 16 to eleven per thousand. The authors concluded that (1) sulfathiazole is an effective gonorrheal prophylactic agent, (2) the average individual prefers a sulfathiazole type of prophylaxis over the urethral instillation method, (3) sulfathiazole gonorrheal prophylaxis is effective for a longer period following exposure, (4) in prophylactic dosage toxicity and sensitivity reactions to the drug are negligible, (5) a total dose of 2 Gm. of sulfathiazole appears as effective as twice that amount, (6) there was a concurrent lowering of the common respiratory disease rate in those units placed on a mandatory sulfathiazole gonorrheal prophylaxis regimen, i.e. those units with high venereal disease rates, and (7) there has been a concurrent lowering of the syphilis rate as a result of increase in the number of prophylactic administrations.

THYROTOXICOSIS TREATED WITH THIOURACIL. Reveno, W. S.: Jour. Amer. Med. Ass., 1944, 126: 153.

Reveno describes his experience in the treatment of 9 ambulatory patients with thiouracil over a period of 8 months. Of the 9 patients treated with this drug, 6 showed satisfactory results characterized by cessation of disturbing symptoms, fall in basal metabolic rate and gain in weight. Two of these patients had auricular fibrillation; in 1 of these the use of digitalis was discontinued after 8 weeks; the other showed promise of improvement, which failed to materialize because of lack of cooperation. One patient in whom diabetes mellitus coexisted, and who had been taking iodine for 6 years, failed to respond to therapy. Another patient responded favourably at first but developed rapid enlargement of and hemorrhage into the gland and was subjected to surgery. The third failure was of a patient who, while showing some clinical improvement, failed to show a drop in basal metabolic rate during the short period she was under observation. The results in the responsive patients appeared as good as those following successful thyroidectomy.

ATELECTASIS COMPLICATING ACUTE POLIOMYELITIS. Cooperstock, M.: Amer. Jour., Dis. Child., 1944, 67: 457.

According to Cooperstock, a number of factors predispose to the development of atelectasis in paralysis of the respiratory muscles due to poliomyelitis. Foremost among them is the reduction in vital capacity. Also important is the fact that the ability to cough is impaired in poliomyelitis. Failure to rid the bronchial airways of exudate leads to bronchial occlusion and atelectasis. Should the obstructing material contain infective agents, as it invariably does, the situation is then fertile for the development of secondary pneumonia. It is thus apparent that in poliomyelitis with paralysis of the respiratory muscles there exists a constant threat of the development of grave pulmonary complications. For a patient already encumbered with serious liabilities, the advent of such complications may well spell disaster. It is therefore of interest

to record 4 instances, in 3 of which unexpected recovery took place. In all 4 atelectasis developed after the acute phase of the disease had passed, the pulmonary complications occurring from three weeks to one year after the admission of the patient to the hospital. Three of the patients were still in the respirator, and for the fourth patient the use of the respirator had been discontinued only four days prior to the occurrence of atelectasis. The patients had extensive paralysis of all extremities in addition to involvement of the muscles of respiration. The favourable outcome in the 3 patients who recovered followed the occurrence of a critical clinical picture due to the development of secondary pneumonia. Recovery appeared to depend on the favourable effect of sulfonamide compounds on the pneumonic process, permitting ultimate spontaneous clearing of the atelectasis. In the prophylaxis against pulmonary complications, avoidance of exposure to infections of the respiratory tract is of utmost importance. With the occurrence of such infections the early institution of chemotherapy may be effective in preventing the development of more serious complications. The continued use of the mechanical respirator under such circumstances is essential. Although not employed in the cases reported here, the early use of bronchoscopy for the relief of bronchial occlusion may minimize pulmonary complications under such circumstances. It is of interest that in patients already so seriously handicapped by poliomyelitis spontaneous clearing of atelectasis is possible.

ABNORMAL UTERINE BLEEDING PAST MIDDLE AGE. Wilson, T. R.: Staff
Proc. of Mayo Clinic, 1944, 19: 459.

This paper is based on the records of 200 women past the age of thirty-five years who registered consecutively at the Mayo Clinic since 1937, and who presented abnormal vaginal bleeding as the chief complaint or as a prominent symptom. These cases were selected from the year 1937 so that the results of treatment could be reviewed after an interval of five years. The patients were all ambulatory and represent a cross section of patients ordinarily encountered in the office practice of gynecology. Cases of pregnancy and abortion were not included. This study was undertaken for the purpose of determining the incidence of the various etiologic factors which cause abnormal vaginal bleeding after the age of thirty-five years. Arbitrarily the conditions responsible for the bleeding have been divided into four groups: benign conditions, malignant conditions, functional conditions and postmenopausal conditions.

Of the benign conditions the most commonly occurring cause of abnormal vaginal bleeding was the presence of uterine leiomyomas or fibroids. This condition was present in eighty (40 per cent) of 200 cases. Leiomyomas were present in thirty-three cases (16 per cent) without other pertinent or pathologic features being found. Cervicitis or erosion of the cervix or both occurred in forty-five cases (22 per cent). In ten cases this was the only lesion present. Cervical polyps were present in seventeen cases (8 per cent). In seven instances the polyp appeared to be the sole source of bleeding. Chronic endometritis was found nine times, three times alone. In one case the endometritis was tuberculous. Benign or simple ovarian cysts are rarely the cause of abnormal

vaginal bleeding. In this series only four cases were found (2 per cent). In three cases endometrial polyps were found. This type of polyp is more uncommon than cervical polyps and is more likely to be malignant. Pelvic inflammatory disease becomes of progressively infrequent occurrence after the age of thirty-five years. The advent of sulfonamide therapy has further reduced the incidence. In this group there was only one case of pelvic inflammatory disease, an incidence considerably lower than usual.

In the malignant conditions, carcinoma of the uterine cervix occurred in sixteen of the 200 cases (8 per cent). The predominant symptom was metrorrhagia; it occurred in ten cases. Menometrorrhagia occurred in five cases and menorrhagia alone in only one case. This serves to emphasize further the fact that bleeding between periods also deserves careful consideration. In this series there were eleven adenocarcinomas of the corpus uteri, which represents 41 per cent of the cases of uterine carcinoma. Sarcoma of the uterus is a relatively rare disease and, according to Curtis, occurs in the proportion of one sarcoma to fifty carcinomas. In this series there were two cases of sarcoma of the uterus, a disproportionately large incidence. It is interesting to note that in both of these cases uterine leiomyomas also were present. One case of carcinoma of the ovary was found.

So-called functional bleeding is frequently encountered in pre-menopausal years. In many instances it is caused by ovarian dysfunction which from a practical standpoint is exactly diagnosed with difficulty, if at all. A diagnostic curettage frequently reveals only hyperplasia of the endometrium, which probably is a result of a dysfunction or imbalance of the ovarian hormones. Hyperplasia of the endometrium occurred in forty-three cases. The diagnosis is based on microscopic examination of tissue and is not necessarily associated with gross pathologic change on pelvic examination. Atrophy of the endometrium was found in twenty-five cases. This is to be expected since many of the patients had passed the menopause. Bleeding may occur from an atrophic endometrium or at least an atrophic endometrium may be the only finding after diagnostic curettage. There were only two cases of low basal metabolic rate without myxedema. The basal rate being less than minus 20 per cent in each case. In one case basal metabolic rate of plus 45 per cent was present, owing to a toxic goiter of the adenomatous type.

Examination of the histories in the series of 200 cases shows that a large majority of the women had one or more demonstrable conditions which could, or did, account for the abnormal bleeding, so that the diagnosis of functional bleeding or bleeding without demonstrable organic cause was relatively infrequent. So-called functional uterine bleeding is thought to be caused by endocrine dysfunction. Such dysfunction or imbalance can be determined readily in cases of thyroid disease but the exact diagnosis of the nature of ovarian dysfunction is not easily made and requires special endocrine laboratory equipment. Even after the results of biologic tests for prolan and estrogenic substances have been obtained and tests for pregnandiol have been made, the results frequently are not conclusive.

In thirty cases of this series, there was postmenopausal bleeding. Bleeding was considered postmenopausal if the patient was more than forty years of age and if amenorrhea had persisted for six months. In seventeen (57 per cent) of the thirty cases malignant disease of the pelvic organs was present. These

comprised nine cases of carcinoma of the uterine corpus, seven cases of carcinoma of the cervix, and in one case, carcinoma of the ovary. The postmenopausal bleeding was benign in thirteen cases (43 per cent). In six of these thirteen cases there was no demonstrable cause for the bleeding. Cervical polyps were found in four cases, cervicitis was found in two cases, and senile vaginitis in one case.

In a discussion of this paper, Mussey states that among these 200 cases there is, perhaps, a higher incidence of organic and of malignant lesions than would be encountered in private practice. Abnormal vaginal bleeding may occur without implying serious disease; however, such bleeding, not associated with pregnancy, should not be considered to be benign until examination indicates with reasonable certainty that malignant disease is not present. The importance of the employment of diagnostic curettage in the large majority of these cases cannot be too greatly emphasized.

Results of treatment of functional bleeding are not entirely good and the condition of hardly more than half of this group was improved by medical measures. The best results are obtained for those patients who have a low basal metabolic rate when the rate is raised to within normal limits by the use of desiccated thyroid. Various other endocrine products have been used, sometimes to good advantage, such as estrogenic hormone, progesterone or a combination of the two, chorionic gonadotropin and, more recently, testosterone. Of course, the use of testosterone must be guarded carefully because of the danger of its masculinizing effect. At best, among women of this age improvement following such treatment may be temporary. When no improvement is obtained and the bleeding is so profuse that the patient becomes markedly anemic, it may become necessary to produce the menopause. If the patient is perhaps less than forty-two years of age, it may be more conservative to perform hysterectomy for the purpose of preserving ovarian function than to use a sufficient dose of irradiation to produce menopause by destroying ovarian function. If the patient is nearer the menopause, bleeding may be stopped by irradiation with less chance of distressing menopausal symptoms.

The treatment of minor benign conditions, such as cervical polyps, is obvious. The treatment of uterine fibromyomas, which constitute 40 per cent of this group, depends on the amount of bleeding, the age of the patient, the size of the tumor and the symptoms resulting from it. If the bleeding is sufficiently profuse to produce such a persistent secondary anemia that intervention becomes necessary, irradiation may be used if the patient is more than forty-two years of age, if the tumor is not larger than a uterus at two and one-half months gestation and if there are no local symptoms of pelvic inflammatory disease or of degeneration of the myoma. In such cases for the sake of conserving ovarian function among the younger women of this group and in those cases in which the tumor is larger than the size mentioned, hysterectomy is the operation of choice.

In the treatment of carcinoma of the cervix irradiation is used in practically all cases, except for a comparatively small number with stage 1 or 1 plus lesions for which panhysterectomy with the Wertheim technic is sometimes performed. For carcinoma of the uterine corpus the most favourable results have been obtained by total hysterectomy with bilateral salpingoophorectomy. In this series the encouraging five year cure rate of 63 per cent has followed this procedure. It is well known that the chance for cure of early carcinoma of the

uterus is much greater than when the lesion is more advanced. The histories of most of these cases indicate that commonly the warning sign of abnormal vaginal bleeding was ignored too long.

THE CHANGES IN OPERATIVE GYNECOLOGY DURING THE LAST QUARTER-CENTURY. Phaneuf, L. E. *Jour. Amer. Med. Assoc.*, 1944, 126: 139.

Phaneuf states that the last quarter of a century has shown significant improvement in surgical technic, with emphasis on careful dissection and ligation of individual vessels with fine material rather than mass ligation of tissues. The treatment of carcinoma of the cervix has changed from surgery to irradiation with the return to the radical pelvic operation by a few gynecologists in early cases and good surgical risks. Carcinoma of the uterine corpus and fundus has remained a surgical lesion, surgery, however, having been complemented by irradiation. Improvement in the operation of myomectomy has resulted in more conservative management of these lesions in the young: supravaginal hysterectomy still remains the common method in use, while an increasing number of gynecologists have turned to panhysterectomy as a prophylactic means against carcinoma of the cervical stump. Vaginal hysterectomy has been reborn and improved and has now become a commonplace procedure. The increased number of surgical vesicovaginal fistulas has been responsible for the elaboration of new technics in the cure of this lesion.

Trachelorrhaphy and amputation of the cervix are less frequently done, these having been replaced in many cases by cauterization and electrocoagulation. A significant advance has been made in the surgical treatment of uterine prolapse, cystocele and rectocele through better anatomic understanding of these lesions and by reconstructing the deficient supports through the vagina rather than by depending on abdominal suspension or fixation of the uterus. Pelvic inflammatory disease has been handled more and more by conservative methods, and the sulfonamide drugs seem to show great promise in lessening and eradicating this condition. Ovarian tumors have been classified better, the rare tumors have been discovered, the tendency of malignant changes in these neoplasms has been emphasized and their early ablation has been strongly advised.

MANAGEMENT OF UTERINE MYOMAS. Phaneuf, L. E.: *Surg. Gyn. Obs.*, 1944, 79: 182.

According to Phaneuf, the treatment of uterine myomas depends on their size, their location in the uterus, their symptomatology and the age of their host. The author reviews the records of 1000 consecutive cases which he treated. The youngest patient was 20 and the oldest 76 years of age. The incidence of myoma was highest between 30-49 years; this observation agrees with other statistics. Women with small myomas which are not productive of symptoms do not require treatment, but they should be kept under observation and examined every six months to a year. Myomectomy, while more difficult of execution than ablation of the uterus, offers a reward in the fact that it prevents castration and also permits many women in the childbearing age, to which it is almost entirely applicable, to gratify their desire for maternity. Even in some who are approaching the menopause, prevention of castra-

Some Additions to the Library, 1943-44

Readers are again reminded that the services of the Dalhousie Medical and Dental Library are provided for practitioners throughout the Maritimes, as well as for the staff and students of the Medical and Dental Schools, and for the doctors and dentists in the services. You are invited to write to the library for reference material, either for specified articles or books, or for material to be selected by the librarian to give the required information.

Following is a list of recent additions to the library:—

MEDICINE:

- Beaumont, *Medicine: essentials*, 4th ed., 1942.
Bockus, *Gastroenterology*, 2 v., 1943-1944.
Cowdry, *Problems of ageing*, 2nd ed.
Draper, and others., *Human constitution in clinical medicine*, 1944.
Duncan, *Diseases of metabolism*, 1943.
Emerson, *Textbook of medicine*, 1936.
Goldring and Chasis, *Hypertension and hypertensive disease*, 1944.
Herrick, *Short history of cardiology* 1942.
Hughes, *Practice of medicine*, 16th ed., 1942.
Langdon-Brown and Hilton, *Physiological principles in treatment*, 8th ed., 1943.
Lewis, *Pain*.
McCombs, *Internal medicine in general practice*, 1943.
Meakins, *Practice of medicine*, 4th ed., 1944.
Muller, *Clinical significance of blood in tuberculosis*, 1943.
Osler, *Principles and practice of medicine*, 15th ed., 1944.
Pugh, and others, ed., *War medicine: a symposium*, 1942.
Quick, *Hemorrhagic diseases*, 1942.
Ustvedt, *Pulmonary tuberculosis*, 1942.

SURGERY:

- Adams, *Intravenous anesthesia*, 1944.
Bowman, *Everyday proctology*, 1941.
Boyce, *Role of the liver in surgery*, 1941.
Brown and McDowell, *Skin grafting of burns*, 1943.
Codman, *The shoulder*, 1934.
Campbell, *Operative orthopedics*, 1939.
Fomon, *Surgery of injury and plastic repair*, 1939.
Higgins, *Renal lithiasis*, 1943.
Ladd and Gross, *Abdominal surgery of infancy and childhood*, 1941.
Lowsley, *Sexual glands of the male*, 1942.
Kling, *Synovial membrane and synovial fluid*, 1938.
Meyer, *Kinetic bandaging*, 1943.
Raven, *Treatment of shock*, 1942.
Treves, *Students' handbook of surgical operations*, 7th ed., 1943.

- Trueta, *Principles and practice of war surgery*, 1943.
Turner, ed., *Modern operative surgery* 3rd ed., 1943.

DERMATOLOGY AND UROLOGY:

- Kampmeier, *Essentials of syphilology*, 1943.
Lowsley and Kirwin, *Clinical urology*, 1940.

OBSTETRICS AND GYNECOLOGY:

- Beck, *Obstetrical practice*, 3rd ed., 1942.
Berkeley and Bonney, *Gynaecological surgery*, 4th ed., 1942.
Browne, *Antenatal and postnatal care*, 5th ed., 1944.
Geist, *Ovarian tumors*, 1942.
Goodall, *Study of endometriosis*, 1943.
Hunt, *Diseases affecting the vulva*, 2nd ed., rev., 1943.
Kerr, Munro, ed., *Combined textbook of obstetrics and gynaecology*, 1944.
Queen Charlotte's *textbook of obstetrics*, 6th ed., 1943.
Shaw, *Textbook of gynaecology*, 3rd ed., 1943.
Titus, *Atlas of obstetric technic*, 1943.
Vaux and Castallo, *Mechanics of obstetrics*, 1943.
Wharton, *Gynaecology, with a section on female urology*, 1943.

NEUROLOGY AND PSYCHIATRY:

- Cameron, *Objective and experimental psychiatry*, 2d ed., 1941.
Curran and Guttman, *Psychological medicine*, 1943.
Freud, *New introductory lectures on psychoanalysis*, 1933.
Grinker, *Neurology*, 3rd ed., 1944.
Hunt, ed., *Personality and the behavior disorders*, 2 v., 1944.
Klein, *Mental hygiene*, 1944.
Kraines, *Therapy of the neuroses and psychoses*, 2nd ed., 1943.
Morgan, *Physiological psychology*, 1943.
Selling, *Synopsis of neuropsychiatry*, 1944.
Sladen, ed., *Psychiatry and the war*, 1943.
Strecker and Ebaugh, *Practical clinical psychiatry*, 5th ed., 1940.

Wechsler, Textbook of clinical neurology, 5th ed., 1943.

Weiss and English, Psychosomatic medicine, 1943.

PUBLIC HEALTH:

Bolduan, Public health and hygiene, 3rd ed., 1942.

Davis, Principles and practice of rehabilitation, 1943.

Hagan, Infectious diseases of domestic animals, 1943.

Hamilton, Exploring the dangerous trades, 1943.

Jenson and others, Medical care of the discharged hospital patient, 1944.

Marsh, ed., Report on social security for Canada, 1943.

Perkins, Cause and prevention of disease, 1938.

Southmayd and Smith, Small community hospitals, 1944.

Wampler, ed., Principles and practice of industrial medicine, 1943.

Smith, Plague on us, 1941.

PHYSIOLOGY:

Abramson, Vascular responses in the extremities of man, 1944.

Babkin, Secretory mechanism of digestive glands, 1944.

Glasser, ed., Medical physics, 1944.

Kleitman, Sleep and wakefulness, 1939.

Wolff and Wolff, Human gastric function, 1943.

PHARMACOLOGY AND TOXICOLOGY:

Dack, Food poisoning, 1943.

Henderson and Haggard, Noxious gases, 1943.

Gonzales, Legal medicine and toxicology, 1940.

Obituary

THE death of Doctor Angus McD. Morton at his home in Halifax on October 26th has been the occasion of widespread mourning. Many have been the expressions of sympathy to his wife and family. In these the Bulletin sincerely joins.

Angus McDonald Morton was born at Middlefield, Queens County, on November 14th, 1871. He spent most of his boyhood at Grafton, Kings County, whither the family had moved. After a short period of teaching school he took up the study of medicine, receiving his degree at Dalhousie in 1898. In the following year he opened his office at Bedford, N.S., where for the succeeding eighteen years he was in truth the beloved physician. In 1917 after a period of service as medical officer with the Royal Canadian Garrison Artillery he removed his practice to the City of Halifax where he continued actively until a short time before his death.

Active in public affairs for many years, he represented Bedford district in the Halifax County Council, and from 1928 to 1933 he held a seat in the Nova Scotia Legislature as a member for Halifax County. In recent years he held the posts of Health Officer for Halifax County, and County jail physician.

Always interested in sport, he was especially active in curling and was a past president of both the Halifax and the Mayflower Curling Clubs.

Surviving are his wife the former Bessie Amelia Reid of Bedford, one daughter (Jean) Mrs. W. Norman Brittain of Saint John; four sons, Dr. Allan R. Morton, Halifax Health Commissioner; A. Blenus Morton, Dominion Civil Service, Halifax; Flight Lieutenant John M. Morton, R.C.A.F.; and Ralph S. Morton, with the Associated Press of Great Britain, at New York. Three sisters and seven grandchildren survive.

When we think of Angus Morton through the years, of his genial presence in many an intimate group at medical meetings or a sporting event, of the joy which he took and gave in entertaining his friends at his Sackville Camp, of his kindness with the helping hand, and of how the people loved him, we reflect—what a friend he was!

When we recall his impeccable professional conduct on all occasions; his interest, unspoiled by cynicism, in politics, his quiet stamina in adversity; and, finally, the gentle courage with which he faced for long months the inevitable end of Hodgkin's Disease; our exclamation is—What a man he was!

And now he is just a memory, a very dear memory to us all. There remains this to be said—remembering Angus Morton will do more to keep our ethical standards high than much passing of resolutions.

J. R. C.

The death occurred at Sydney on September 26th, following a long illness of Doctor William Hercules Rice, at the age of seventy-two. Doctor Rice was born in Montreal and graduated from Toronto University in 1900 and went to Sydney in the steel boom days of 1900, where he practised until two years ago when ailing health forced him to retire. Besides his widow he is survived by one son, Doctor William C. Rice, now serving overseas with the Canadian Army Medical Corps, and one brother, Henry Rice, in Toronto.

Personal Interest Notes

DR. A. R. MORTON, City Commissioner of Health for Halifax, has been elected to the executive of the Canadian Public Health Association at Toronto.

Dr. Eric W. Macdonald of Glace Bay, has been honoured in receiving the degree of the Royal College of Surgeons of Canada at Montreal. He received his degree of F.R.C.S. at the annual convention of the college held at Ottawa on November 4th.

Captain C. H. L. Baker, R.C.A.M.C., (Dal., 1935), who formerly practised in Middle Musquodoboit, and who is now serving overseas, has been promoted to the rank of Major.

The BULLETIN extends congratulations to Dr. and Mrs. E. M. Fogo of Halifax, on the birth of a daughter, Carol Ann, on September 29th; and to Captain and Mrs. R. G. A. Wood, R.C.A.M.C., of Lunenburg, on the birth of a son on October 1st.

Dr. H. J. Martin of North Sydney spent the month of October in New York City taking a refresher course in surgery.

Surgeon Lieutenant Basil K. Coady, R.C.N.V.R., (Dal., 1938), of Halifax, is one of several Haligonians serving aboard Canada's recently acquired cruiser, H.M.C.S. *Aganda*.

Major L. P. Churchill, R.C.A.M.C., of Shelburne, who has served in the Medical Corps since 1941, has been granted an honourable retirement, and has returned to private practice. He joined the forces in the first world war with the rank of Captain and served for twenty-six months in France where he won the M.C., and was decorated by King George V. He returned to private practice in 1919 at Shelburne, and since 1941 has been connected with the Military hospital at Sydney, and O.C. of the Military Hospital at Shelburne, and later O.C. of the Military Hospital at Yarmouth.

Dr. and Mrs. W. A. Hewat of Lunenburg have returned from New York City, where Dr. Hewat took a refresher course.

Major C. A. MacDonald, R.C.A.M.C., of Sydney, has been appointed O.C. of the new Military Hospital which will be located at Windsor, N. S., which will be ready in a couple of months.

Dr. C. L. MacMillan of Baddeck spent a couple of weeks in October in Toronto and Montreal, and while in the latter city attended clinics at the Royal Victoria Hospital.

Thirty-nine nurses of a graduate class of forty, the largest class in many years, were present in the Nurses' Residence of the Victoria General Hospital on October 26th. Rev. D. M. Grant of St. Matthew's Church addressed the graduates. Following the ceremonies nurses and their guests attended a dance.

The Unspecified Prescription

Some physicians are averse to specifying the maker's name of a proprietary product.

On the other hand, a physician of international reputation and unimpeachable, ethical standing has expressed himself as follows:

"I invariably specify Mead's whenever I can, for I feel that when I do not specify a definite brand, the effect may be the same as specifying that any brand will do.

"By not specifying exactly, I let down the bars to a host of houses, many entirely unknown to me and others deserving no support at my hands.

"When I specify Mead's, I may be showing favoritism, but at least I know that I am protecting my results. If, at the same time, my self-interested act encourages a worthy manufacturer to serve me better, I can see no harm in that."

Mead Johnson & Company, Evansville, Ind., U. S. A., have to depend upon the physician to specify MEAD'S because they do not advertise their products to the public, either directly or through merchandising channels.

Urology Award

The American Urological Association offers an annual award "not to exceed \$500" for an essay (or essays) on the result of some specific clinical or laboratory research in Urology. The amount of the prize is based on the merits of the work presented, and if the Committee on Scientific Research deem none of the offerings worthy, no award will be made. Competitors shall be limited to residents in urology in recognized hospitals and to urologists who have been in such specific practice for not more than five years. All interested should write the Secretary, for full particulars.

The selected essay (or essays) will appear on the program of the forthcoming June meeting of the American Urological Association.

Essays must be in the hands of the Secretary, Dr. Thomas D. Moore, 899 Madison Avenue, Memphis, Tennessee, on or before March 15, 1945.