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# What is New in Tuberculosis?*

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AT the Refresher Course in Tuberculosis given in 1932 at the Nova Scotia Sanatorium, I told the assembled physicians that during the past 20 years I have had to modify my views very considerably in regard to the value of the fundamental methods; inspection, palpation, percussion and auscultation, which we employ in the physical examination of the chest. From 1910 to 1917, before X-ray apparatus had been installed at the Sanatorium, I practiced the knowledge I had acquired in my training at Dalhousie University, and in four years' study at Saranac Lake, N. Y., followed later, with post-graduate periods in a number of the leading centres in Canada and the United States. Consequently, I felt reasonably sure of my methods and confident that I was well fitted to follow the particular line of work in which I was interested. That training, it is true, was of undoubted value in helping me to arrive at a satisfactory conclusion in the majority of cases sent to me for diagnosis and advice. However, during the years of the war, when so many men were coming from overseas to the Sanatorium, suffering from various affections of the upper and lower respiratory tract, I began to question the correctness of my preconceived ideas as to the value of physical findings, combined with the symptoms as given in the history of the illness of the patient, as a means of discovering early tuberculosis in the lungs.

As time does not permit me to go closely into details, I may tell you briefly that, from the information I have gathered from a comparison study of many thousand X-ray films with our clinical examination findings of the chest, I have come to some very definite conclusions which may be of interest and value to you.

*History of Present Illness.* I find that a well taken history of the illness of the patient is still of exceeding importance in determining the onset of tuberculous disease in the lungs. The history of contact with tuberculosis is of value, especially in early childhood. The more intimate the association sharing the same house, the same bed, the greater the probability of discovering new tuberculosis. Opie, of Philadelphia, following an exhaustive study among young children, claims that 80 per cent. of children of contact families react to tuberculin before they reached the fifth year of life, whereas at the same age 30 per cent. of non-contact children are sensitive to tuberculin. Furthermore, X-ray examinations reveal latent or manifest tuberculous lesions four times as frequently in contact as in non-contact families, and that lesions in contact families are far more serious in character and extent.

In the history of illness of many thousands of patients taken at the Nova Scotia Sanatorium, we have come to place reliance on several symptoms which I give in order of their appearance: cough, expectoration, loss of strength, loss of weight, loss of appetite, early morning fatigue, pain in the chest, dry

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pleurisy, elevation of temperature, night sweats, chills, irritability, hoarseness, rapid pulse, haemoptysis, pleurisy with effusion, frequent colds, indigestion. The six symptoms that appears most frequent in the history of these patients are in order: 1. Cough. 2. Expectoration. 3. Fatigue. 4. Loss of weight. 5. Loss of appetite. 6. Pain in the chest.

Let me say when a patient tells you that he has a cough that "hangs on," and which has persisted for four weeks or longer, make it an invariable habit to give him a nose, throat and chest examination. In case the cough is accompanied by expectoration, ask for a specimen for microscopic examination. Neglect to do so is inexcusable. The presence of tubercle bacilli establishes a positive diagnosis. The absence of tubercle bacilli, on the other hand, does not exclude tuberculsois. It is astonishing how frequently this simple diagnostic measure is overlooked in general practice. Many patients, whose lives might otherwise have been saved, pass from an early to an advanced stage with little or no prospect of arrest or recovery.

We still believe that an haemoptysis of a dram or more should be considered as due to tuberculosis until the contrary is proven. Seventy-five per cent. of patients giving a history of bringing up a mouthful or more of blood from the lungs show a definite X-ray lesion in the chest. However, you must not forget there are other causes of haemoptysis that must not be overlooked. Think, for instance, of conditions such as nasal—sinus—pharyngeal disease, adenoids, diseased tonsils, varicosities of the oesophagus, chronic bronchitis, bronchiectasis, abscess of the lung, cardiac disease, mitral stenosis and mitral insufficiency. Another significant symptom is pleurisy with effusion. This should invariably be regarded as definite evidence of a previous tuberculous lesion unless proven to be due to some other known cause.

*Physical Examination of the Chest.* Inspection—Palpation: I have come to see that inspection and palpation are of little help in determining the presence of early tuberculosis in the lungs. It is well, however, to note the general appearance of the patient, the colour of the skin and mucous membranes in case anaemia is present. Unilateral lagging at the apex or base of the lung has a limited place in the early diagnosis of tubercle in the lungs. Fluoroscopic examination of the chest is a much more certain way to determine limitation of movement of the lungs. Retraction of the chest, especially atrophy of the tissues above and below the clavicles, is not an early sign of tuberculosis, but comes later in chronic fibrotic forms of the disease.

*Percussion.* The value of percussion in early tuberculosis is not as important as we once considered it to be. Much depends on the technique employed by the examiner and the degree of perfection to which he has developed that technique. Heavy percussion will not get results. Light percussion is by all means the best method to employ. Apart from the dulness that is found when there is fluid in the pleural space or marked fibrosis in the lung, not much reliance is to be placed on the slight alteration in the pitch of the note illicited over small areas of consolidation in the lung. The interpretation of the changes in resonance and its significance is a matter for the judgment of the experienced examiner. Tidal percussion at the bases of the lungs is of some value but much more accurate information may be obtained from noting the movement of the lungs and diaphragm under the fluoroscope.

*Auscultation* is by far the most valuable single measure we have in the physical examination of the chest. It ranks next in importance to a

well taken stereoroentgenogram of the lungs. It is not my intention to dwell on the significance that may be attached to the alteration noted in breath sounds in early or beginning tuberculosis. Diminished, increased, harsh, granular, interrupted, broncho-vesicular, forms of breathing are difficult to evaluate even when heard and interpreted by the most experienced examiner. My advice to you all is not to attempt to make a diagnosis of tuberculosis in the absence of rales, from the slight differences observed in the quality of the breath sounds alone. The only finding that is of real practical worth is the presence of persistent, localized rales, especially when heard in the upper third of the lungs. Always think of tuberculosis, in the absence of some acute respiratory infection, when moist rales are noted above the 3rd rib and 4th vertebral spine. Ninety-five per cent. of chronic infections in this area prove to be tuberculous. When the apices are free from adventitious sounds and rales are heard at the base of the lungs, think of some non-tuberculous affection of the chest.

The manner of iliciting rales is of great importance and the diagrams which I am about to explain to you, will make clear the method we follow in our chest examinations at the Sanatorium, and which I think I may say is essential to get the best value in auscultation.

As you already know rales are produced in the alveolar sacs and smaller bronchioles of the lung in the following way: When considerable secretion is present in the lungs the passage in and out of air during ordinary respiration is sufficient to set in motion the mucous on the walls of the bronchioles and air vesicles. This results in the vibration we interpret as rales. In early tuberculosis on the other hand there is usually not enough secretion to be set in motion by quiet or even deep breathing.

The following suggestions are offered in order to illciit the production of rales. The patient is requested to blow out his breath quietly through his open mouth, give a slight cough, and then to inhale. The time to listen for rales is at the moment of cough and when the patient begins to inspire, especially during the first half of the inspiratory act. The rales heard in a case of early tuberculosis are usually fine and slightly moist in character. In the advanced case of tuberculosis the rales are more apt to be moderately coarse and coarse in character.

*Radiology*: The importance of radiography in the examination of the lungs cannot be over-estimated. The X-ray tube is an instrument far greater in precision and far more reaching in extent than the stethoscope of Laennec. The methods of physical examination are still necessary but their intelligent application is only possible when we have learned to correlate sounds with shadows. Percussion and auscultation supply circumstantial evidence, but radiology more direct evidence. It enables us "to see for ourselves." I would hesitate to-day to make a diagnosis of either suspected or even early pulmonary tuberculosis from my clinical findings alone, without a good Roentgen ray examination of the lungs. Without a good X-ray plate, properly interpreted, tuberculosis in children should never be ruled out. Without an X-ray film, life-long, advanced and very extensive bilateral pulmonary tuberculosis will often be missed. From our special comparison study of X-ray films with the physical findings in the chest, I see that a well taken skiagram will reveal tuberculous disease in the lungs in a surprisingly large number of cases long before it is manifest in any other way.

Dr. D. A. Stewart, Manitoba, in his admirable address before the Canadian Medical Association, Vancouver, June, 1931, has this to say: Auscultation bears about the same humble position to X-ray vision to-day, as percussion did to auscultation twenty years ago. It cannot demonstrate pathological changes, and cannot follow at all accurately the progress of the disease or of healing. All the questions we need to ask about the lesion, extent, stage, type, cavitation, fibrosis, involvement of pleura or diaphragm, are answered much more clearly by the X-ray plate."

Although chest radiology is constantly improving, it is still not used nearly to the extent that it should be in our province. The habit of requesting roentgen ray films which, of course, must be skilfully taken and correctly interpreted, should be encouraged and should be made available to the needs of all practitioners. I should add that a poor film of the chest is worse than useless. The cost of X-ray films at present in many localities is prohibitive and few patients can afford to pay the charges rendered at many of our general hospitals. I would like to see more of this special work carried on at our public health clinics. There must be many cases applying for consultation in which it is impossible to come to a satisfactory diagnosis without the aid of a good skiagram of the chest. The cost of films should be brought within the reach of all, and where a person is without means it would be a fine act on the part of charitable societies and various anti-tuberculosis organizations in the Province to provide funds to carry out this needful work.

Even along lines of treatment, the X-ray has now become indispensable in guiding us, not only in respect to the proper measures to employ, either medical or surgical, but also as a means to determine if the lesions in the lungs are progressing, stationery or retrogressive.

In ruling out tuberculosis there are five points I would like you to keep in mind. 1. Tubercle bacilli absent in the sputum. 2. No parenchymatous X-ray lesion in the upper third of the lung. 3. No persistent rales in the upper third of the chest. 4. No unexplained history of pleurisy with effusion. 5. No history of unexplained haemorrhage of a dram or more. If all five of these criteria are absent, you are invariably dealing with some condition other than tuberculosis.

*Opaque Oils*: We find that the use of opaque oils, such as lipiodol, skiagonol, for studying the outline of the bronchial tree, to be of immense value to us in differentiating tuberculosis from another common respiratory condition, namely, bronchiectasis. Thes oils are also of considerable diagnostic worth when malignancy is suspected in the lung.

*Tuberculin*: Tuberculin is again being made use of for the purpose of diagnosis. Its special value lies in the detection of tuberculous infection, particularly in the early teen ages. Any young child who for the first time reacts to the tuberculin test should be carefully watched and examined. Every member in the household should be examined as well. Contact with tuberculosis for young children is dangerous unless it is well controlled. The physical examination of the chest alone is but of little or no value in determining tuberculosis in children. Appeal must always be made to the X-ray. The two tuberculin tests in common use are (1) intra cutaneous, (2) cutaneous, I prefer to employ the intra-cutaneous test.

*Treatment*: Rest continues to prove itself the most important element in the cure of tuberculosis. There is no place for exercise at the beginning

of treatment, and it should play no part until all activity in the lung is controlled and the absorption of toxins ceases to be a disturbing factor. We insist upon rest being carried out at the Sanatorium more carefully, more intensively, and for longer periods of time than ever before. The time of treatment may be considerably shortened for many patients through the intelligent application of one or other of the comparatively recent surgical measures which we employ to induce rest by collapse or compression of the affected lung.

There are a number of methods we employ to bring about collapse of the lung. Among these may be mentioned 1. Artificial pneumothorax, 2. Oleothorax, 3. Phrenicectomy, 4. Thoracoplasty, 5. Extra pleural pneumolysis, 6. Intra-pleural pneumolysis.

Let me deal briefly with each of these therapeutic measures.

*Artificial Pneumothorax*: Pneumothorax was first advocated as a method for the cure of tuberculosis in 1821, by James Carson, Liverpool, England. His suggestions were practically forgotten for almost sixty years. It was in 1882 that the use of this procedure was again mentioned by Forlanini of Pavia, Italy, who recommended its employment in the treatment of tuberculosis. It was not, however, until 1892 that he published the results of his work on a small series of cases. The first on the American Continent to attempt collapse therapy was Dr. John B. Murphy, of Chicago, who reported on five cases in 1898. Little interest apart from that of Lemke, a pupil of Murphy, was shown by the medical profession in this work, and it was not until 1910 that this measure came to be more and more recognized as a valuable means in the treatment of tuberculosis. At the Sanatorium, we started the induction of pneumothorax as early as 1913. Since that year this surgical aid has been in constant use among our patients.

The object of pneumothorax in pulmonary tuberculosis is intended to place the affected lung at rest. Compression of the diseased lung brings about a favourable element for the repair of the tuberculous lesion. Diseased areas, including small cavities, are brought into apposition and the production of fibrosis or scar tissue formation is promoted throughout the lung. The inflammatory products in the bronchioles and alveolar sacs are gradually squeezed out, thus removing one of the most dangerous sources of the spread of infection. The frequency of cough and expectoration grows less, and the danger of aspiration of bacillary material into healthy portions of the lungs stopped. The movement of the lymph and the flow of blood is slowed or even abolished. With the lymph stream blocked up, toxic laden products are kept from reaching the circulation and transportation of tubercle bacilli to other parts of the lung and body is prevented. Where treatment is successful, toxic symptoms subside, fever falls, the appetite improves, sweats disappear and strength return to the body.

*Indications for Treatments*: 1. Unilateral tuberculosis. 2. Carefully selected bilateral disease. 3. Recurrent haemoptysis. 4. Spontaneous pneumothorax. 5. Pleurisy with effusion. 6. Early unilateral bronchiectasis. 7. A few carefully selected cases of pulmonary abscess. 8. Diagnostic pneumothorax.

*Contra-Indications*: 1. Extensive bilateral tuberculosis, 2. Extensive pleural adhesions, 3. Marked tubreculous enteritis. 4. Severe cardio-vascular-renal disease. 5. Old fibroid forms of tuberculosis with emphysema.

The proportion of cases suitable for pneumothorax treatment is found to be about 25 per cent. At the Sanatorium each year we give this therapeutic aid to some eighty patients.

The value of pneumothorax treatment is no longer contraversial. I believe that we should start compression early in any case in which there is not a ready and satisfactory response to the ordinary rest-hygiene treatment. When we can escape the ever present adhesions, shorten the period of compression and avoid complications, we shall find artificial pneumothorax one of the most universal and dependable aids in the treatment of pulmonary tuberculosis.

*(To be continued)*

## "GOING—GOING—"

"Top off, half gone, all gone" of the fairy-tale about the cat and the bowl of cream might be used to describe what is occurring with regard to diphtheria, at least in most enlightened communities.

A few years ago, it was proclaimed that diphtheria could be prevented; to-day we can say that diphtheria is being prevented and that, in a number of places, it has actually been banished.

This is one of the most remarkable achievements of our age. For centuries, diphtheria was a menace to child life, taking a heavy toll year after year. Then came diphtheria antitoxin, one of the great discoveries of the latter part of the past century. Antitoxin saves life; when it is given at the onset of the disease, its use has preserved many thousands of lives.

In spite of the benefits of antitoxin, deaths continued to occur because, for one reason or another, there was delay in its use. Furthermore, antitoxin could not control the spread of diphtheria.

Then came the great discovery that, through the use of a new substance, diphtheria toxoid, diphtheria could actually be prevented. This meant that children could actually be protected and that parents need no longer fear that their little ones would contract diphtheria.

This prevention is not a theory. It is a well-tried, practical method. Thousands of Canadian children have been immunized against diphtheria. They have received the necessary injections of toxoid and, as a result, their bodies are capable of overcoming any diphtheria germs with which they may come in contact.

For parents, the important points to know are, first, that it is only the children who have been immunized who are protected. Unless your child is one of these, then your child is still being exposed to all the dangers of diphtheria.

The second point is that diphtheria occurs most commonly and is most fatal during the earliest years of life. This means that children should be immunized before they are one year old, as otherwise they may contract the disease. To delay means taking a chance for which there is no justification. To act promptly gives your child the protection to which he has a right, and ensures that he will pass through his early childhood unharmed by diphtheria. Do not delay; lose no time; act now!

# Infantile Convulsions

By F. A. MINSHULL, M.D.

VERY few signs of disease are so alarming to the laity as a convulsion. This is of course, understandable. To a near relative, especially, an infant in a fit is a very terrible sight. The physician is expected to do something and that quickly. Under these circumstances we are inclined to treat the condition symptomatically and forget to look for our causative factor. One finds many practitioners who are content with the lay expression that the child "is subject to convulsions". Convulsions in children are by no means all of similiar significance. Some are disastrous, some are in themselves important, whereas others although comparatively harmless are of interest as signs of an underlying disorder. With few exceptions infantile convulsions in contrast to those in adults, are not of a serious nature and should cause little immediate anxiety. The death of babies in convulsions occurs much more often in the older novels than in present day certificates. The decrease in severe rickets and T. B. meningitis of which convulsions are a terminal incident probably accounts for this decrease. In children the first point is to decide if the attack was really a convulsion. The convulsive seizure itself can hardly be mistaken. There may be prodromal symptoms in the form of restlessness with slight twitchings of the hands, feet or eyelids; often, however, the attack begins suddenly and unexpectedly. The face grows pale, the eyes become fixed and are rotated upwards. In a moment or two convulsive twitchings begin in the limbs or in the face and rapidly spread to involve the whole body. Sometimes the convulsions remain unilateral. Yet this by no means implies the existence of any local focus of irritation in the brain. Later the initial pallor is replaced by a deepening cyanosis. Froth appears at the lips and there is rattling of mucus in the larynx. After a time, which may vary from a few minutes to half an hour or more, the clonic spasms gradually cease, leaving the child prostrate and generally unconscious or extremely drowsy. If the convulsive movements have been confined to one side, that side especially lies inert and motionless, as though paralysed from exhaustion of the nerve centres. Death seldom takes place from a single convulsion or even from a series of convulsions of short duration. A fatal ending is due usually to extreme asphyxia. Many recover, however, after long spells of apnoea and asphyxia, under artificial respiration. As the physician is often too late to see the actual attack he must rely upon the history. What with the widespread belief of the laity in an inward convulsion which is in reality only a chill in which the infant becomes pale, slightly rigid and loses consciousness momentarily, and with their belief in other symptoms turning to convulsions the mere statement that the child had a fit is valueless. Jackson has defined a convulsion as "a sudden discharge of many nervous arrangements representing movements at once or nearly together because the cells subserving such movements have become highly unstable". It is thus an expression of an acute, subacute or chornic change in the body due to some abnormal condition and is not a disease but a symptom of disease or altered state of the body. It is essential to obtain detailed information of

convulsive movements or a change of color in the face. Attacks of Petit Mal which are described as fainting attacks are really fits. Should the patient be seen in an attack, two things must be done. (1) Try to check the convulsion. A warm bath with or without mustard. The child is fully immersed with the exception of the face, the arms, legs and body rubbed briskly until the skin becomes pink. He is then removed and wrapped in a warmed blanket. Elimination of any intestinal contents with an enema, stomach washing is uncalled for except in exceptional cases. Chloral Hydrate and Sod. Brom per rectum will be found advantageous. Should this not be retained or be ineffectual Morphine may be employed hypodermically. (2) Investigate the cause to prevent recurrence. In considering the causes and prevention of convulsions we will for the sake of convenience divide the patients into two classes. (1) The newborn infant. (2) The child from two months upwards. Needless to say many causes will be common to both groups.

The first question that arises is "what has been going on in the body before the convulsion occurs. Is there a demonstrable lesion of the nervous system or can none be demonstrated by our present imperfect methods. In other words are we dealing with an organic or functional condition? We must not forget, however, that inability to demonstrate a lesion even at Post Mortem does not necessarily signify that the body was in a normal condition previous to the outbreak, for, as will be shown in the discussion on Spasmophilia, there may be a distinct pathological variation in the irritability of the nervous system without any physical change being evident.

In general and for clinical purposes four conditions may be said to bring on or to predispose to convulsions. They are:

1. The Spasmophilic diathesis.
2. Epilepsy.
3. A group without any special change in the central nervous system but due to poisons.
4. Pathologic lesions in the brain, spinal cord or some adjacent part causing central nervous system symptoms.

*Convulsions in the newborn.* The incidence of convulsions among newborn infants is relatively low, in full term babies being less than two in one thousand and about 25 per thousand in the premature class. As would be expected those of an organic nature are by far the most frequent, so much so that some authorities say that any diagnosis of functional convulsions in a young infant should be looked upon with suspicion. This is not surprising when one considers that it is during this period that the congenital defects all make their presence known. At this period also there are much greater opportunities for grave injury and haemorrhage within the head. The more common congenital abnormalities leading to convulsions are:

Hydrocephalus. Convulsions are not an early feature of this condition as the head at this stage enlarges very rapidly. The diagnosis is easy, the large head separation of sutures, position of the eyes presenting a clear cut picture. Lumbar punctures should be done in these cases both as a treatment for the convulsion when it occurs and for prophylaxis.

Microcephaly while a rare condition in itself is nearly always accompanied by convulsions. The small size of the head in comparison to the chest, small fontanelle with closed sutures lend to an easy diagnosis. The convulsions are tonic with considerable rigidity. Lumbar puncture is palliative.

Porencephalus may be congenital as the result of cerebal haemorrhage. Diagnosis is difficult except at Post Mortem. Lumbar puncture is of no help.

Acute Encephalitis and Leptomenigitis due to sepsis are conditions that must be considered.

Septicaemia is by no means an uncommon disease in infants although the clinical picture is seldom present. Many of the usual and unusual organisms are found such as the streptococcus haemolyticus, streptococci, B. coli, staphylococcus, pneumococcus. Other signs of sepsis are usually demonstrable.

Poisons although rare must be considered as many of these are excreted in the breast milk. A careful history will elicit the fact that the mother has been taking strychnine, alcohol, etc., but a diagnosis of this kind must only be made after all other causes have been fully investigated.

Eclampsia Neonatorum is a condition occurring in newborn infants whose mothers have been suffering from eclampsia either during pregnancy or labor. Toxic substances of an unknown nature are given as the cause. The severity of the disease in the mother is no indication of the course of the convulsions in the infant. The convulsions are clonic in nature and may produce marked cyanosis due to contraction of the thoracic muscles. (It might well be mentioned here that cyanosis of itself is not a cause of convulsions. Both may be symptoms of the same underlying cause or the cyanosis may be caused by the convulsion). The convulsion in these eclamptic cases may last a few moments or even hours. The prognosis is bad as there is little treatment. There is a suggestion that some of the toxin is excreted in the milk but experiments have so far been unable to show any toxic symptoms resulting from injection. However, to be on the safe side it is better to discontinue the breast for a few days. Tetanus while an uncommon cause to-day must be considered. This usually begins between the first and second week and runs a course varying from one day to two weeks. The diagnosis is similar to tetanus in the adult and the majority of cases are fatal.

*Convulsions due to Toxaemia or Asphyxia.* In infancy pyrexial disturbances of all sorts are apt to be ushered in by convulsions, single or repeated, and the distinction between a condition in which the brain itself is the affected site and a condition in which the symptoms are due to the circulation of toxin-containing blood through a brain itself not abnormal is not always easy. A bulging fontanelle, prolonged unconsciousness or coma or a fall of temperature with persistence of the symptoms generally indicate cerebral disease. The convulsion of pyrexial disorders in infancy usually occur early in the disease. Thus in pneumonia convulsions at the onset are almost always of this nature, while convulsions are much more likely to indicate pneumococcal infection of the meninges if they occur late in the disease. The convulsions of pyrexia are, as a rule, transitory, not of grave significance, and do not leave any tendency to suffer from repeated fits.

The final group consists of those cases in which haemorrhage and trauma are the cause. Convulsions occuring shortly after a labor which was precipitate or difficult expecially in breech presentations and in prematurity, but sometimes also after a normal labor must always suggest intra cranial haemorrhage or trauma. The text book picture of drowsiness or undue restlessness combined with some degree of asphyxia, a bulging fontanelle blood stained cerebrospinal fluid, refusal to nurse combined with the convulsion make an easy diagnosis. The differentiation into supra-tentorial and infra-tentorial

and mixed haemorrhage has no place in this paper but it is interesting to note that in the supra-tentorial haemorrhage the convulsions are more apt to be of a one sided type while in the infratentorial generalized convulsions coming on somewhat late are the rule.

In cases which recover, long after the cessation of the disturbance due to the trauma at birth, the remote results may continue in the form of epileptiform convulsions. It is thus necessary in taking the history of an older child who has taken a convulsion, to enquire carefully into the post-natal history and the obstetrical history of the mother. Many cases which are diagnosed as cerebral haemorrhage have shown on post mortem nothing more than oedema and hyperaemia, a point which should be remembered in making a prognosis. These latter cases, if they withstand the initial shock will usually go on to a complete recovery in contrast to the true intracranial haemorrhage with its sequelae of convulsions, feeble mindedness and idiocy.

*Convulsions in infants after two months.* The first six months of this period are comparatively free from convulsions. Those causes which produce convulsions in the first few weeks have made their presence known, while the various factors which later predispose to convulsions do not seem potent during that time.

From the sixth to the thirty-sixth month, convulsions are more prevalent than at any other period. The reason given that it is due to the rapid growth of the brain with an absence of inhibitory factors and resulting instability of the Central Nervous System does not explain why the first six months are comparatively free from convulsions of a functional nature. During the first nine months the brain increases by 300 grams and has less inhibitory factors than at any other period. During the next two years the increase is only 300 grams some inhibitory fibres are being formed, yet this is the period in which we find the largest number of cases.

The logical explanation of this lies in the fact that it is at this period in the life of the infant that the Spasmophilic diathesis makes its appearance. It is a condition which is seldom seen before the sixth month, and rarely occurs after the third year. During that time, however, it is the predisposing factor to more convulsions than all other causes combined. Spasmophilia is a constitutional anomaly which exhibits itself in a pathologic predisposition to certain partial or general clonic or tonic spasms or convulsion due to an increase in the excitability of the central nervous system and in the excitability and conductivity of the peripheral nerves. Associated with this, there is a diminished amount of calcium in the blood and nervous system generally. Hence Spasmophilia and rickets often occur in the same infant. Brown of Toronto looks upon spasmophilia as the nervous manifestation of rickets, but the weight of evidence and general opinion does not seem to substantiate such an assertion. All rachitic children are not spasmophilic, nor is the reverse true. Of the probable causes underlying the development of this diathesis, many have been advanced. Deficiency in parathyroid, intoxication by guanidin and Methyl guanidin, and the condition known as status lymphaticus have all been advanced but never substantiated. There is no doubt that the condition is hereditary. Most convulsions in which there is a strong family predisposition are either spasmophilic or epileptic. In the first case a history of fits only in the infancy of members of the family, while in epilepsy, older children or adults will be affected.

The symptoms of spasmophilia are divided into two groups, manifest and latent. Laryngismus stridulus and convulsions are the two most often complained of. Carpopedal spasms in spite of their notoriety are a poor third in frequency.

The convulsion or so-called eclamptic state of spasmophilia is characteristic. There is some slight resemblance to an epileptiform attack, but the age of the infant, the mode of onset and the return to consciousness following the seizure all help to differentiate the two. There is usully some twitching of the facial muscles with nystagmus. This is immediately followed by a tonic spasm in which the child "stiffens out". Very often this is the first symptom seen by the parents. The tonic spasm soon becomes clonic and may be general or localized.

Another symptom that is not often detected by the lay observer is a little crow at the end of the cough. This is related to the Laryngismus but with it there is no check in the respiration. Often a patient has more than one of these symptoms. The manifest signs of spasmophilia are easily recognized. The latent signs however, are not so obvious yet are of more real importance. It is usually during a latent period that the physician sees the infant. If he is able to elicit the latent objective signs of spasmophilia, a definite diagnosis with a good prognosis can be made, an important feature to parents who have been greatly worried by the convulsions.

The most constant latent sign is that known as Erb's phenomena but sadly enough is seldom available to the general practitioner. It consists of a measurement of the excitability of the muscles, in their response to electrical stimulation and must be done with special apparatus.

Chvostek's sign is less constant and perhaps less specific in its implication. A light tap on the branches of the facial nerve as they pass forward in front of the ear produces a visible twitch of the muscles around the mouth, nose and orbit. Trousseau's sign is the production of tetany and with the passage of the hand into the obstetrical position when there is prolonged constriction of the upper arm.

One of the earliest latent signs is that of laryngospasm. It is questionable whether this should not be included among the manifest symptoms, but coming as it does before the blood Calcium has dropped to the convulsion or carpopedal spasm level, it may be included among the latent group.

In mild forms it manifests itself as a peculiar inspiratory sound, often amusing to the parent, but in more severe forms it may be anything but amusing. There may be marked dyspnoea with deep cyanosis and the child fights for breath with a terrified expression. This picture lasts for a few moments and is followed by relaxation and general return to normal respiration, or a general convulsion intervenes. Occasionally a fatal result occurs in these attacks. There is considerable evidence pointing to an abnormal metabolism in this diathesis. The disorder is essentially an alteration of the Calcium metabolism which results from a deprivation of a vitamin.

When the conditions leading to a lack of Vitamin D have been present for a sufficient time, the calcium in the serum begins to fall from its usual level of 10 or 11 milligrammes per 100 c cm. of blood. If it falls low enough, that is to say below about 6 milligrammes per cent., the nervous system becomes so irritable that one or other of the symptoms of tetany appears. More usually the serum calcium does not immediately drop to this low level, but stops short at about 7 milligrammes per cent. In this case none of the

obvious signs of tetany are present and may never appear. However, some slight intercurrent disturbance, constipation, a cold in the head, or the like, upsets the child a little and just turns the scale. The calcium drops a milligramme per cent., and symptoms of tetany present themselves.

Thus we have the two phases with their latent and manifest signs.

The vitamin deficiency which gives rise to the chain of events leading to tetany, has its origin primarily in faulty feeding. A number of circumstances, however, tend to mitigate the effects of a deficient diet, so that the relation of tetany to feeding is not immediately clear.

For instance, a baby born at full term is provided with enough vitamin to last it for about six months. However, deficient its diet may be, the effects of this do not begin to become evident until the six months have passed and the initial stores are used up. A premature baby, on the other hand, has a very much smaller store when it is born. It is well known how readily such babies acquire rickets and tetany. Unless the period of immunity possessed by a full term child is recognized, the vagaries of the onset of the conditions are very mysterious. The same applies to the effect of sunlight. A baby, who is being given a diet deficient in vitamin D, but who is at the same time exposed to sufficient sunlight, does not come to have either latent or manifest tetany. The prevention of tetany may be explained on the hypothesis that the ergosterol in the baby's circulation is directly irradiated, and therefore the addition of more vitamin D is not needed. This maintains the conception of tetany as an avitaminosis. Further, it explains the seasonal incidence of the condition, which at first sight seems difficult to reconcile with the idea of a deficiency disease. During the summer and autumn months the baby is exposed to the maximum available sunlight. No ill effects follow the inadequate feeding. During the dark winter days this protection is removed, the calcium in the serum begins to fall, and late in the winter tetany becomes manifest.

*Treatment.* Until the simple ways of averting infantile spasmophilia are universally applied, attention must be directed toward its treatment.

Two aspects must be borne in mind. First the symptoms of manifest tetany must be relieved. Secondly the child must be restored from the condition of latent tetany to one in which the Calcium metabolism is normal. The symptoms of manifest tetany are distressing and call for relief on that account alone. The point to be stressed, however, is that the disease is not cured when the symptoms have subsided, it is merely lying quiescent. In the initial treatment of tetany, calcium is a specific which well justifies the term.

If enough of a calcium salt is given, the symptoms of tetany stop in a few hours. Calcium chloride should be given by mouth in solution, thirty grains four times during the first day, and continued three times daily until all other measures, to be discussed later, have removed the patient from the condition of latent tetany. Sometimes larger doses than these are needed. The chloride is to be preferred to the lactate of calcium in spite of its unpleasant taste. It contains twice as much calcium per unit of weight as the lactate, so that smaller quantities are needed. It follows that if for any reason calcium lactate is used, twice as much, or sixty grains at a dose must be given.

In severe cases it is better to begin the treatment with an intravenous injection of an isotonic solution of sterile Calcium Chloride as the results are much more quickly attained. The solution must be injected slowly.

Rectal administration is unsatisfactory as so dilute a solution must be used that its bulk is impractical.

The first step in the treatment is easy. So dramatic is the improvement following the exhibition of calcium salts, that one is tempted to delay or neglect the radical treatment of tetany. A little reflection will show how wrong is such delay. All that has been done in giving calcium is to restore a case of manifest tetany to the latent stage. This has been accomplished by the most extravagant use of calcium. Only so long as relatively colossal amounts of calcium are given, is the child's serum calcium kept above the critical level at which the symptoms of tetany appear. The calcium metabolism is still out of order, and the ill effects of this are only held off by an abnormal calcium intake.

Obviously the calcium metabolism must be restored to its normal working order. In other words the vitamin whose absence has caused the disorder must be replaced. We have heard and read so much recently of Vitamin D that it is hardly necessary to go into the available sources or the methods of administration. A few words will suffice.

Irradiated Ergosterol seems to have all of the properties of hypothetical vitamin D contained in a small bulk. It is thus very useful especially in cases in which there is some fat intolerance. The doses should be large to begin with and gradually lessened as the serum Calcium rises. Its effect on the serum calcium is not immediate, a delay of a few days occurring before it begins to rise. During this period it is wise to give some calcium by mouth. The normal level should be reached in ten days to two weeks.

A cure can be effected equally well by the use of Cod Liver Oil.

This drug has certain advantages over irradiated ergosterol for this purpose, and these compensate to some extent its disadvantages of greater bulk and unpleasant taste. It is more readily obtained, and there are present in it other accessory food factors besides vitamin D. In using irradiated ergosterol, one is going straight to the mark in replacing the vitamin whose absence has made itself felt. But an infant, who is suffering from the lack of one fat-soluble vitamin, is in all probability not sufficiently supplied with the others. Cod-liver oil contains vitamin A, and, perhaps, other less clearly defined factors, so that its use in treating tetany carries with it certain indirect benefits. An oil well tested for its vitamin content should be chosen. During the cure of tetany, from four to six drachms a day should be given. Afterwards, for maintenance, the dose may be cut down to a third of that amount. The time taken to re-establish a normal calcium metabolism is not much longer when cod-liver oil is used than with ergosterol. Tetany may also be cured by exposing the patient to ultra-violet light, but it is not often advisable to rely on this method alone. It does not matter whether the light is artificial or natural, and the possibility of obtaining long enough exposures, usually determines which shall be used. Reference has been made above to the hypothesis that the light produces its results by irradiating the ergosterol already in circulation. If this is true, the effectiveness of exposure to ultra-violet rays will vary with the amount of unirradiated ergosterol available in the patient. Where there has been a deficient intake over a long period, the demand on the residual ergosterol must be very high and it would seem more reasonable to supply more of the material for the light to work on. In any case the rate of recovery when ultra-violet light is used is much slower than when the vitamin is supplied by the mouth. Only exceptional circumstances

would warrant the use of light by itself. Inasmuch as the stimulus to the hypersensitive central nervous system is often found in gastro-intestinal disorder, and the fact that the whole diathesis is so closely bound up with the general metabolism of the infant, diatetic alterations play a leading role.

There is considerable difference of opinion on the subject of diet. Schultz of Minneapolis advocates the use of a low fat, high cereal diet with an almost complete absence of cow's milk from the diet. This may be very satisfactory in the case of the Torbid pudgy lymphatic type of child. In the other type of case where one is dealing with an underfed neuro-arthritic type, this diet would be the very antithesis of good treatment.

The diet question is one that must be decided at the bedside. A wholesome diet rich in vitamins A and D which contains the usual proportions of fat, protein and carbo hydrate has always been found satisfactory. The less one varies from the normal in an infant's diet, the more will one get co-operation from the average mother.

The ultimate prognosis in these cases is still a subject of controversy. It is probable that the spasmophilic child has a brain which is structurally inferior, this may of course, be only a temporary derangement due to a deficiency. On the other hand the development with respect to mentality and nervous function may not be quite normal. These deficiencies appearing in later life must be blamed on the underlying weakness of the nervous system and not on the spasmophilia itself.

Conclusion. True convulsions in the infant may or may not have serious significance differing in this respect from the adult reaction, wherein convulsions practically always point to deep seated pathology. The most serious underlying cause in the newborn is direct brain injury.

Convulsions occuring after six months are usually symptomatic, spasmophilia is the underlying cause in the majority of cases. The prognosis in these cases is good, as the treatment is simple and easily carried out.

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**Cured of Rheumatism by Stings from Bees.—Another New Treatment for Rheumatism.**

London—Bee stings as a cure for rheumatism are advocated by one of the exhibitors at the National Honey Show, which was held this month at the Crystal Palace.

He is Mr. W. A. Whitman, of Thornton Heath, Surrey, and he said:

"A few years ago I suffered very badly from rheumatism. I had to take to my bed, sometimes for weeks at a time. Three years ago I took up bee-keeping after a long interval.

"Like all bee-keepers, I was stung frequently. The more I was stung, the less I was troubled with rheumatism. This year I have been stung hundreds of times. My rheumatism has gone.

"I hardly feel the bee stings. One becomes inured. Apparently the sting leaves an antitoxin which protects one against subsequent attacks.

"Sufferers with rheumatism are less subject to swelling from bee stings than other people, and they feel less pain. At the Bath and West Show last year a woman, with her finger joints swollen with rheumatism, allowed me to put a bee on one of the affected parts.

"It stung her, but she did not feel it. Now I believe, she is having a course of bee stings."

# Uses and Abuses of Drugs

N. B. DREYER.

"God Grant that Physicke you may never need."

DIFFERENT circumstances have made it difficult for the medical man, for some years, to judge the therapeutic worth of drugs. Formerly the value of drugs was relatively stable, and those who judged their therapeutic value were concerned with objective measures. Since the preparation of drugs has come almost exclusively under the control of industry, the huge number of new specialities which are continually appearing make it difficult to form a judgment of their value, especially as the recommendations are couched in such a form that the strictly scientific outlook on drug therapy has been obscured by all sorts of speculative ideas as to the mechanism of drug action. The above is the view expressed by the late Professor P. Trendelenburg in his introduction to his text-book of therapeutics. He further enlarged on the fact that the cost of such drugs put up by the large manufacturing firms is very much higher than the prices of similar preparations put up by druggists. The method of advertising the products of some manufacturing firms has taken on a rather insidious form. Their appeal is not directed to the medical practitioner but to the public. The practitioner, however, cannot be held entirely blameless, for many do prescribe proprietary preparations, and so unwittingly act as advertising agents for the manufacturers and incidentally cut their own revenue, for the patient having acquired the name of the preparation does not visit the doctor again but repairs to the drug store for a further supply. The patient is the next link in the chain of advertising. Meeting a friend who has a similar complaint, he strongly recommends the proprietary preparation, with the further assurance that it is not a patent remedy because his doctor uses it. It is a safe guess that the great majority of men who prescribe proprietary preparations do not know their ingredients.

Another factor must be considered: What part does the patient play in all this unlimited prescribing. He is no doubt largely responsible for demanding a bottle of medicine, because he has been brought up, rightly or wrongly, to the view that without drugs there can be no improvement in his condition. Drugs form a very large item in the cost of medical care, and the patient is partly responsible for that extra cost.

There was a time when organotherapy was all the rage, and extracts of almost every organ were called into service for treating different ailments. This applied more particularly to certain internal secretions. Thanks to the progress of scientific research into the actions of internal secretions and their proper method of administration a more rational outlook prevails, and it is gratifying to note that preparations of ovary and testis for oral administration are fast disappearing. The objective method in this case has gained the ascendancy over the subjective. With definite criteria to judge by, substitution therapy in certain cases can now be carefully controlled. Other instances can be quoted. A notable one was the feeding of pancreatic extracts to diabetics. Not until the introduction of insulin did this practice die down. If ever there were uncontrolled therapy, the above examples afford ample evidence. It is no justification to advance the view that the patient feels better for taking these extracts. Their nutritive value is so small that not even that can be cited as a justification.

It is well known that drug habits, apart from narcotic drug addiction, exist. Some familiar instances are the use of phenolphthalein and cascara

sagrada in chronic constipation. Both are mild laxatives, but there is evidence that even the gastro-intestinal tract can become less sensitive to their action. In support of this can be quoted the fact that castor oil is used in certain countries for frying foods, without any purgative action being evident. Phenolphthalein can give rise to undesirable side reactions such as skin rashes and kidney irritation. The immediate kidney damage may be unnoticeable but in the course of years may amount to something quite serious. Sodium sulphate is another popular drug. Its use as a laxative in minute quantities, as recommended in advertisements is completely futile. The benefits derived are from the regular habits acquired by the patient, but the beneficial effects are attributed to the sodium sulphate. The quantities used in the prescribed amount of fluid make a very hypotonic solution, so that it is difficult to see where the laxative action can come from.

Liquid paraffin in its many forms, with or without some adjuvant, has yet to justify its use as a laxative, even of the mildest variety, but the sum expended on this article must run into a large sum every year. At most it can be claimed that those who take it habitually stain their clothes from rectal leakage and the only beneficiaries are the druggists and laundries.

The case for the intelligent use of drugs, however, is a very bright one. With the advance in analytical and synthetic chemistry a host of exceptionally useful substances have come into use, particularly in the field of chemotherapy. Since the introduction of arsphenamine by Ehrlich for the treatment of syphilis other notable conquests have been accomplished. Mention of a few will suffice: Bayer 205 and tryparsamide in the treatment of African sleeping sickness; the sodium salts and esters of chaulmoogric and hydnocarpic acids in the treatment of leprosy; tartar emetic in the treatment of Bilharzia; liver extract in pernicious anaemia. It will readily be agreed that the greatest advances have been in this field.

Yet some drugs have held their position in spite of being subjected to severe tests by experimenters. The indications laid down by Withering for the administration of digitalis still hold good; mercury treatment in syphilis while slightly on the wane in some countries, is still far from being discarded. Morphine is the one drug which will hold its position, because of its action in alleviating pain. Surgeons, however, might give it a more extended trial for preventing intestinal distension following abdominal operations, since it stimulates movements and increases the tone of the intestine, whether hyoscine or a hypnotic of the barbituric acid series has been previously administered or not. Paraldehyde might be used more frequently as a hypnotic.

Some standard prescriptions might safely be re-investigated, not because of undesirable chemical effects but because of antagonistic physiological reactions. The well-known mixture containing gentian rhubarb and sodium bicarbonate may be cited in this connection. The gentian as a bitter excites the secretion of gastric juice containing hydrochloric acid; the sodium bicarbonate promptly neutralizes the acid. Has any good been done therapeutically in view of one drug neutralizing the effect of the other? The use of caffeine with phenacetin or acetyl-salicytic acid is open to question. Caffeine in big doses causes headache, yet the supposition is that combined with phenacetine in small doses it does the opposite. It has no other action in warding off undesirable reactions arising from the analgesic drugs.

Unless a greater interest is taken in both beneficial and deleterious actions of drugs there can be little hope of any real progress. Because of this indifference, treatment must be largely empiric and medicine always remain a gentle art but a feeble science.

# Historical Section

## The Congress of the American College of Surgeons, Chicago, October 9th to 15th, 1933.

(DR. GEORGE H. MURPHY)

I AM trusting to my memory and a few notes to give the BULLETIN readers a sketch of the doings of the recent Surgical Congress in Chicago. It can be nothing more than a peep at some of the good things, a sort of drawing aside of the edge of the curtain so that a portion of the stage and its activities may be held in view. Even the most zealous searcher for the year's development in surgery can cover no more than a part of the extensive program the College creates for this annual Congress. It is a World Congress in an intellectual sense, because the College succeeds in bringing together eminent men from many countries. They come to instruct and be instructed, and in this delightful pooling of the world's gifts to the surgical art is fostered a rational world's league, which sees not national boundaries or races, but lends itself to the common good of all mankind. Such a gathering is the Annual Congress of the American College of Surgeons, and after five years absence from its halls, I renewed with pleasure the bountiful routine of good things and the meeting again of old confreres and friends.

The Congress opened in the big ball room of the Stevens Hotel on Monday and the subject was Hospitals. Those fulfilling the minimum requirements and entitled to standardization under the College were submitted to the assemblage. The number chosen in our own Province remains the same as last year. There followed papers and discussion which, one might say, covered every phase of the hospital problem. These discussions occupied the forenoon sessions for the following three days. To follow and sort the multitude of opinions, of counsel, or criticism and such like required more fortitude than most of us possess, but enough was gathered to emphasize again and again the big place of the hospital, not only in surgery, but in the whole field of preventive and curative medicine.

One has to turn to the early days of the American College of Surgeons to understand how the hospital problem wove itself into the texture of the College. It was found when the applications for Fellowships were being appraised that great difficulty obtained in securing from the hospital, where the applicant worked, any proper records showing his qualifications. This led to a more thorough scrutiny into the system, or lack of system, in the hospital concerning the recording of important data, and the whole observation brought home to the Director General, Dr. Franklin Martin and his associates the truth that a great majority of the hospitals on this Continent had no proper system for keeping records, nor were there the effective staff organization and discipline and the co-ordination between all the units of the hospital that should obtain in order to achieve the best results. It was apparent at once that if the College were to succeed in its primary object

of bringing to the public a more highly skilled surgical service it was necessary to enter the surgeon's work shop, namely, the hospital, and to insist on his being given every reasonable help, both human and material, so that his patient may have the summum bonum of the surgical art, and himself the opportunity of advancing his skill and his usefulness. The result was the so-called minimum standard qualifications, without which, in the judgment of the College, a hospital is not equipped for the highest class of surgery.

While this communication is not meant to be an article on the merits of the American College of Surgeons it is not out of place to pay a tribute to the wonderful hospital policy it created and which it has pursued to the present time. If the College never did more than this, it would be entitled to lasting recognition for important service rendered our profession and to the gratitude of the people for the great improvement wrought in the service to the sick.

A very striking "talkie" film featuring addresses by Dr. Franklin Martin and Dr. Malcolm McEachern was presented in the Ball Room of the Stevens on Monday. It was really very good. The patient is seen first at her home after the doctors have decided she must undergo an operation. Then comes the transportation to the hospital, and following in order, every important stage in her illness, nursing and convalescence. It set forth vividly the patient's relation with each and every service. No point of hospital contact was left out. It would be a very unresponsive mortal that would not react to the message of this film; which was, of course, the supreme importance of well rounded out service in every department of hospital life. The addresses were in keeping with the excellence of the picturization, and I hope we may have the privilege ere long of bringing the film to Nova Scotia.

The inaugural address of the new President, Dr. William D. Haggard, of Nashville, Tenn. was the outstanding event of Monday evening. It was a fine effort, and did justice to a very inspiring occasion. The subject of the address gave the speaker plenty scope for the wide culture and literary power he possesses. The theme was "Surgery, the Queen of the Arts;" and Dr. Haggard quite evidently spoke from the fullness of his heart. Whoever might scoff, he himself, an able exponent of the surgical art, had no doubts as to where it stood among the best gifts of God to his creatures. It was laudatory, of course, but was kept well within the bounds of good taste. He quoted Lord Moynihan that "the body of a man is the plastic material in which a surgical artist works, and that an operation partakes of the nature of a sacrament."

Here are a few rather striking passages from the address: "When Michel Angelo's 'Moses' was completed and he gazed upon it with the rapturous joy of its creator, he said, 'Speak man, speak;' the surgeon gently beckons to his completed work and says 'Take up thy bed and walk'."

Again: "Surgery invokes all the arts as the moon summons her tides. The arts of sculpture, painting and portraiture are largely imitative and interpretive; the art of surgery is essentially constructive."

And again: "Surgery, of all the Arts, is the most important and imperative. The skilled use of the hands in the service of the brain applied to wounds and disease is a service as of angels. The subtlest creation in the world is the human hand in swift confederacy with the mind, blessing both him that gives and him that receives."

Speaking of brain surgery: "The formal invasion of the brain (the citadel of the soul) is at once the most audacious, highly technical, and artistic creation that the surgeons have evolved." "In this invasion of the brain it is

as though the Soul were poised ready for flight but hoping for continued residence."

Perhaps from these few quotations the character of the address may be guessed. Visualize a pleasing personality, well modulated voice, and an audience of three thousand surgeons and you have a concept of a real, good evening.

A paper which appealed greatly to me was one on the training of the surgeon. I think it was by Dr. W. H. Haggard of Tennessee. It reminded me of Osler. He emphasized the importance of intensive training under an experienced surgeon, of course, but took the stand that no one should be a surgeon without first being a good physician. He argued pertinently for a period of general practice before specializing in surgery. So much did he stress this qualification that the speaker's ideal of a surgeon might be defined as a first rate general practitioner plus the acquisition of a competent surgical technique. The philosophy of his thesis was that the mental optics of the specialist, whatever be his field, should be able to look into the depths of the whole human organism in order to appraise the physical and the psychic, the pathologic and the functional, before going into action in the anatomical territory his specialty has defined for his scope. If you are but having your valves ground, or your spark plugs cleaned, are you not safer with a man already conversant with the entire mechanism of the car and accustomed to institute miscellaneous repairs? The size of the problem is sufficient reason for the present writer to offer no personal comments at this time.

### The College and Public Health.

From its inception the American College of Surgeons has endeavoured to keep in intimate touch with the public. The hoary old traditions that kept the healing profession on a sort of an Olympus by which the multitude might be properly impressed with that species of wisdom to which distance always lends enchantment are now of the past. No institution, dealing with the ills of the flesh, can today hope for public approbation without devoting part of its resources and energy to preventive medicine. Hence the expression of this principle in bringing together on Thursday night, in the Chicago Stadium, perhaps the largest public health audience ever assembled under one roof. There were upwards of fourteen thousand people. It was an amazing attendance possible only, of course, in a large city, and even there, because a Franklin Martin and a Malcolm McEachern had decided this was the thing to do and that it must be done right.

There were a number of speakers, all of national and some of world wide reputation. On the whole, the vast assemblage present who sought the College's message on public health must have been impressed. I don't think the most was made of so wonderful an occasion however; and at the risk of being forward where angels might show timidity I am going to write a few impressions I formed.

The Evangelist, St. Matthew, tells of the man who sought advice upon how he might obtain spiritual life. You will recall the simple, direct language in which the advice was given. There could be no doubt as to the line of action prescribed for him, and the words were spoken by the Master of all life. The multitude that hung on the simple eloquence of the Sermon on the Mount were the more impressed because it was spoken in words all could

understand. I am afraid if the early preachers of Christianity were as highly technical as some public health speakers only the scribes and the pharisees could understand what it was all about, and we have it on the best authority that they were not the most fruitful receivers of the Word. The man who came to the great meeting in the Chicago Stadium to ascertain how he might attain temporal life must have gone home disappointed, because he didn't find out there. And the reason he didn't find out is that most of the speakers apparently forgot they were addressing a lay audience. They were too erudite and technical. If the Founder of the Christian religion used such highly, conventional speech when He unfolded the elements of the Gospel to Simon Peter, it is a safe guess that that rugged representative of the toilers of the deep would have gone on with his old job and would never have become a fisher of men.

Dr. Franklin Martin's address had none of the faults outlined; neither had Dr. Adson's. There was much to be said for such an address as that given by Mr. Jolly of Houston, Texas. It mixed humour and common sense in equal proportions. The others, while given by eminent men, were for the most part over the heads of the audience. Weird metaphysics, in which Science wore the cap and bells for the fairies, was outstanding in one address; while prophecy of a most diverting character played hide and go seek in another. On the whole, it was a memorable public health gathering. The criticism I urge is not common alone to this meeting, but to many others. Let us talk to the people direct and let the newspapers manufacture their own headlines.

**Symposium: Cancer is Curable.**

The *Daily Bulletin* of the Clinical Congress carried the announcement of the Cancer Symposium in the above significant form. It found its way into the newspapers, as was intended, and a nice bit of cancer psychology was promoted. If hope deferred makes the heart sick, utter hopelessness breeds despair and negation of all effort. Cancer has too long seared its sable pessimism into the public mind. This mental state has been a serious hindrance in meeting the world-wide problem of cancer. It has driven individuals into hiding their fears until it is too late to do any good. Our profession and particularly our Health Departments, have carried this fatal inhibition longer than they should. We are probably over it now, but we must bring the public to this way of thinking. Hence, the slogan, *Cancer is curable.* It seems to be part of our job to keep this message of hope before the people until they are convinced we are not bluffing. They suspect our cunning faces, even when by concealing our forebodings we are trying to be kind. Let us be frank, even to a fault.

The Symposium was a fine effort to place before the Congress the generalship, and active operations of the year in the war against cancer. Surgeons of repute gave in detail what they did in their section of the line. Hence reports on cancer of the pelvic organs, cancer of the cervix, of the kidney and bladder, of the rectum and colon and other anatomical sites. Five year cures, ten year cures, permanent cures were reported and placed in their proper relation to the vitally important time at which the cases came under treatment, and to a much lesser extent, to the technique and methods adopted.

From a scientific viewpoint there was nothing new. The message to the surgeon, I should say, was a more systematic and persistent application of the

old agencies, surgery, radium, X-ray, cautery,—what else is there? These can be employed to the best advantages through the agencies of groups of men—the Cancer Committee or Clinic. The cancer clinic has but recently entered the fight, but its place and importance need not be questioned. It has other functions than the scientific and the clinical. It focuses the attention of the public towards one centre and keeps the signal of early recognition of cancer where it may be seen.

An inference from the general philosophy of the symposium is that every cancer, be it ever so advanced, should be attacked with one agency or another. The surgeon's only ground for doing something may be the very bad one that he can't do much harm anyway; but even a gesture may be better than nothing at all. I am not preaching this as good surgical doctrine. With the public however, it might help in fostering confidence in our good intentions.

It was part of my duties a while ago to urge more and more the place of cancer in public health. With our ignorance of its fundamental cause we can do little or nothing, in the way of prevention. As a public health problem, therefore, it is not in the same category as Tuberculosis and it is simply nonsense to say it is. The Public Health watchword in the one is Prevention; in the other Cure. Its place in public health is to develop a sane watchfulness on the part of the people so that all suspicious growths may be brought under proper supervision in time to effect a cure. And to train public opinion to the expenditure of public monies in order to provide the necessary agencies for alleviation and cure of the large number unable to pay for treatment. That cancer is increasing is not in doubt any more, and many are becoming depressed and sceptical that the mystery of cancer shall ever be solved. The great victories of our calling should, however, inspire us with a bigger hope, as well as train us in the practical humility of using to the utmost the means at hand while awaiting the coming of better things.

### The Film, Industrial Surgery, Fractures, Etc.

If one wanted to, he could sit comfortably in an large room in the Stevens Hotel during the Congress and watch and hear described almost every operation in general and special surgery. The talkie film is definitely with us and is bound to hold a big place in the teaching of Surgery. There was much, too, about what is being named Industrial Surgery. It covers the various fractures, wounds and the numerous injuries most frequently found in large industrial centres. This branch of surgery is now a good deal of a specialty, and the standardized hospitals are expected to equip themselves with the necessary splints and other specially designed paraphenalia.

The Chicago hospitals were open to the members of the Congress and the operating room clinics were well patronized. The man out for operations had a real good time provided, of course, he succeeded in seating himself where he could see what was going on. On the whole, he who could not find knowledge and interest in some part of this huge congress would be a very rare specimen indeed.

# CASE REPORTS

## NOVA SCOTIA SANATORIUM.

DR. C. J. W. BECKWITH. DR. A. A. GIFFIN.
DR. H. R. CORBETT. DR. A. V. FRASER.

*Cases*:

1. Lower Lobe Tuberculosis.
2. Atelectasis of the Lung caused by Aspiration of Opaque Foreign Body.
3. A Case of Bronchiectasis Complicated and Simulated by Tuberculosis.
4. Malignancy of the Lung—probably Carcinoma.
5. Acute Encephalitis—Dr. T. W. MacLean, Scotsburn.

### Lower Lobe Tuberculosis.

*Case No.* 1.

M. B. McR.—age 22 years, was admitted to the Nova Scotia Sanatorium, September 7th, 1932.

*General History*: Irrelevant.

*Personal History*: Patient was perfectly well until July, 1931, at which time she "caught a cold" which persisted, with pains in the left chest, until August 6th, when she had a series of haemoptyses amounting to about four ounces in all. Following this, her sputum was blood stained, mucopurulent, and had a bad taste for about three weeks. In September, 1931 another attack of left sided dry pleurisy developed. Left sided pneumonia was diagnosed in December of the same year. From that time until June, 1932, she was kept in bed. During this time she gained weight, had no cough, very little sputum and no fever. She was admitted to the Nova Scotia Sanatorium, September 7th, 1932.

*Examination on Admission*: The patient is a well nourished female, healthy to all appearances. Physical examination other than the chest is essentially negative.

*Examination of the chest*: Right: normal findings. Left: Slight restriction of respiratory movement. Slight dulness to 3R and 7V.S. then dulness to base front and back. Breathing vesicular to base front and 7 V. S. back from where it is amphoric to base. Vocal resonance and whispered pectoriloquy markedly increased 8 V. S. to base back. On coughing coarse and moderately coarse rales 7 V. S. to base back. Cavitation and consolidation in lower lobe.

*X-ray Examination*: Right: normal. Left: Apex and 1st I. S. free from pathology. A large annular shadow extends from the 2nd to 4th ribs. Extending from the 4th rib to base is an opacity, the upper level of which suggests a fluid level. The diaphragm is elevated about 4 cm. and the heart is drawn over to this side. (See Plate 1).

*Summary*: The above findings suggest a lower lobe lung abscess with fluid level and pneumonic consolidation below it.

*Laboratory Report*: Ten specimens of muco-purulent sputum were negative for tubercle bacilli. Two specimens were then found positive.

*Diagnosis*: Pulmonary tuberculosis—far advanced stage.

*Treatment*: Pneumothorax was started in the left side October 5th, 1932. After several refills, it was found that numerous apical and basal adhesions and a mobile mediastinum prevented any appreciable compression of the large basal cavity. Phrenicectomy was performed under local anaesthesia November 21st, 1932. Immediate elevation of the diaphragm followed with a change in shape and decrease in the size of the cavity. (See Plate 2)

A film taken November 14th, 1933, that is one year later, showed the following: Right: normal. Left: Collapse of lung shows slight increase especially in the lower lobe. We still see a small annular shadow measuring 2 x 1.5 cm. The infiltration around it appears less marked. Elevation of diaphragm 7.4 cm. (See Plate 3). Clinically the girl is well, weighs 150 pounds and is starting exercise.

*Comment*: 1. Repeated sputum examinations are a necessity in differentiating tuberculous from non tuberculous lower lobe pulmonary conditions. The history, physical signs and X-ray all support a non tuberculous condition in this patient. Repeated examinations of the sputum gave the true diagnosis. 2. The beneficial influence of phrenicectomy in collapse therapy when pneumothorax only partially compresses a cavity, is shown by this case.

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**Atelectasis of the Lung Caused by Aspiration of Opaque Foreign Body.**

*Case No.* 2.

Male, age 6, was referred to the Nova Scotia Sanatorium for X-ray examination of respiratory passages on February 2nd, 1931.

*Personal History:* Scarlet fever when 3 years of age. Since that illness child had a rapid pulse.

*Present Illness:* On the morning of the 2nd of February, the mother noticed that the child had a paroxysm of coughing and choking. It was found that he had been playing with parts of a toy meccano set and believing that something had been swallowed, she called in the family physician.

*Physical Examination:* On admission, the child was slightly cyanosed, respirations rapid, and an irritating cough present. Inspection revealed increased movement of right chest and definite restriction of the left. Percussion gave a tympanitic note over the right lung. The left lung presented definite dulness increasing to base over front and back. On auscultation the breath sounds were somewhat increased over right lung. Breathing was greatly diminished on the left from apex to 3rd rib and 5th vertebral spine and absent to base front and back. On coughing scattered moderately coarse rales and rhonchi were heard from 2nd rib and 3rd vertebral spine to base. The heart was found to be well over in the left chest, apex beat being 3 cm. beyond the nipple line.

*Fluoroscopic Examination* was first carried out in the vertical position and there was seen an area of increased density over whole of left chest. The heart was well over to the left. Diaphragm was considerably elevated. The right lung presented increased ray penetration, indicative of emphysema

There was an opaque foreign object, head of a bolt, located in left main stem bronchus just below bifurcation, with rounded surface of head pointed downward, lying opposite and 2 cm. to the left of the 6th dorsal vertebra.

*Film Exaination* confirmed the location of the foreign body, and on lateral film it was seen to be just in front of the intervertebral disk between the 6th and 7th dorsal vertebra. The heart, mediastinum and trachea were shifted over to the left obscuring the lower two thirds of the lung. There was evidence of complete pulmonary atelectasis as indicated by the uniform lung opacity and marked retraction of structures with elevation and fixation of diaphragm.

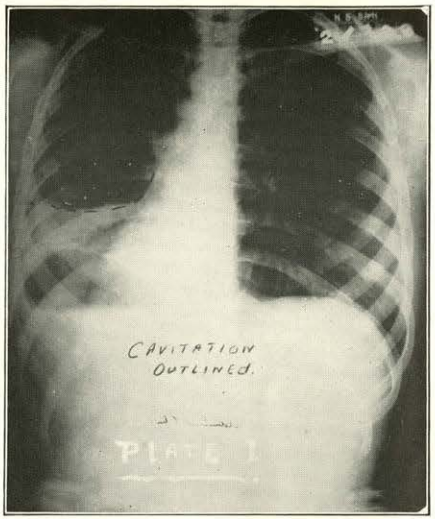
The patient was taken to a local hospital where removal of the foreign body was immediately attempted.

Under general anaesthesia, a bronchoscope was introduced and a small bolt was seen in the upper portion of left bronchus at the site previously determined by X-ray. Repeated attempts were made to grasp the foreign body without success. Tracheotomy was then performed, and patient moved from operating room. He made a fair postoperative recovery until 20 hours later, when his respirations became difficult, and on being moved on to a bed pan, suddenly expired.

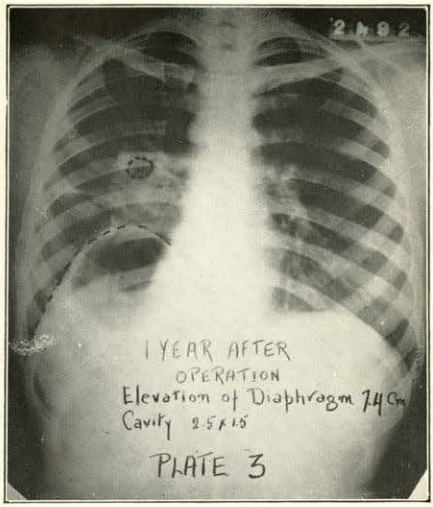
The failure to remove the object at the time of operation was largely due to the spasm and oedema of the parts, also by the suction caused by the negative pressure within the collapsed lung. The smooth convex surface of the bolt afforded a perfect air tight seal.

In consideration of the results produced by aspiration of foreign bodies from the X-ray point of view, there are two main divisions to be taken up. 1. According to Sante, partial occusion of the bronchus results in localized emphysema of the portion supplied by that bronchus. This is due to the fact that during inspiration, the lumen of the bronchus enlarges slightly, permitting a small amount of air to pass the obstruction. During expiration, the bronchus becomes slightly smaller and the obstruction is complete. As a result of the inability of patient to expel air, the portion of lung involved becomes distended and emphysematous. On the X-ray film, there is increased aeration of the affected side, with widening of the interspaces and displacement of the heart to the opposite side. 2. With complete occlusion of a bronchus, the picture is quite different. Air is neither permitted to enter or leave the area supplied by the bronchus, and the entrapped air is absorbed by the circulating blood, resulting in an atelectatic collapse of this portion of the lung. In its collapsed state, the lung occupies less space than when fully expanded, and the chest wall is drawn down.

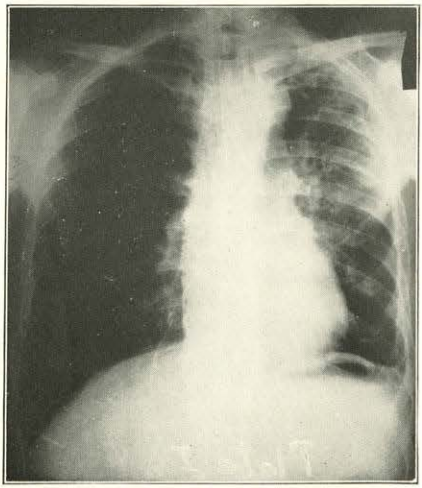
The above noted case history is a typical example of results of complete occlusion. If only a single lobe of lung is involved, very little contraction of chest wall results, since the remaining aerated lung merely expands to a greater degree to take up the loss of space. Occlusion of an upper lobe bronchus, caused by a primary bronchial tumor, results in an atelectasis of the upper lobe. When the obstruction is due to foreign body of a non apaque type, the same general principal holds true. Partial occlusion allows the air to enter the affected side but prevents its escape, resulting in emphysema. With a film taken on deep inspiration, the condition may be missed, but one taken during forced expiration will disclose failure of the obstructed side to expel the air. Heart and mediastinal structures are displaced to the non affected side and under the fluoroscope, the mediastinum can be seen to oscillate from side to side on inspiration and expiration.



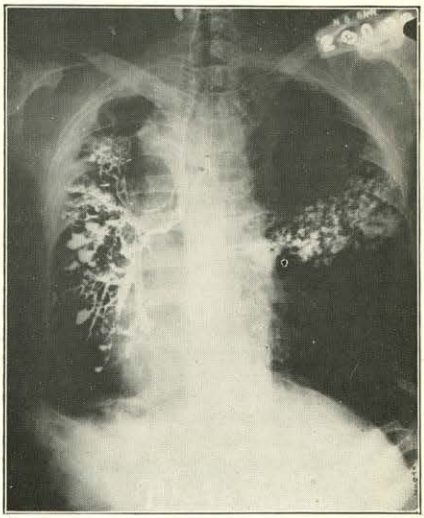

L. (Case No. 1) Plate I. R.




L. (Case No. 1) Plate III. R.



R. (Case No. 3) Plate I. L.
Before Lipiodol Injection



L. (Case No. 3) Plate II. R.
After Lipiodol Injection

## A Case of Bronchiectasis Complicated and Simulated by Tuberculosis.

*Case No.* 3.

P. McG., age 38, a miner and ex-service man was first admitted to the Nova Scotia Sanatorium, September 8, 1917, suffering from loss of strength, weight and appetite. He had marked hoarseness, cough with profuse white sputum, and was short of breath on exertion. On two occasions, nine months and one month previously, he had coughed up a mouthful of blood. There was a past history of bronchitis, but no known contact with tuberculosis.

Beyond the presence of a chronic laryngitis all findings were referable to the chest. On the right side there was found to be slight dulness over the upper part of the chest, the breathing was of poor quality, vocal resonance was increased, and on coughing fine and moderately coarse rales were heard to the second rib and the seventh vertebral spine. On the left side there was detected a restriction of movement, with dulness over the upper lobe, and slight dulness over the lower one. The breathing was broncho-vesicular over the upper lobe, vocal resonance was increased, and on coughing fine and moderately coarse rales were heard to the base in front, and to the fourth vertebral spine posteriorly, where rhonchi were also audible.

Although tubercle bacilli were previously reported in his sputum, all specimens examined at the Sanatorium proved to be negative. At this date the aid of fluoroscopic and X-ray study was not available. On the foregoing findings a diagnosis of moderately advanced tuberculosis was made. Institutional care was advised and received. Pneumothorax was also attempted on the left side, but because of pleural adhesions this measure had to be given up.

Save for a period of part time work between 1919-1921, the patient's subsequent years were spent resting at home or at the Sanatorium, his returns to the institution being caused either by exacerbations of symptoms or by haemoptyses. His response to the Sanatorium regimen was always good and at each discharge his pulmonary lesion appeared to be quiescent.

Up until 1923 only fluoroscopic examinations were possible, and these supported the clinical findings. By 1924 rales had cleared on the right side, but signs of cavitation were present on the left, and the condition was recorded as far advanced.

The first X-ray was taken in 1926, and at this time on the right side there were definite peribronchial changes in the apex, 1st and 2nd interspaces, with slight but definite parenchymatous changes in the apex and 2nd interspace. The left side in the upper lobe showed a lesion of a fibro-caseous pneumonic type with small honeycombed cavity formation, and there was as well increased fibrosis throughout.

On February 3rd, 1933, the patient was once more admitted to the Sanatorium, his sputum amounting to two drachms daily, and now being slightly foul and purulent. Sixteen years had gone by, and for a man, who, over such a period of time, had showed, and still showed, evidence of extensive disease, his general appearance was surprisingly robust. The X-ray findings on the right side were now peribronchial and congestive. On the left side the character and extent of the cavity areas seen from the apex to the sixth rib, was much greater than one would expect from the surrounding infiltration. The sputum, a purulent one, was still consistently negative for tubercle bacilli on repeated examinations by every method. This strengthened the doubt

that tuberculosis had been the only condition present, and so an investigation with Lipiodol was undertaken. In all three injections were made, the first, on the right side, revealing no pathology; while the two on the left disclosed a marked sacculation of the bronchial ramifications. The diagnosis was now altered to (a) Bronchiectasis (b) Pulmonary tuberculosis, apparently cured.

*Comment*: In retrospect this case is clear cut, yet it serves to stress several unusual, as well as several classical features. The upper lobe is not the usual site of a bronchiectasis, and indeed rales in the upper third of the chest must be considered tuberculous until proved otherwise. But it is axiomatic that a purulent sputum persistently negative for tubercle bacilli on repeated examinations by all methods over a long period of time is usually of a non-tuberculous origin; and it would be an extraordinary thing if a tuberculous lesion of the extent of the pathology revealed in this patient's chest has not gone on either with clearing, or to further involvement of the right lung with at least great constitutional impairment. The need of a proper correlation of the clinical, the X-ray, and the laboratory findings is noted; and moreover the aid, and in this case, the finality, afforded by a Lipiodol examination is striking.

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**Malignancy of the Lung—Probably Carcinoma.**

*Case No.* 4.

R. F.—a carpenter, aged 23, was admitted to the Nova Scotia Sanatorium, March 2nd, 1933, complaining of weakness, easy fatigue, soreness in the chest and "catching pain" on deep breathing.

*Family and personal History*: Irrelevant.

*Present Illness*: In January, 1931 the patient first noticed fleeting pains, of two days duration, in the front of his chest. Six weeks later he became aware of weakness and easy fatigue and that his left chest was not expanding like his right. At this time he had no cough, sputum, fever, pain in his chest nor loss of weight.

He consulted his doctor because of the lack of expansion of the left chest, who, following his examination, aspirated a small amount of fluid from his left side. Later an X-ray examination was made and he was told he had a thickened pleura on the left side for which no cause was given him. He rested two months; was told there was no change in his chest and returned to work. From April, 1931 to January, 1933, he was symptom free except for shortness of breath on exertion. In January, 1933 breathlessness increased slightly, followed by easy fatigue and soreness in his chest. Two weeks later he developed a catching pain in his left side, and at this time an average evening temperature of 99.4° F. was recorded.

*Physical Examination*: The skin and conjunctivae had an icteroid tinge. The heart was displaced slightly to the right. B. P. 110-70. On abdominal examination the lower border of the liver was palpated two finger breadths below the costal margin. The surface of the liver was smooth and the edge rounded. Other systems were essentially negative.

*Physical Examination of Chest*: Right—Normal findings. Left—Flattening and retraction of the chest with narrowing of the interspaces and almost complete absence of movement was present. On percussion flatness from 4R and 7V. S. to base was noted.

Breath sounds and vocal resonance were markedly diminished from 4th

rib and 7th vertebral spine to base. On coughing pleural rubs and possibly a few moderately coarse rales were found near the sternum between 3rd and 4th rib.

*Laboratory Examination*: Sputum was negative for tubercle bacilli. The urine showed a trace of albumen, bile acids, but not bilirubin being present. Blood, Hb. 83%—R. B. C. 4,850,000 W. B. C. 15,200 Differential: Polys. 68%, Small lymphs 29% and 3% eosinophiles. The Kahn test was negative.

*X-ray Findings*: Standard A. P. films were of little value except to demonstrate a marked density from 3R downward on the left side. Two conditions could account for the picture, a markedly thickened pleura or consolidation due to diffuse tumour growth.

On March 3rd, 60 cc. of cloudy fluid were aspirated through the 8th interspace. A markedly thickened pleura was found. Smears of the fluid were negative for tubercle bacilli, pus and abnormal cells. The fluid gave a four plus reaction for blood.

On March 4th, 20 cc. lipiodol were introduced into the left lung.

The X-ray showed failure of the lipiodol to penetrate into the lower lobe bronchi, except for one trunk narrowed and poorly filled close to the spine. Definite compression and partial obliteration of the lower lobe bronchus and its branches was found to be present, and a diagnosis of diffuse carcinoma of the lower lobe of the left lung was made.

The patient returned home where he died six months later.

Although an autopsy was not performed, his subsequent history seems to bear out our diagnosis.

This history was obtained from his doctor:—

Lung symptoms were not much in evidence. Pressure symptoms were marked, the trunk, lower limbs and left arm being swollen to twice normal size. Repeated tapping of the left chest yielded little or no fluid. Before death gastro-intestinal symptoms were prominent, pain in abdomen, vomiting of coffee-ground material—tarry stools. Death resulted apparently from haemorrhage into the stomach during an attack of vomiting.

*Summary*: A case of malignancy of the lung is presented. The most prominent physical sign was marked restriction of the affected side of the chest. Pain in the chest, fever and a leucocytosis with the sputum negative for tubercle bacilli were also present. The importance of lipiodol as a diagnostic agent is shown. Marked pressure symptoms and gastro-intestinal disturbances came on before death, which occurred two years and nine months from the onset of the first symptoms.

A. V. F.

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*Case No. 5.* (From Dr. T. W. MacLean, Scottburn, N. S.)

On October 13, 1933, I saw a boy aged just under fifteen years. He had never been sick before and had been a bright, healthy boy. During the night of October 10th he was awakened by a pain in his stomach and vomited. During the next two and a half days he was miserable, with occasional vomiting, malaise and some headache. On October 13th he felt better and was outside for an hour or two. In the afternoon he took a marked chill and a very severe headache. On examination: sitting up in bed complaining of being very cold and having a most terrible pain in his head. Temperature 104. Pulse 120 Respiration 24. Nose, mouth and throat negative. Chest clear. Nervous

system: knee jerks and abdominal reflexes absent except that one knee jerk would occasionally respond feebly. Otherwise nothing abnormal found.

October 14th. Condition about the same. The headache was very agonizing and difficult to relieve. During the afternoon a squint of one eye developed. During that night he told his father he felt better and would soon be able to take something to eat. A few hours later his father wakened and found him dead.

No autopsy was obtained. My diagnosis was acute encephalitis. The boy lived a long distance away in the country and I realize the case is not very well worked up for presentation, not even a lumbar puncture being done, but it may be of some interest. The diagnosis may be wrong and I cannot say whether it was the epidemic form or not. No other cases have developed to date, (twelve days later).

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VOL. XII DECEMBER, 1933 No. 12

## Christmas

*"Peace upon on earth, Goodwill to men,"*
*"Peace upon earth, to men of goodwill."*

THE season is upon us when we are reminded of the Christmas message and though of no medical interest, there might be some benefit in our considering its value—benefit not only to us, but to the system which we support, and so, we think, to posterity.

An age in which everything is questioned is not something to complain about, but that does not obtain when, because of illogical reasoning, worthwhile institutions are being scrapped. Is Christmas threatened? Would it matter if it were scrapped?

To answer that the Russian situation might be examined. There is a growing tendency to admire Russia for her achievement in the development of a Socialistic State, and that not without reason. In the process however, she has seen fit to throw Christmas and all that belongs to it out of her scheme of things and the question naturally arises, why? Was it necessary, as being incompatible with Socialistic ideals? Perhaps it seemed necessary for her, in order to attain maximum speed for the movement, to transfer the fervor which previously had been put into the Christian religion to the Marxian "religion" of collectivism, with the greater importance of which they were imbued. Actually, she seems to have done that, and the stories of her success are such as would suggest that her present creed embodies all the good of the Christmas message and is an advance upon it. It does seem to be true that there is a manifestation of goodwill unprecedented within that nation, and peaceful intentions are frequently stressed. Actually however, what has Christmas been replaced with? Berdyaev, formerly Professor of Philosophy in the University of Moscow, answers that in his recently translated work "The End of our Time." Discussing Marxian philosophy and its superman collectivity, which constitutes the bone and sinew of the Soviet system, he

says "it discards the human and preaches *hardness to man* in the name of collectivity... Its collectivity takes the place of the lost God."

And what of the system they have thrown out? The keyword of the Christmas message is *Goodwill.* This connotes, if anything, sympathy, tolerance and charity, qualities which properly interpreted tend to that form of Socialism which belongs to our peace.

Time was when our interpretation left much to be desired, as affecting our professional relationships. That has changed, and we are now privileged to exhibit abundantly of those qualities, to persons outside our profession as well as to those within. A better feeling exists within our ranks—whether community or provincial—than perhaps has ever existed before. Though it is still, unfortunately, occasionally disturbed by things that should be too small to disturb it.

But if the Christmas message suggests an obligation in goodwill it also implies a reward. In this the revised rendering *"Peace on Earth to men of Goodwill"* is better, as expressing a psychological truth, for human sympathy and charity persistently manifested, shape the mind making it a better thing for ourselves to live with. Surely by this means do the "ways of pleasantness" become the "paths of peace". Thus does the recurring season of Christmas, reiterating its eternal truth, become a perennial reminder of our calling and its reward, and in this sprit would the **Bulletin** extend to you *The Season's Greetings* and would wish you all *The Peace of Christmas*—the peace of goodwill.

N. H. G.

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**Our Funny English.**

We will begin with a box, and the plural is boxes;
But the plural of ox is oxen, not oxes
Then one fowl is goose, but two are called geese;
Yet the plural of mouse should never be meese.
You may find a lone mouse or a whole nest of mice;
But the plural of house is houses, not hice.
If the plural of man is always called men,
Why shouldn't the plural of pan be called pen?
And if I speak of a foot, and you show me your feet
And I give you a boot, would a pair be called beet?
If the singular's this and the plural is these,
Should the plural of kiss be nick-named keese?
Then one may be that, and three would be those.
Yet the hat in the plural would never be hose;
And the plural of cat is cats, not cose.
We speak of a brother and also brethren;
But tho' we say mother, we never say methren.
The masculine pronouns are he, his and him;
But imagine the feminine, she, shis and shim.
So the English, I think you all will agree,
Is the most wonderful language you ever did see.

*M. Bratland.*

# CANCER

## ABNORMAL BLEEDING AT THE MENOPAUSE

W. G. COLWELL, M.D.,C.M. (Dal.).

THE importance of recognizing the underlying cause of abnormal bleeding at this period in a woman's life is self-evident. It is particularly at this time, and later, that carcinoma of the genital tract makes its appearance.

In order to appreciate the abnormal, it is necessary to know what is normal, and for this reason it would be perhaps well to briefly state what is normal. The menopause may take one of two forms with regard to blood loss. The first and most common is a gradual loss of the menstrual function, indicated by a decrease in the amount of blood lost and a prolongation of the inter-menstrual period. The second is a sudden and abrupt termination of the flow.

Deviations from the normal may be seen in the following ways:

1. An increase in the amount of flow at the period.
2. A shortening in the inter-menstrual period.
3. An increase in the duration of the flow.
4. Inter-menstrual blood loss.
5. Reappearance of blood flow, six months to a year or more after complete cessation of the menses.

With the occurrence of any one or more of these deviations we at once suspect malignant disease. Exceptionally, any one of them may, however, occur during a normal menopause but no physician has any moral right to consider it normal until he has by a complete examination proven it so.

Cancer of the genital tract may occur at any time from puberty to death and any abnormality of the menstrual function with respect to blood loss should be investigated thoroughly to exclude cancer as a cause. Much more so does this apply to the menopausal period of the woman's life because, as is well known, the majority of cancers occur then.

There are, however, other causes of abnormal bleeding at this time which are not malignant in nature.

The *malignant causes* in their order of frequency of occurrence are as follows: Carcinoma of Cervix, of the body of the uterus, of the vagina, of the vulva, of the ovary, of the Fallopian tube. Sarcoma of uterus and ovary.

The *benign causes* are senile vaginitis, urethral caruncle, fibroids of the uterus, cervical erosions, uterine prolapse, cervical and uterine polypi, fibrosis uteri, non specific ulcerations of the vagina, senile endometritis, large cysts of the ovary, foreign bodies in the uterus and vagina.

The proportion of benign to malignant causes in a series of 937 cases of menopausal and post-menopausal bleeding, reported from Edinburgh, gave 56.88% benign to 43.12% malignant, but of individual causes Carcinoma of Cervix gave over 25% of total cases.

Carcinoma is so frequent a cause of abnormal bleeding that an axiom can be laid down that "all cases of abnormal bleeding at or following the menopause should be considered malignant until proven otherwise".

To briefly review the different malignant diseases particularly of the cervix and uterus would be useful.

### Carcinoma of the Cervix.

This condition appears in two types:

1. Squamous celled carcinoma of the vaginal portion.
2. Adeno-carcinoma of the cervical canal.

(1) Squamous cell cancer of the cervix may adopt one of two forms and is ten times more common than the adeno-carcinoma. The first form is that in which the cancer cells tend to pile up on the surface of the cervix, the cauliflower-like form. The second form is that in which the cancer cells develop into and invade the cervical tissue, the ulcerating form.

(2) In the carcinoma which develops in the cervical canal, the cells invade the denser structures of the cervix and on inspection of cervix nothing is seen. The symptoms of all types are common one to the other.

*Discharge.* At first thin and watery, later becoming thicker and blood-stained, but always having a distinct charcteristic odor which once detected will not be forgotten. It appears early in the squamous celled cancers, later in the cancer within the cervical canal.

*Bleeding.* This may vary from a spotting to a moderate or even severe blood loss depending upon the extent of the growth and its invasiveness. In the cauliflower-like type of growth it is usually not marked, and results, in the early stages, following coitus or instrumentation; later of course, as the disease progresses becoming more constant and profuse. In the ulcerating form it is of the same nature. With adeno-carcinoma of the cervical canal bleeding appears later than in the squamous types, because of its location.

*Pain.* This is a late symptom in all forms of carcinoma of the genital tract and when present usually means extension of the growth beyond its primary site, either by way of glands or by metastases.

*Diagnosis.* In the squamous cancers the diagnosis can usually be made by inspection of the cervix or at the least very strongly suspected. In early cases it is more difficult. Where cancer is suspected and there is any doubt in the examiner's mind a section from the suspected area should be taken, preferably by means of the cautery, lacking that, then with the curette or knife and the section sent to the laboratory for examination.

### Adeno-carcinoma of Cervical Canal.

Here the diagnosis is more difficult. On inspection of the cervix the diseased area cannot be seen. The cervix is usually larger and harder than normal. The valuable aid in diagnosing this form of cancer is that if a sound be passed into the canal, bleeding will result if a carcinoma be present. Given this sign then a curette should be introduced, the canal curetted and the material obtained examined.

### Carcinoma of Body of Uterus.

This condition is seen as a rule in mulliparous women following the menopause, but may occur before or during it. Like cervical cancer the symptoms are discharge and bleeding with the same variations of the latter. The diagnosis is made by palpation, which shows a normal cervix and an enlarged uterus. If a sound be passed into the uterus, the enlargement is confirmed. In all cases where this condition is suspected a thorough dilalation and curettage should be performed and the scrapings examined microscopically.

Space will not permit of a consideration of the treatment of these conditions.

To conclude—the following important points should be remembered—

1. In abnormal bleeding at or near the menopause, the physician should not be content with anything less than a positive diagnosis of the cause of the bleeding.
2. When in doubt take a section or explore with the curette. Resulting tissue should be sent without delay to the laboratory.

The earlier the diagnosis is made and treatment instituted, the better will be the result.

A plea for early examination of, and for instruction to, the laity in regard to abnormal bleeding is made.

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We refer, with a great deal of pleasure and satisfaction to the recent appointment of Dr. A. L. McLean to the Faculty of Hygiene Dalhousie University, as Epidemiologist.

We congratulate Dalhousie on the advanced step taken in this connection and extend to Dr. MacLean a most cordial welcome.

Under the leadership of Dean Grant the University now has a full time, well rounded and properly organized department of preventive medicine.

As the years pass by more and more attention is being paid to the science of disease prevention, and the more of epidemiology we know and teach, the lesser will be the number affected in any epidemic.

Community health problems have not as yet received their due recognition. Many facts are known to health workers, but it is essential to bring these facts before the people in one way or another. In no better way can this be done than through the medical profession by instructing medical students in all the known facts of preventive medicine so that they in turn will apply the knowledge, and in addition educate their communities in all matters pertaining to the prevention of preventable diseases.

As medical men we owe it to each sufferer from communicable disease to restor him to health if possible, but we owe a greater debt to the community in which we labor, that is to protect the community from the spread of communicable disease.

By a reciprocal arrangement Dr. MacLean's services will be available to the Department of the Public Health at any time special studies are indicated in connection with the occurence of communicable disease in epidemic or endemic form.

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### Health Survey of Children Planned.

Kentville, N. S., Nov. 16—Extensive health survey of all public school children is planned here in a united effort to make every child physically fit.

The plans, being formulated through co-operation of the Nova Scotia Minister of Health, doctors and dentists of the town, the Victorian Order of Nurses, School Board, hospital authorities and interested citizens, will provide for thorough examination of the 750 children.

It is believed this is the first such movement in the Maritimes and the Nova Scotia Tuberculosis Commission has turned over local sale of Christmas seals to lend financial support.

# LABORATORY

**LABORATORY EXAMINATIONS: Their indications, method, and interpretation with special reference to the requirements of of the general practitioner.**

By RALPH P. SMITH, M.D.,D.P.H., Provincial Pathological Laboratory, Halifax, N. S.

### Choice of Tests in Urethral Infections.

*In Male*:—Acute Disease; Microscopic examination of urethral discharge for cells and bacteria.

Chronic Disease: Microscopic examination of urethral discharge, two-bottle test, prostatic secretions.

*In Female*:—Preliminary examination—urine for pus.

Two-bottle test.

If pus be present, especially in the first specimen or if infection be suspected, examine microscopically a film of discharge from the urethra, Skene's ducts and the cervix uteri.

Smear of exudate. (1) For pus cells; (2) for organisms. Culture for special characteristics.

### The Blood.

*Leucocyte Count. Principle of the Test.*

Using a pipette the blood is diluted by an acid fluid which renders the red cells invisible and makes the nuclei of the leucocytes stand out. After thoroughly shaking the pipette to obtain an even distribution of the leucocytes, the solution is poured into a chamber of accurate dimensions. When the cells settle on the bottom, which is ruled, they are counted under the microscope. Their total is multiplied by a factor to make up for the dilution and for the fraction of 1 cu. mm. counted in the chamber. Thus a number of leucocytes in 1 cu. mm. of whole blood is computed.

Outline of Technique:—

1. *Obtaining the Specimen*:—Obtain a large drop of blood before collecting any. Draw blood to 0.5 in the pipette and dilute to "11" with 2 per cent. acetic acid tinge with methylene blue. Shake well. Discard the first drop. Place the diluted blood in the counting chamber. It must not flow into the trench.
2. *The Count*:—Use the low-power lens and closed diaphragm. Count all cells in the four corner squares, each made up of 16 small squares and multiply the total by 50. Normal, 4,000 to 12,000 per cu. mm.
3. *Cleaning Pipettes*:—Clean pipettes immediately after use. Blow out any cells remaining in the bulb. Fill twice and empty (1) with water (2) with acetone. Draw air through to dry.

The material for this article is chiefly culled from the following text books: *Laboratory Medicine* by Nicholson; *Clinical Diagnosis by Laboratory Methods* by Tood & Sandford; *Surgical Pathology* by Boyd. The texts have been selected by the writer, and are those found useful in his own Laboratory.

*Interpretation*:—Normally its highest point is in the afternoon, just as the body temperature is a degree higher in the afternoon than the forenoon.

*The Count in Disease*:—In acute infections frequent counts note the trend of the fight between the infection and resistance.

1. A count of 3,000 to 12,000 with a high fever, occurs in an acute bacillary infection such as typhoid or influenza. The count is usually nearer the lower limit.
2. A count of 3,000 to 12,000 in a very ill patient who has normal or sub-normal temperature, rapid pulse, cold extremities and a localized pain is usually the result of a virulent infection which has overcome the bodily resistance, eg. a fulminating attack of acute appendicitis. The differential count is usually of value here. The extent to which the polymorphonuclears are over 75% shows the severity of the infection. Over 80 per cent. polymorphs may be found in severe infections and over 90 per cent. in the worst type of infection. The increase in the young polymorphonuclears with the unsegmented U-shaped nucleus also indicates the extent of the call on bodily resistance. The normal percentage of such cells is 5. In moderate infection it may go up to 10, in severe infections up to 20 after which time a few myelocytes appear. This indicates a state of dangerous illness. With infections of long-standing such as arthritis the count is usually normal. The absence of eosinophiles is of serious import.
3. A count of 12,000 to 16,000 with fever is usually found in mild or moderate infections, often streptococcal, and where there is a satisfactory resistance. Trivial infections, such as a mild tonsillitis, will cause a leucocyte count of 12,000. With a leucocyte count of over 15,000 there is almost always pus formation. In a malignancy the leucocytosis is due to infection. Although usually the leucocytosis is moderate, it may rarely be very high.
4. A count 16,000 to 25,000 with high fever accompanies virulent infections due to streptococci, pneumococci or other cocci in subjects who have a good resistance. There is always pus formation with such a leucocytosis and the symptoms and signs indicate the site of the lesion. The degree of leucocytosis indicates the vigour of the resistance but as this is whipped up to the degree required to cope with the infection the degree of leucocytosis also comes to indicate the severity of the infection. Usually the leucocytes hold the infection at bay for several days until immune bodies are developed and brought by the plasma to check the development of the infection after which the monouclear phagocytes digest the inactivated bacteria and debris. Continued leucocytosis means extension of the infection. If the leucocyte count is over 30,000 a part of the resistance mechanism may fail, causing a fatal outcome. Very high leucocyte counts in pneumonia do not carry a bad prognosis. Low counts do.

One should not overlook the possibility of haemorrhage when seeking the cause of a leucocytosis. It has some very special features. Leucocytosis only occurs with haemorrhage into a serous cavity as the peritoneum, pleural cavity or intradurally. The rise of the leucocyte count starts an hour or two after the haemorrhage. It reaches its maximum, which is one and a half

to three times the normal, in six to ten hours and returns to normal again four days after the haemorrhage has ceased.

5. A count of 25,000 or over with little or no fever suggests leukaemia or glandular fever, rather than a pyogenic infection. The higher the count the more certain the diagnosis of leukaemia. The highest counts are rarely above 30,000 in glandular fever. In leukaemia the white cell counts are usually much higher than 30,000. Glandular fever or infectious monoucleosis has no accompanying anaemia and is a benign disease. In the leukaemias, which are always fatal, there is always a profound anaemia and examination of the smear will tell whether it is lymphatic or myelogenous.

# Department of the Public Health

## PROVINCE OF NOVA SCOTIA

Office—Metropole Building, Hollis Street, Halifax, N. S.

**MINISTER OF HEALTH** - - - - HON. F. R. DAVIS, M.D.,F.A.C.S., Halifax

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| **Divisional Medical Health Officer** - - | DR. C. M. BAYNE, Sydney. |
| **Divisional Medical Health Officer** - - | DR. J. J. MACRITCHIE, Halifax. |
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| **Pathologist** - - - - - - - - - | DR. R. P. SMITH, Halifax. |
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### HANTS COUNTY

Bissett, E. E., Windsor.
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Reid, J. W., Windsor (West Hants Mcpy.).
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### INVERNESS COUNTY

McLeod, J. R. B., Port Hawkesbury
LeBlanc, L. J., Cheticamp (County)
McLeod, F. J., Inverness.

### KINGS COUNTY

Cogswell, L. E., Berwick.
Bishop, B. S., Kentville.
Burns, A. S., Kentville (County).
deWitt, C. E. A., Wolfville.

### LUNENBURG COUNTY

..... (County).
Rehfuss, W. N., Bridgewater.
McKinnon, C. G., Mahone Bay
Zinck, R. C., Lunenburg.
Zwicker, D. W. N., Chester (Chester Mcpy.)

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Chisholm, H. D., Springville (County).
Bagnall, B. O., Westville.
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Sutherland, R. H., Pictou.
Whitman, G. W., Stellarton.

### QUEENS COUNTY

..... Liverpool.
MacLeod, A. C., Caledonia (County).

### RICHMOND COUNTY

LeBlanc, B. A., Arichat.

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Brown, C. Bruce, Clark's Harbour.
Churchill, L. P., Shelburne.
Fuller, L. O., Shelburne (County).
Densmore, J. D., Port Clyde (Barrington Mcpy.).

### VICTORIA COUNTY

Gillis, R. I., Baddeck (County).

### YARMOUTH COUNTY

Blackadar, R. L., Port Maitland (Yar. Co.).
Burton, G. V., Yarmouth.
O'Brien, W. C., Wedgeport.
LeBlanc, J. E., West Pubnico (Argyle Mcpy.)

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Those physicians wishing to make use of the free diagnostic services offered by the Public Health Laboratory, will please address material to Dr. D. J. MacKenzie, Public Health Laboratory, Pathological Institute, Morris Street, Halifax. This free service has reference to the examination of such specimens as will assist in the diagnosis and control of communicable diseases; including Kahn test, Widal test, blood culture cerebro spinal fluid, gonococci and sputa smears, bacteriological examination of pleural fluid, urine and faeces for tubercle or typhoid, water and milk analysis.

In connection with Cancer Control, tumor tissues are examined free. These should be addressed to Dr. R. P. Smith, Pathological Institute, Morris Street, Halifax.

All orders for Vaccines and sera are to be sent to the Department of the Public Health, Metropole Building, Halifax.

**Communicable Diseases Reported by the Medical Health Officers for the Period Commencing September 22nd, to October 31st, 1933.**

| County | Cer-Spi. Meningtis | Chicken Pox | Diphtheria | Influenza | German Measles | Paratyphoid | Pneumonia | Scarlet Fever | Typhoid Fever | Tbc. Pulmonary | V. D. G. | V. D. S. | Whooping Cough | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annapolis | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Antigonish | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cape Breton | .. | .. | 2 | .. | .. | .. | .. | 3 | 2 | .. | .. | .. | 8 | 15 |
| Colchester | .. | .. | .. | .. | .. | .. | .. | 3 | .. | .. | .. | .. | 3 | 6 |
| Cumberland | .. | 6 | .. | .. | .. | .. | .. | 6 | .. | .. | .. | .. | 4 | 16 |
| Digby | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .. | .. | .. | 2 |
| Guysboro | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 2 |
| Halifax City | .. | 1 | 5 | .. | .. | .. | .. | 18 | .. | 2 | .. | .. | .. | 26 |
| Halifax | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Hants | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Inverness | .. | 1 | .. | 1 | .. | .. | 3 | .. | .. | .. | 7 | 2 | .. | 14 |
| Kings | .. | .. | .. | 24 | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | 26 |
| Lunenburg | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Pictou | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Queens | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Richmond | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Shelburne | .. | 5 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 6 |
| Victoria | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Yarmouth | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 |
| TOTAL | .. | 13 | 7 | 25 | .. | .. | 6 | 31 | 2 | 3 | 8 | 4 | 16 | 115 |

**RETURNS VITAL STATISTICS FOR SEPTEMBER, 1933.**

| County | Births | | Marriages | Deaths | | Stillbirths |
|---|---|---|---|---|---|---|
| | M | F | | M | F | |
| Annapolis | 21 | 18 | 9 | 10 | 11 | 0 |
| Antigonish | 5 | 8 | 5 | 5 | 7 | 2 |
| Cape Breton | 59 | 67 | 58 | 47 | 30 | 5 |
| Colchester | 23 | 22 | 16 | 17 | 12 | 2 |
| Cumberland | 26 | 30 | 12 | 22 | 19 | 2 |
| Digby | 9 | 11 | 7 | 19 | 9 | 1 |
| Guysboro | 9 | 12 | 3 | 5 | 4 | 0 |
| Halifax | 82 | 97 | 67 | 52 | 52 | 5 |
| Hants | 19 | 13 | 8 | 6 | 15 | 0 |
| Inverness | 18 | 24 | 8 | 14 | 5 | 1 |
| Kings | 36 | 23 | 13 | 13 | 13 | 0 |
| Lunenburg | 28 | 24 | 14 | 17 | 16 | 5 |
| Pictou | 38 | 29 | 11 | 20 | 31 | 3 |
| Queens | 6 | 6 | 6 | 15 | 8 | 1 |
| Richmond | 13 | 7 | 2 | 9 | 5 | 1 |
| Shelburne | 5 | 11 | 3 | 3 | 2 | 0 |
| Victoria | 6 | 4 | 8 | 3 | 2 | 0 |
| Yarmouth | 13 | 22 | 7 | 6 | 12 | 1 |
| TOTAL | 416 | 428 | 257 | 283 | 253 | 29 |

# Branch Societies

THE Annual Meeting of the Eastern Counties Medical Society was held at St. Martha's Hospital, Antigonish, on Tuesday, November 7th, 1933. Fifteen members were in attendance and the meeting was presided over by Dr. E. F. Moore of Canso, Hon. Dr. F. R. Davis, Minister of Health, Halifax; Dr. James Corston, Halifax; and Dr. D. J. MacKenzie, Halifax, were present as special guests of the Society.

After the minutes of last meeting had been read and adopted, nominating committee and auditors appointed, the president asked the Minister of Health to address the meeting.

The Hon. Dr. Davis in a simple, clear and concise manner, dealt with the organization of an efficient Health Department, stressing the importance of a solid foundation on which to build a permanent superstructure. The connection and relationship that should exist between the Local Boards of Health, each with its executive officer, and the Provincial Department was referred to. Emphasis was given to the thought that the whole organization was concerned, primarily with the prevention of diseases and with the business of giving good health to all people.

Tuberculosis control was given due consideration. The importance of providing adequate supervision for the open case and of making the best use of such institutional beds as we possess was made clear. As to the number of beds, we occupy a favourable position as regards all Canada. The necessity of making full use of institutional beds for educational purposes was shown in detail. It was also pointed out that protracted institutional residence was to be avoided except in certain individual cases where it might be considered necessary. In conclusion the Minister asked for the support of the members of the Medical profession in the various health problems that were bound to come before him.

In opening the discussion our honoured Veteran member, who has never missed attendance at a meeting of the organization, pledged the co-operation and support of the Eastern Counties Branch; stating that it would not be found wanting in the promotion of better health, under the leadership of the Honourable Dr. Davis.

Dr. H. MacKay, Dr. J. S. Brean and Dr. H. F. Sutherland continued the discussion, each following one or other of the interesting and important paths opened up by Dr. Davis.

The ever popular "Jimmy" Corston followed with a really worth while, in fact a splendid practical talk on Albuminuria. He stated that Physiological Albuminuria was found in probably five per cent. of healthy persons and showed that it did not damage the kidney, consequently was not to be taken too seriously. In addition to the ordinary cyclical type, there were the febrile and heart failure types.

Passing to pathological albuminuria it was pointed out that when casts were plentiful, nephritis was likely present, and when Pyuria was found, one thought of a so-called Surgical Kidney.

Dr. Corston fully described the commoner functional tests and said

that at present there was a tendency to feed more proteid food, in kidney conditions than formerly.

This address brought forth a most interesting and prolonged discussion in which the following participated: Dr. J. S. Brean, Dr. W. F. McKinnon, Hon. Dr. Davis, Dr. T. D. Monaghan, Dr. C. B. Smith, Dr. H. F. Sutherland.

At six o'clock those present were escorted by the president to a daintily decorated dining room. The menu, as usual, was all that could be desired. Toastmaster, Dr. Moore, proposed three toasts—The King, The Medical Profession, our Visitors—all were suitably proposed and acceptably responded to.

After dinner the presidential address was given by Dr. E. F. Moore. It proved to be essentially practical and was favourably commented upon by those present.

Next in order was a "Clinical Hour" by the staff of St. Martha's Hospital. This consisted in a presentation of interesting cases of Pulmonary Tuberculosis which have appeared from time to time in the Hospital, Sanatorium and in homes about Antigonish. Types were shown to demonstrate routine rest cure, both in the institution and the home, pneumothorax, and sanocrysin in selected patients. Dr. J. J. Carroll, Dr. W. F. McKinnon and Dr. J. L. McIsaac presented the various cases.

Dr. D. J. McKenzie, Director of the Public Health Laboratory, followed with a talk on Sera and Vaccines. He started out with a unique blackboard demonstration of natural and acquired Immunity. Then passed on to an explanation of the manufacture and uses of the commoner sera and vaccines, and ended up with a complete account of toxoid and its place in protection against Diphtheria.

Dr. McKenzie's address was very well received and many questions were asked of the Speaker.

Discussion was led off by Dr. J. L. McIsaac, followed by Dr. J. S. Brean, Dr. W. F. McKinnon, Dr. J. J. Cameron and Dr. C. M. Bayne.

A resolution recently passed by the Valley Medical Society having reference to the Provincial Medical Board and forwarded by the Valley branch for consideration was read. After considerable discussion it was decided to table the resolution especially since the parent organization has not as yet declared itself in the matter.

Communications of the general Secretary with respect of the Dr. W. H. Hattie Scholarship and the Canadian Medical Association tours were submitted and action already taken by the executive was confirmed.

A hearty vote of thanks was extended to the visiting doctors for their practical and valuable contributions.

Officers were elected for the ensuing year as follows.

Hon. Presidents— DP. T. E. BUCKLEY, Guysboro.
DR. J. J. CAMERON, Antigonish.
President— DR. F. J. MACLEOD, Inverness.
1st Vice-President— DR. J. S. BREAN, Mulgrave.
2nd. Vice-President—DR. D. J. MACMASTER, Antigonish.
Secretary-Treasurer—DR. P. S. CAMPBELL, Port Hood

**Executive Committee.**

DR. W. F. MCKINNON, Antigonish.
DR. W. J. POIRIER, Cheticamp
DR. C. B. SMITH, Goldboro.
DR. T. R. DEVEAU, Arichat.
DR. E. F. MCDONALD, Antigonish.
DR. M. T. MACLEOD, Whycocomagh.

Representatives on Executive of Medical Society of Nova Scotia.

DR. E. F. MOORE, Canso.
DR. J. J. CARROLL, Antigonish.

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## CAPE BRETON MEDICAL SOCIETY.

One of the largest and most enjoyable functions of the Cape Breton Medical Society was held at the Isle Royale Hotel in Sydney on November 16th. The occasion was a memorable one having as its special purpose the "caning" of two of the best known members of the Society, Dr. J. W. MacLean and Dr. J. K. MacLeod.

At a preliminary meeting in the afternoon held at the City Hospital, and presided over by the President Dr. F. O'Neill, addresses were given by Hon. F. R. Davis, Minister of Health, and Dr. Grant, Dean of the Medical School at Dalhousie. Both addresses dealt in a most interesting and thorough manner with problems of public health. The thanks of the Society were extended to the speakers for their very instructive and timely addresses.

After the scientific session the meeting adjourned to the Isle Royale where a delightful complimentary banquet was presided over by Dr. O'Neill. The toast to the King being duly honored, the more intimate business of the evening was proceeded with in the presentation of the addresses and "time honored gold headed canes" to the honored guests.

Beautifully worded, suitably engraved addresses accompanying the canes were presented to both Drs. MacLean and MacLeod, in the former case by Dr. Dan MacDonald of North Sydney, and in the latter by Dr. L. Johnstone of Sydney Mines. Both Dr. MacDonald and Dr. Johnstone had been contemporaries of Dr. MacLean and Dr. MacLeod in the days when their individual practices covered great areas and where resourcefulness was perhaps a more necessary attribute to successful practice than is required to-day. Dr. MacDonald's difficulties as accoucher to Christy MacInnis, aged 48, primipara, of doubtful matrimonial status, with flat pelvis, on the top of Hunters Mountain in winter time called for great sympathy on the part of his hearers. Laughter was brought out by the inimitable and intimate details described by Dr. Dan in his unenviable position on Hunters Mountain from which he was ultimately relieved by the timely arrival of Dr. MacLean after a long and arduous journey.

Dr. J. W. MacLean was born at Lake Ainslie, C. B., and graduated from McGill in 1883. During his college course he was a pupil of the late Sir Wm. Osler. He seems to have absorbed the capacity of his teacher of long ago in his intimate understanding of human nature and the sympathy so necessary to the acquiring of the patients confidence. A short period of practice at Port Hastings was followed by a post-graduate at the European Clinics.

Returning to his homeland he began practice in North Sydney. This he conducted with great success bringing honor to himself professionally and being foremost in all endeavors for the good of the community. He married Miss MacKeen of Mabou, who still ministers to his needs in their delightful home at North Sydney. Five children have been born, four of whom survive.

Dr. J. K. MacLeod was born in Sydney, the son of one of the most eminent divines to come from Scotland in the early days of Cape Breton settlements. Dr. MacLeod graduated from Bellevue Medical School in 1883 as a contemporary student of Dr. E. J. Johnstone, Dr. A. S. Kendall and Dr. W. MacKay MacLeod, the latter being a brother and whose passing last year was a matter of sincere regret. After a period of practice in Newfoundland he came to Sydney where he soon established a lucrative practice. He gradually became interested in political matters and was always prominent in the councils of the Conservative Party. Of later years he has largely devoted his skill to matters of public health in which field his qualifications have found many occasions of successful applications. Dr. MacLeod married Miss Jeans of Arichat and two children were born, both of whom survive, Ross, in legal practice in New York, and Hugh, a broker in Sydney.

Both gentlemen honored on this occasion are honorary members of the Nova Scotia Medical Society and very active in their duties as such.

The balance of the toast list included addresses of response by Hon. Dr. Davis and Dr. H. G. Grant. The occasion was a most enjoyable one from a social point of view and gave an opportunity of congratulating the honored guests on their fifty years in practice, an event joyously availed of by all members of the profession present.

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**Report on Tissues sent for examination to the Pathological Laboratory, from November 1st to November 30th, inclusive.**

The total number of tissues sectioned 127. In addition to this, 20 tissues from 8 autopsies were sectioned, making 147 tissues in all.

| | | |
|---|---|---|
| Tumours malignant | 30 | |
| Tumours simple | 8 | |
| Tumours suspicious | 1 | |
| Tumours pre-cancerous | 2 | |
| Other conditions | 86 | |
| From 8 post mortems | 20 | 147 |

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"Get up sir, get up!" cried the proprietor hammering at a bedroom door. "The hotel's on fire!"

"Weel, weel mon" came a voice from within, "let us come to an explicit understanding. If I get up do I pay for ma bed?"

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Doctor:—"Your husband is not so well to-day, Mrs. Maloney, is he sticking to the simple diet I prescribed?"

Mrs. Maloney:—"He is not, soor. He says he'll not be starvin' himself to death just for the sake of living a few years longer."

# OBITUARY

## THE PASSING OF J. W. REID, M.D.

FOR nearly half a century a general practitioner of medicine, James William Reid, M.D., Dean of medical men in Hants County, died at his home in Windsor, N. S., October 30th, following a heart attack with which he was seized the previous day.

The shock of his passing was keenly felt, and regrets were heard from all classes and creeds, for he was a man whose heart and soul were in his beloved profession. No call, early or late to rich or poor but was answered with the same faithfulness and generosity which pervaded his whole life.

His was an active life, but he always found time to bear his share in all enterprises for the public good, serving in the Town Council, and representing the County for several terms in the Provincial Legislature. In St. John's United Church the deceased was a member of the Session, and Chairman of the Board of Stewards, and was worthy of the wonderful tribute paid to him at the funeral service by Rev. A. H. Campbell, D.D., a life long friend and one who had every opportunity in a long friendship of judging the qualities of mind and character.

The medical men of the town and county were present to pay their last tribute to a brother practitioner who had won for himself a high place in their esteem and affection. The deceased has left two sons,—A. R. Reid, M.D., Windsor and J. W. Reid, Halifax, to carry on in the same profession.

For Mrs. Reid, and the family by his first marriage—two sons and four daughters—is expressed the deepest sympathy.

Dr. Reid was a son of the late Mr. and Mrs. Robert Reid, Musquodoboit, Halifax County, and was born May 30th, 1859. He graduated from Dalhousie Medical College in 1884 and first practiced in Elmsdale, coming to Windsor two years later.

In Dr. Reid's death it was the passing of the "Old Family Physician". For him there was no interval of "dim declining years", for at his post he loved to serve, and at his post he passed to his reward.

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The death occurred on November 7th at Glengarry, Pictou County, of K. A. MacLeod, a brother of Dr. W. A. MacLeod of Hopewell.

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Mr. William H. Chase, prominent in Nova Scotia's apple industry, died at his Wolfville home on November 22nd in his eighty-second year. In failing health for some months past he suffered a relapse and passed away quietly at about seven o'clock. The name of W. H. Chase will be long remembered by all Nova Scotians. Few single individuals in the history of this old Province have made so great a contribution to the welfare and prosperity of Nova Scotia. Throughout Canada he was recognized as a business leader of high standing, and amongst the orchardists of the Valley the name of Chase is synonymous with progress and integrity. The generosity of Mr. Chase made possible the Provincial Archives Building at Halifax.

Mr. Chase was married to Miss Fanny Webster of Kentville, who died some years ago. He is survived by two children, a daughter, Dr. Lalia B. Chase, Wolfville, and a son, Dr. W. H. Chase of Montreal.

## A DOCTOR'S ADVICE TO HIS CRITICS.

(An abstract from the *Forum* of June, 1932.)

I AM a doctor. There is, I fear, a shocking ignorance among laymen of the *limitations* of medicine. You ask of us the impossible and get irritated when we cannot deliver, but you apparently never look about you. Don't doctors get sick like anybody else? Don't their own parents and brothers and wives and children die just like yours? My own mother has been sick ever since I could remember, and I am 39. My father has high blood pressure. I myself suffer from migraine and have had appendicitis, influenza, mastoiditis, rheumatism, and a few other things. Why do I stand for all this nonsense? Why don't I cuss out the medical profession? Because I know what are the boundaries of their knowledge, and I know that they are doing the best they can.

There are so many things in medicine which are very vaguely or imperfectly understood? Nobody understands cancer, chronic nephritis, myocardia-degeneration, and other such captains of the men of death. Nobody has any adequate proof of the cause of rheumatic fever, influenza, measles, or common colds. With few exceptions the whole range of endocrine disturbances is in a very unsatisfactory condition. The same applies to nervous and mental diseases. And so it goes, I could fill a page with an enumeration of conditions before which we are ignorant or helpless.

From this you may conclude that medicine is in a medieval condition. But you are wrong again. As a matter of fact, medicine is making astounding progress, and I would hesitate to set any limit to what may ultimately be accomplished. I base this statement on the actual record of solid achievement in the past. My great-great-grandfather was a doctor of a sort but he never went to medical school. He was a blacksmith who bled people and pulled teeth. My great-grandfather was a doctor and graduated from a Class A school in 1821. He bled and he blistered and he puked and he purged—and this was about his armamentarium. He didn't even have ether or chloroform.

My grandfather was a doctor and graduated from a Class A school in 1857. Bacteria were unknown. His appendicitis patients died of "cramp colic" and "locked bowels." He didn't know that tuberculosis was communicable. He did not have a fever thermometer.

My father was a doctor and graduated from a Class A school in 1884. Diphtheria was rampant and deadly, and so was typhoid fever. He did not have vaccines for them; nor thyroid extract nor adrenalin nor pituitrin. Blood transfusion was unknown. He didn't even have an X-ray. Radium had not been discovered. He did not have local anaesthetics. He could not even take a blood pressure. Pathological and clinical microscopy were just beginning. He didn't know that yellow fever was transmitted by mosquitos, nor had he heard of hookworms.

I am a doctor and graduated from a Class A school in 1920. I did not even have insulin for diabetes, nor liver extract for pernicious anemia, nor scarlet fever serum, nor the malarial treatment for paresis, nor a host of other things. Insulin and liver extract, for instance, are both veritable epics in man's struggle against disease. The public, fed on mass production, wants an epic a week at least.

Even if doctors knew the exact diagnosis and the proper treatment they might still be helpless. Every day my hands are tied and I am reduced to

impotence by things over which I have no control. The doctor advises an operation; the patient refuses. What can the doctor do? Nothing. Patients will not follow a prescribed diet; they will not even take their medicines; not infrequently they will pay no attention whatever to any advice given them. They object to adequate examination; they resent questioning; they lie in giving histories.

But that is only the beginning of the trouble. Even if the patient is perfect, can he pay for proper care? In a shocking proportion of cases the answer is—no. As medicine has become better and more extensive in diagnosis and treatment it has become more expensive. As it enlists more appliances and better facilities, the cost increases. My great-grandfather's patient with an acute appendix probably got a purgative and a mustard plaster, which cost him little, except his life. My patient is operated on and restored to health—for perhaps $200. But suppose he does not have $200, or even $2. What is he to do? I have sweat blood over that question many a time.

The problem here is not medical, but *social* and *economic*. The solution will come through some form of state medicine. This word is anathema, of course, to all right-thinking doctors. Nevertheless, 50 years from now, I believe that a majority of them will be on a salary. There will always be private doctors and hospitals, just as there are private schools. But most children go to public schools; and most poor sick people in the future will go to tax-supported hospitals.

Then, of course, a doctor makes mistakes, lots of mistakes. It is preposterous to think that 150,000 men selected at random should all be scientists and artists. They are not. The average doctor is a trailer, a camp-follower, who contributes nothing to medical science but merely tries, according to his lights, to apply what other men have found out. This latter work is done by a numerically negligible percentage of the profession; indeed many of them are not even in the profession. Pasteur was not a doctor at all. The outlook of the average ordinary doctor is no more akin to that of Dr. William Welch or William Osler than the physical outlook of a lowly catfish paddling around in a mudhole is akin to that of a bald eagle soaring in the empyrean. Personally, I'm one of the catfish, and I can testify that the hole is crowded.

But even the close contact and the muddy water does not blind me to the virtues of my companions. On the whole they are not a bad set of men. I know of no men who work harder to put themselves out of business. The medical profession has waged relentless war to prevent disease and improve the public health. Be it noted, in passing, that in this they have fought almost single-handed and have put such measures into effect *against the determined and even violent resistance* of the very public they were trying to help. If you do not believe this then go read the history of the struggle for compulsory vaccination, the segregation of communicable diseases, the sanitary disposal of sewerage and waste, and a hundred other things.

Just give us time. And remember that 300 years ago we did not even know that the blood circulated!

**Holding Fast the Profession.**

The February, 1933 *Medical Journal* of the University of Western Ontario, London, Volume III, Number 3 came to our desk, but too late to be mentioned in our next issue. This Journal is published quarterly by the undergraduate body of this Western Ontario Medical School, but its scientific articles are nearly all contributed by medical men who speak and write with very greatly recognized authority, yet the entire editorial staff are undergraduates. It has never been our policy to refrain from what we regarded as constructive criticism and we believe such a Journal should have more articles like that one by Mr. Mosser, Meds. 33, "A Synopsis of the History of Tuberculosis." This would be as much for the training of the student as for the benefit of the reader.

But we must quote the short article contributed by a graduate of 1932 in the Editorial Department, entitled, "Holding Fast the Profession."

"Some years ago there were only three callings in life which were considered to be 'professions'; the ministry of the Church, the study of law and the practice of medicine. One was supposed to have a 'vocation' or a call, a sort of inner urge towards knowledge and the service of mankind, before entering upon any one of these professions. The practice of medicine was thus held somewhat in the same esteem as the service of the Church and physicians were expected to carry on their art of healing as those who were commissioned by God to do this work.

"We live in a day and in a society in which the medical man is sorely tempted to forget he is practicing a profession, not plying a trade. In spite of disillusionment men are still taking up the study of medicine for the sake of financial or social advantage, or both. Often there is little serious thought of being 'worthy of the vocation whereby we are called.' There is a grave danger of men going into a life's work which inevitably brings them face to face with the deepest needs of the human heart, who are neither prepared for nor worthy of such a supreme responsibility.

"Let no one enter upon a medical career, or be discouraged from doing so for financial considerations alone. There are few lucrative positions open for the young doctor it is true; but the world is still full of suffering which appeals to the best that our medical doctors can possibly give, and appeals for doctors in larger numbers even than we are now training them. Do we wish to give our lives in service to meet an appalling human need, irrespective of the monetary gain or personal comfort involved? If so we are realizing the highest ideals of our profession in the true meaning of that word; we are following in the footsteps of One Who came into this world to show men that life was lost which was spent in the service of self; but that life was truly found which was poured out before God in service of man. Even as Jesus Christ, the Great Physician, 'came not to be ministered unto but to minister and to give His life a ransom for many,' so may we to-day undertake a ministry of healing in the same Spirit, and show the world the way out of the impasse selfishness and pride have created."

A. S. HILL, '32.

We note that this Journal often quotes something from the BULLETIN of the Medical Society of Nova Scotia as witness this issue to which we are referring.

# Personal Interest Notes

DR. G. H. MURPHY, Dr. K. A. MacKenzie and Dr. J. R. Corston all of Halifax recently attended the annual conference of the Royal College of Physicians and Surgeons at Ottawa. In addition to this Dr. MacKenzie attended a meeting of the Executive of the Canadian Medical Association.

Dr. Joseph Hayes of Halifax has left to attend Christie Street Hospital, Toronto, where he will take training in Electric-Therapy.

On November 15th Eric Balcom of Vernon Street, Halifax, entertained in honour of Dr. Carson Murray of Tatamagouche. Dr. Murray was a member of Class '32 at Dalhousie, and has spent the last year doing post-graduate work at St. Luke's Hospital, Cleveland, Ohio. Dr. Murray is the son of Dr. and Mrs. Dan Murray of Tatamagouche, and he plans to practice at his old home with his father.

The BULLETIN is pleased to announce that Dr. W. G. Colwell of Halifax has made a thorough convalescence and is now giving full time to his practice.

Fifteen student nurses of the Victoria General Hospital training school received diplomas on November 9th at the annual graduation exercises held in the auditorium of the School for the Blind. The ceremony was most impressive and the setting, with members of the graduation class at the right of the platform and with Premier MacDonald and Hon. Dr. F. R. Davis, Minister of Public Health, seated on either side of O. E. Smith, chairman of the Victoria General Hospital Board of Commissioners, was one that will long be remembered by those present. The graduates entered the auditorium and marched to the platform to the strains of the Monks' March played by Dr. C. M. Bethune and Dr. Gordon Mahaney of the hospital staff. Mr. Smith, in his opening remarks, congratulated the graduates on the choice of their profession and for having successfully completed the course of training. Premier Angus L. MacDonald also delivered a brief congratulatory address. The diplomas were presented by the Miister of Health, who spoke briefly, emphasizing the opportunity nurses had of giving community and public health service.

The marriage took place on Tuesday, November 14th, at Moncton, of Dr. Marion R. Irving of Buctouche, N. B., formerly of the staff of the Pathological Institute of the Victoria General Hospital and Dr. Harry D. O'Brien of Halifax. Immediately after the ceremony Dr. and Mrs. O'Brien left for Halifax whence they sailed for Montserrat. They are planning to return to Halifax early in December and will take up residence there.

Dr. F. Murray Fraser, a graduate of Dalhousie University, '31, who has recently been taking post-graduate work in London and also at the Rotunda Hospital, Dublin, has left for Vienna where for the next six months he will specialize in Operative Obstetrics.

Dr. James R. Robertson who has been practising medicine for the last five years in Amherst has removed to Halifax and has opened offices in the Roy Building. Dr. Robertson is a graduate of McGill University and has done post-graduate work at Presbyterian Hospital, Pittsburgh, St. Michael's, Toronto and Sloane Maternity, New York.

Dr. G. H. Murphy of Halifax has recently received word from Warren S. Lyman, Honorary Secretary of the Council of the Royal College of Physicians and Surgeons of Canada that he has been elected a member of the Council.

Dr. A. R. Reid has been appointed Medical Health Officer for the Municipality of West Hants, to fill the unexpired term of his father, Dr. J. W. Reid, deceased. The present M. H. will undoubtedly prove to be a worthy successor to the late Dr. Reid.

**Doctors Honor Old Graduates.** Banquet tendered Dr. John K. MacLeod and Dr. J. W. McLean by the Members of the Cape Breton Medical Society. Fifty years of devoted service to stricken humanity by two of Cape Breton's outstanding medical practitioners—Dr. John K. MacLeod, C.M.O., Sydney, and Dr. J. W. McLean, North Sydney, was fittingly recognized by members of the Cape Breton Medical Society at a complimentary banquet and presentation tendered them last night at the Isle Royale Hotel.

Dr. MacLeod graduated from Bellevue College Hospital, New York, in 1883, while Dr. McLean received his diploma from McGill University, Montreal.

Last night's function was honoured by the presence of Hon. Dr. Frank R. Davis, Minister of Health for Nova Scotia, who conveyed his respects to the distinguished guests of honor.

Dr. Freeman O'Neill, County Health Officer, President of the Society, was in the chair, and other speakers included Dean Grant, of Dalhousie Medical School; Dr. J. J. Roy, Hon. Dr. Davis and Dr. Dan McNeil of Glace Bay.

Illuminated addresses and gold headed walking canes were presented to Drs. MacLeod and McLean by Drs. Dan McDonald and Lewis Johnstone, M.P., respectively.

Telegrams of a congratulatory nature were read from the following: Dr. T. A. Lebbetter, President of the Nova Scotia Medical Society; Sydney City Hcspital staff, sisters and staff of St. Rita's Hospital, Hamilton Hospital staff, Harbor View Hospital staff.

The BULLETIN is glad to hear that Mrs. (Dr.) T. A. Lebbetter, who has been seriously ill at her home in Yarmouth, is now out of danger and well on the way to recovery.

H. A. Ratchford, M.D. of Inverness, has been in Brooklyn, N. Y. for the past two months taking post-graduate work at the Mayo Brothers Institution in that city.

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