

# Some Aspects of Diabetes \*

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If you look over the titles of the papers which have been given on the subject of diabetes in the past, in this group specifically and in general abroad, you will find that the majority deal with consideration of diet and the types to be used; the advantages of this or that type of insulin, and the more common complications of the disease. If you look more closely you will find that recently more attention is being placed not wholly on the diabetic condition itself, but more particularly on the patient who has the disease, and its effect on his life as a whole. Some of you may have heard me discuss this personal problem of the patient at the Canadian Medical Association meeting in Winnipeg, if so, I hope you will pardon me when I repeat some of the statements made there. I do not intend to give you here the same paper but to discuss in general our relation to our diabetic patient in his approach to the problems that his condition presents to him and our handling of some of these problems.

It is now over thirty years since insulin first became available clinically for the treatment of diabetes, and yet statistics show that during this era there has actually been an increase in the deaths from diabetes. How do we account for this?

Firstly, there is no question that the number of cases has increased in the past thirty years, and while part of this increase may be due to better case finding, yet there is also an overall increase in the total number of new cases.

However, if we have more cases, we also have better measures of treatment which should reduce the mortality, which is not the case.

We are therefore, secondly, led to the conclusion that possibly some deaths that are ascribed to diabetes are not actually due to the disease. It is surprising how often a careless practitioner may take the finding of glycosuria as sufficient for the diagnosis of diabetes and puts this down as the primary cause of death, whereas it actually may be a cerebral accident or injury that causes both the glycosuria and the death. Or again the glycosuria (or diabetes), may have been merely an incidental matter in no way related to the primary cause of death.

Thirdly, with our modern treatment, diabetics are living longer, to die of cardiovascular complications of which coronary thrombosis is an outstanding example. Should diabetes be blamed for these deaths? This is a serious question.

But even when we allow for these factors to explain the increase in the death rate we are still left with a large residue where the only explanation is that there has been inadequate treatment and control of the condition, due

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to the failure of the patient to seek help, or, unfortunately at times, due to poor diagnosis or inadequate treatment once diagnosis has been made. While an ordinary urinalysis will not pick up all cases of diabetes it will surely mark the advancing uncontrolled case, and it is so easily done that it should be an integral part of all examinations. This may sound unnecessary, but it is surprising how often it is omitted.

What would be your reaction if you were told by the physician you had consulted, that you were suffering from diabetes? You would probably be resentful that it had been visited upon you, but with your superior knowledge, you would feel thankful that it was no worse, knowing as you do, that it is a controllable condition. Your patient, however, has no knowledge of the disease, or only that which he has picked up from knowing about a friend with the disease, or from general conversation or from articles in the lay press; lacking specific knowledge, he usually has a vague understanding of the serious complications of the disease, but not of the lighter side. It is interesting how often this is the case in other disease states and reminds one of the fact that so frequently the first words of a foreign language that are picked up are those with bad or improper connotations.

So it is then, that our most important relation with the patient starts at once, with the establishment of the diagnosis and the way that it is imparted to him. It is a blow to his morale, but a blow that can be softened by an explanation, which is the beginning of his special education in the knowledge of the disease with which he must live from now on. He should learn at once that diabetes is a chronic disease which is controllable, but not thereby necessarily curable. In this respect articles such as the recent one in "Life", featuring Bill Talbert and his tennis ability are of great help in restoring the morale.

Once he has accepted the idea, the patient, or if he is too young to be taught, his parents, should receive definite instruction to educate him to live with his diabetes and control it. To give him merely a vague diet list or even directions for the use of insulin is to fail in our treatment; to control his condition under ideal conditions in a hospital, and then to cast him out into the cold world on his own resources and only vaguely aware of what it is all about is equally bad.

At this stage it might be well to pause in order to decide just what we might consider good control in a diabetic. While there are extremists who may not agree on all items, I think it is fair to say that for ideal control we should have our patient maintain a normal average weight, or slightly below, while remaining free from glycosuria, and running a blood sugar close to normal limits, neither too high nor yet too low, at all times of the day. In some cases, particularly the juvenile, we have to be content with a broad interpretation of this and cannot stick to the letter of the law.

Such being the case, what then should we teach our diabetic in order to obtain these ends?

Of course he should have a general understanding of the disease but it need not be elaborate and go into the Krebs' cycle of carbohydrate metabolism. We have found that an initial statement to the effect that he is a diabetic because he does not make enough insulin in his body to balance his sugar

mechanism is a good start. From this it is easy to lead on to the aims of treatment, namely control as discussed above. If we present the proposition as a matter of bookkeeping where we regard the carbohydrate metabolism as the debit side, with what he eats as the running expenses, and the endogenous metabolism as overhead, both going to make up total expenditure; and consider the available body insulin as representing the income side, then it becomes obvious that to balance the budget one must either cut the expenditure (reduce the carbohydrate intake) or increase the income (add extra insulin) or both.

Over the years you have doubtless had various types of diet presented to you, for each of which a special quality has been claimed. From the patient's point of view what *he* wants is one that can be obtained with the minimum of trouble, foods easily available, easily quantitated, and allowing of variety. An attempt to meet this has been made in the A D A diets, which if generally adopted, would also have the advantage of some uniformity. How often do dietary procedures vary in different hospitals even in the same city--and yet each expects to obtain the best results! Whatever type of diet is prescribed, it is most desirable that the patient should not merely memorize it, but should appreciate how and why it is determined and how to avoid monotony by exchanges of foods of equal value and be able to judge visually the size of the serving he should take. Such being the case he need not be tied down to his home base but can go anywhere that ordinary foods are available.

Similarly, if he needs insulin, the patient should know about insulin in general terms: what it does to the blood sugar, the effect of too much insulin, and how to treat this state of hypoglycaemia; how insulin is administered and what may be more confusing to him, the different types and the reason therefor. A well trained diabetic will not be tempted to change one type of insulin for another upon the advice of a friend or self appointed lay expert.

It should go without saying that the diabetic should also be taught to test his urine for sugar, yet I have met those who have been through the hands of a physician, and are ignorant of this procedure. When he can do this he has a means of checking that is essential in helping to keep the books balanced.

The use of such training is well illustrated by one of our cases, a commercial traveller whose diabetes was discovered when he complained of not feeling up to the mark. He was taught about diet and insulin while undergoing his hospital control period and on discharge had a good idea of what he was trying to do. He told us that when he went back to his territory in Northern Quebec and Ontario he would frequently have to spend the night at farm houses on the fringe of civilization where the larder though ample, was limited in variety. After consultation with the housewife he would choose his meal, in some cases limited to eggs, milk, bread and butter and tea, to fit his food allowance and while she was getting it ready he would prepare and give his insulin.

This man left hospital taking 40 units of insulin daily, but within a few months was well controlled by diet alone; and has continued ever since with the exception of one period when a hospital admission for herniotomy necessitated the use of insulin for a few weeks again.

But besides instruction in the methods used in controlling the disease, he should also know something of the etiology. The fact that it tends to run in families may be only an interesting point until he thinks of the possible effect on his own children. If he realizes the influence of obesity on the diabetic condition he may be all the more careful of maintaining his weight.

At this point I should like to quote from the paper of Grunberg and Blair in the July-August issue of the J.A.D.A. "Responsibility does not end with the assessment of the diabetic state, the prescription of diet and insulin, and the provision of a chiropody service. It must also help the patient in his social difficulties".

Let us look at some of these, which might better be considered under the different age groups.

The discovery of diabetes in an elderly patient whose way of life has become relatively fixed brings up the necessity of a change in various set patterns of living. Frequently at this stage one of the few pleasures left to him is the satisfaction of his appetite with food and drink, and now his disease necessitates regulation and restriction of his indulgences in these pleasures, surely quite a blow.

If he lives in his own home he has a good chance to handle the dietary problem, but if, as is so often the case, he lives with relatives, or is a boarder in a family or even in an institution, where his affliction is regarded as a nuisance requiring special diets, then his problem may become acute, and he abandons the attempt to obtain his diet as being too much of a struggle to justify the argument necessary to produce it. The same problem may arise in the giving of insulin, particularly if he is not able to give it himself, with the end result as before, that he abandons any attempt to control his disease. If he has been well instructed, and even if poorly instructed, he probably realizes that this loss of control may lead to complications which will result in further invalidism such as the loss of eyesight from cataract or haemorrhage or of a limb from gangrene. Thus he has added to his underlying disease a sense of complete frustration, and he literally throws up the sponge, come what may.

The juvenile diabetic, whose disease develops in his teens, has different problems. Just at the time when he wishes to develop his complete independence he is saddled with a restricted way of life which he is apt to resent and consequently he may try to hide his disability. If his diet is too rigid it prevents his joining his group when they go for a soda or ice cream, and so he is forced into isolation, or must break his diet. The use of between meal feedings will frequently help to settle this problem satisfactorily by allowing the substitution of some of the standard beverages within the values allowed. If he is athletically inclined, he must learn the effect of exercise on lowering the blood sugar, and how this can be anticipated by taking extra carbohydrate in relation to the extra activity.

While a mild reaction might be only a nuisance if one were playing golf or basket ball, have you ever stopped to think of what serious complications it might cause if it came on during a period of muscular exercise in the water, such as swimming?

In the beginning it is well for the patient to have definite directions as to what to take before heavy muscular exercise, such as an orange, a definite amount of fruit juice or soft drink, a glass of milk and a cracker; with experience he will soon learn how to gauge the quantity in order to have sufficient to cover his needs, and yet not so much as to cause a heavy glycosuria.

Like Bill Talbert, one of our juvenile diabetics, recently distinguished himself by playing on his school's senior basket ball team, and literally burning up the track at the inter school track meet, while keeping his diabetic condition under control and avoiding reactions.

As he matures and grows interested in the opposite sex the young diabetic, if he is at all the thoughtful type will begin to think of the hereditary aspects of diabetes, and the possible effect that his own disease may have upon his children. He may also think about his future in the terms of his ability to support a family and what effect his disease may have upon his chances to obtain employment.

Unfortunately many employers, usually through ignorance of the disease, still will not take on a diabetic no matter how well controlled he may be and how fit he is for the position. It is encouraging to note that of recent years a better understanding of the disease has lessened this tendency, but it is still present. In some cases the diabetic is excluded by the very company group insurance scheme that is meant to protect the employees, because it excludes those with chronic disease and so puts up a barrier to his employment. In this respect it is again encouraging to note the number of life insurance companies that now recognize that the well controlled diabetic is a good risk provided he can produce evidence that he has been under adequate control and supervision for a stated period of time preceding the application for insurance. Such an act seems to underline the fact that if the death rate from diabetes is increasing, one of the factors, apart from increase in the total number of diabetics, must be an increase in the number of inadequately treated diabetics.

The young diabetic woman will also have to consider the effects of pregnancy upon herself and child. She should be told of the possibilities of her handing on the diabetic diathesis to her offspring and also that although there is a higher death rate in children born of diabetic mothers, nevertheless this is not impossibly high, and many diabetic mothers have fine children. She should however, be made to realize that her diabetic state will need close supervision during the pregnancy and labour because of the various strains that may cause fluctuation in the state of control. As a general rule she will need more insulin during this stage, but after parturition may well return to her original level. All of this naturally adds to the cost of her baby and is an item that cannot be ignored.

In the case of the young child diabetic we must deal with the parents, who will have the responsibility of raising their child. In the early days the diet is no great problem, but as the child grows it is natural for him to break his diet: such falls from grace should be treated as unfortunate accidents, not to be condoned, nor yet to be punished but to be reported and so kept in their proper perspective. It is extremely difficult for parents not to over protect their diabetic child but it is essential that he be given such freedom

as is possible and allowed to live as normal an existence as is consistent with proper control of his diabetes. This has been well summed up in the aphorism that he should be guided with loving kindness but never treated with pity. Too strict a discipline has led from minor infractions to deeper sins, and we have seen definite instances where petty thieving ensued as a result of the improper handling of the situation. On the other hand the child must have supervision, but at the same time he should be taught to take on responsibilities as soon as possible. With the modern tests for glycosuria a very young child can easily determine whether or not sugar is present in the urine and get a thrill out of it, a thrill that can be trained into proper channels by having him chart his urine tests with coloured pencils, blue, green, yellow, red. He soon has a pride in a series of blues, and may feel a bit concerned with an orange, but again, if in the natural exuberance of childhood he charts a blue when it should be a yellow, we must not believe that he is a true and confirmed sinner worthy of punishment but merely a poor witness in need of guidance. Although it may be some time before he can measure his insulin dosage accurately it is surprising how early a child can learn to give his own injection and he should be encouraged to do so as a normal part of his routine.

And now to return to the instruction given to the diabetic, besides that of the methods of control of his disease he should know something of the prevention of complications.

In the child insulin reactions and coma are the commonest of the complications, in the adult complications involving the eye and the feet, chemical in the one circulatory in the other.

There is much to be said for the practice of deliberately inducing a reaction of mild degree in a patient while under supervision so that he will recognize the early symptoms and know how they can be cured by the taking of glucose or cane sugar. Fortunately the reaction pattern is usually constant in the same individual so that once he has had a reaction he knows what to expect. In the very young reactions may come on so insidiously that the child has no premonitory symptoms of which he is aware and may go into a severe reaction almost "out of the blue". Observant and well trained parents will learn to spot the early symptoms peculiar to their child, such as a sudden change of mood, circumoral pallor, or other specific premonitory symptoms and so avoid the more severe degrees of reaction.

While it is not wise to have the patient so worried about the possibilities of reactions that he has a phobia, yet he should realize, as should the doctor, that hypoglycaemia, particularly if prolonged, can cause definite injury. We have seen and heard of such cases in infants and young children where the unrecognized hypoglycaemia produced a permanent lesion of the nervous system, and left a hemiplegia or similar injury behind. We have also seen instances in adults where a hypoglycaemic level corresponded to the onset of a coronary thrombosis.

In general then it is wise to teach the patient how so to adjust his insulin dose as to keep clear of reactions and also to recognize and to treat the early symptoms.

The patient or the parents should be taught early that glucose is the antidote to too much insulin, one quarter glass of orange juice or a table-

spoonful of corn syrup are usually the handiest forms to be found in the household but are not easily carried about; for this purpose two life savers or two square lumps of table sugar should always be carried in the suit pocket or in the hand bag, to be used not only to treat a reaction, but to be taken as a preventive if extra physical exercise is to be indulged in.

In severe cases where the patient will not swallow, the subcutaneous injection of 0.3 to 0.5 c.c. of 1/1000 epinephrin solution is usually sufficient to restore the blood sugar to levels at which the clinical symptoms disappear or are much improved, but we must never forget that this reaction is reversible, and unless we seize upon the moment of improvement to get in glucose, the patient will quickly slump back. It is often advisable to train the parents of children in this method of treatment. In the most severe cases it may even be necessary to give glucose intravenously, but such occasions should be rare if the patient is adequately treated and supervised, this of course should be done by the physician or under his close supervision.

An insulin reaction should never be confused with diabetic coma; the pallor and perspiration, the lack of respiratory distress and dehydration, and the normal tension of the eyeballs are all signs pointing to the proper diagnosis. On the other hand the patient in the severe diabetic ketosis is flushed, he is greatly dehydrated with dry skin and tongue, his breathing is deep and laboured, of the Kussmaul type, and the tension of the eyeballs is lowered to the degree that it is easily recognized by two finger palpation, nevertheless it is surprising how frequently an insulin reaction is diagnosed as "diabetic coma" and treated by giving more insulin.

Probably the most common causes of coma from diabetic ketosis are the breaking of the diet, the omission of insulin or the use of too small doses, and the development of infections. From the preventive angle adequate instruction of the patient is our best weapon for avoiding the breaking of the diet and the omission of insulin. Frequently however, mistakes have been made in treating the patient, who for various reasons, cannot take his full diet.

With the onset of an acute infection there is usually a failure of appetite, in the more acute form there may also be vomiting or diarrhoea. Here at once the problem arises of what to do with the insulin dosage. If we pay too much attention to our bookkeeping analogy, we will be moved to reduce the insulin at once or even to omit it, because the patient is not getting food. However, if we were really logical we should reason that the patient has acquired an infection which will make such insulin as is available less effective, and therefore he may actually require more insulin rather than less, even though the food intake be zero.

If insulin is stopped entirely under those conditions, the mechanism is activated for the production of the ketosis which rapidly leads to the clinical state of diabetic coma. To prevent this our practice has been to have the patient take half of his regular dose of insulin and to use frequent extra doses of quick acting crystalline insulin through the day according to the presence or absence of glycosuria in frequent analyses throughout the day.

The same need for extra insulin holds true for most infections, whether they affect the food intake or not, and we have found it more satisfactory to take such patients off the slow acting insulins, giving frequent doses of the

crystalline form throughout the twenty four hours in order to keep the blood sugar levels as uniform as possible throughout the day.

In the time allowed for this presentation I shall not be able to discuss the treatment of diabetic coma, which is a chapter in itself, nor many other important aspects of the diabetic state. However, if we can bring the diabetic safely through the hazards mentioned above we have done much for him and he should approach a natural span of life, with a final exitus usually from a cardiovascular lesion, which we may call a complication of his diabetes or a natural event in the course of his aging process according to the viewpoint.

But with modern methods of control we have not done our full duty if we have merely prolonged the life of the diabetic; we should also have so trained him that he has borne his infirmity gladly, and has been able to enjoy life in spite of it and perhaps because of it.



# The Surgical Contribution to the Control of Tuberculosis\*

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In order to control effectively any contagious disease several measures must be applied such as isolation and adequate treatment of existing cases combined with immunization of uninfected but exposed persons. To evaluate the percentage contribution of any one factor is almost impossible. It is therefore difficult or virtually impossible to define the extent to which surgery has made a contribution in tuberculosis control. How it has done so is obvious, i.e., by reducing the number of infectious contagious cases in any community. This has been accomplished in two ways, first, by actual sputum conversion by the operative procedure and, secondly, on occasions, by operative mortality. The latter, of course, is a very effective measure but not a desirable one.

In considering the overall effect of surgery one is beset with great difficulties in evaluation. Thoracic surgery has progressed and changed so rapidly in the past few years in its application to tuberculosis, that some of the older procedures have become practically discarded or greatly restricted in their use. But even those now infrequently used played their part in helping to control the disease.

When attempting to evaluate the surgical contribution to the control of tuberculosis amongst the general population, it is felt that there is no known or accurate answer. When applied to the sanatorium population, however, there is one, but even this is constantly changing.

Death rates from tuberculosis have been declining in practically all the countries of the world for years. Has this been due to increasingly efficient case finding programs and isolation of patients and to more effective medical and surgical treatment? The answer is in part yes and in part no. In some countries where none of these factors are in operation, the trend is also sharply downward. One wonders if nature, by quickly eliminating the weak and leaving a constantly more disease resistant population, has not contributed more than all our human efforts combined. Such might be considered true if only it applied universally.

Statistics are available for various "standardized" operative procedures in regard to "cure rates" and "sputum conversion rates" on certain groups of patients. For instance, the over-all "conversion rate" for thoracoplasty, as applied in the past, was anywhere from 60 per cent to 80 per cent depending upon the standards of conversion used. Considering the tremendous number of patients that have been so treated, the effect on general tuberculosis control must be great, but cannot be accurately calculated.

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Criteria of satisfactory results have varied considerably. Many single ones were relied upon in the past and even very recently, and when so used, give false impressions. A negative smear, concentration, culture or gastric washing or satisfactory x-ray appearance, when taken singly, is of no great value or significance. The total consideration along with clinical appraisal gives one some idea of success or failure, both insofar as the patient himself is concerned and his ability to transmit the disease to others. It is necessary also to point out that a single complete consideration of all factors is not sufficient. All have to be redone and correlated, at regular intervals over a long period of time. Unfortunately not all of our discharged patients receive more than a fragment of a complete "follow-up" program."

To turn from the general to the specific, applied surgery has to be on an individual and not a whole population basis. Each case has to be considered unto itself and all aspects of that person's disease must be considered *before* any treatment is prescribed or carried out. The older idea of applying simple procedures as a trial measure must be condemned. This presents problems, as not all institutions, even in this Province, are equipped with complete diagnostic apparatus and consulting service. Examples of time wastage and even harm to the patient can be cited such as "bed rest cure" at home or in an institution for cases where such treatment, for various reasons, is bound to be ineffective; also the application of artificial pneumothorax treatment to extensive cavitory disease; thoracoplasty to nodular and bronchial disease, and many other examples of improper treatment application could be quoted.

Although the proper selection of each surgical procedure to meet the need of the particular patient is important, no attempt will be made to outline the indications of each as this would be too time consuming and, in addition, they are changing constantly, so that some older procedures of extreme value in the past have now become of restricted worth or obsolete. New and improved operative technique have made some of the major surgical procedures safer. Bacteriocidal and bacteriostatic drugs have also made certain procedures safe or relatively so. New pathological concepts of the disease have forced us to change our method of treatment in many instances. Procedures have become more specific for the particular type of disease present and the method of "trial" of minor ones in succession is now frowned upon.

In selecting a procedure, one must determine carefully the type of disease present, both parenchymal and bronchial. General x-ray classifications of disease are not alone sufficient. Also, the respiratory reserve of the individual must be estimated as accurately as possible. Purely exudative tuberculosis is a medical problem regardless of extent. Type, not extent, determines whether the condition present should be treated medically or surgically. Many so-called minimal lesions are best treated surgically and this concept is fairly new.

In treating cavitory disease, selection of a treatment schedule is made after considering the size, number, location, wall thickness, and tension of the cavity, but with very few exceptions, these are now considered to be surgical problems. Nodular disease other than miliary tuberculosis for the most part must be considered a surgical problem. Complicating bronchial

disease, if acute, is a medical problem; if chronic it becomes surgical. The so-called "closed" round lesions; i.e., tuberculomas, filled in cavities, and undischarged cavities are definitely surgical problems. Also the location of the disease and its anatomical extent affect greatly the choice of surgical undertaking.

When selecting a procedure, one had to consider the following questions: (1) Will the operation suggested effect the desired result in the shortest possible time? (2) Will its immediate good effect be lasting? (3) What is the likely immediate effect on the patient; i.e., mortality, morbidity and complications. (4) What is its likely remote effect on the patient?—Will it give permanent relief of symptoms? Will it produce undue deformity? Will it produce progressive decrease in respiratory function; i.e., progressive chest immobilization or progressive emphysema? (5) What will be the probable effect on the rest of the lung tissue?

Theoretically, the ideal treatment of pulmonary tuberculosis, as with any disease, is its complete surgical excision. Until very recently such surgery has been impossible and unreasonable and, as a consequence, procedures falling short of the ideal have had to be applied. Excisional therapy may be applied only when (1) the operative mortality is reasonable, (2) the operative morbidity of complications is not unduly frequent or major, (3) the extent of the disease is such as to make it possible, (4) where disabling reduction of respiratory function will not occur.

General published figures on pulmonary resection are confusing and misleading, due to the fact that some reported series are of the salvage type—where nothing else could have been applied, and others definitely of the elective type, including minimal, small cavitary and nodular disease. The results in these latter must, of course, be far better than in the former.

A few short remarks follow regarding the various surgical procedures, in the hope that they will provoke thought.

I. *Pneumothorax*: This should probably not be considered as other than minor surgery, but as it is so often substituted for more major procedures, a few comments are in order. It has been a life saving measure for millions in the past. Today, it is a proper procedure in but a few selected cases. It should not be used as a "trial" procedure because it is simple of application. Again, it should not be used because it is the only one that can be applied, due to lack of facility, in the particular locality that the doctor and patient find themselves. The same could be said of the "trial" use of streptomycin and relating drugs. The serious complication of pneumothorax, namely, tuberculous empyema has become infrequent, but there is a more insidious and perhaps more important one being encountered. This is the laying down of fibrous peels on both the parietal and visceral pleura in the treated hemithorax with resulting chest immobilization and loss of important lung function.

Pneumothorax should not be applied when (1) large cavities exist (2) cavities are of the tension type (3) atelectatic disease is present (4) bronchial disease is present and (5) rarely when lower lobe cavity exists.

II. *Phrenic Operations*: These may be considered obsolete and as a therapeutic measure per se should be used infrequently. They do have a place, however, when combined with pneumoperitoneum and sometimes as an adjunct in resection therapy.

III. *Extrapleural Compression*: Air, lucite, wax, plastic sponges and other agents all have a very limited application. This is mostly where disease is bilaterally extensive and pulmonary function has to be preserved to its maximum. It has no place in the treatment of predominately unilateral disease with good lung function. Against the use of extrapleural compression may be mentioned the following: (1) the present day limitations of any form of collapse or compression therapy (2) the tendency of premature space obliteration in cases where it is maintained with air (3) the tendency of lucite and wax to produce pressure necrosis with fistula formation, and (4) the extremely high incidence of space infection regardless of what material is used to maintain the space.

IV. *Thoracoplasty*: Like artificial pneumothorax, thoracoplasty is an old operation of proven value but, also like pneumothorax, its application, at present, must be greatly restricted. Many cases so treated in the past are now best treated by elective excisional therapy. The thoracoplasty failure, and these may be expected in 20 to 30 per cent of operations, presents one of our most difficult surgical problems, exceed in seriousness only by the less frequent resection failure.

In properly selected cases (1) thoracoplasty affords permanent collapse (2) no "dead space" is created with all the dangers entailed thereby (3) the operative mortality is extremely low, and (4) there are very few postoperative complications.

A few of the undesirable features on the basis of older selection are (1) too high a percentage of unclosed cavities (2) too high a percentage of non-conversion of sputum (3) too many cases with residual disabling bronchial disease (4) the inclusion of non-compressible "closed" lesions with subsequent recrudescence and spread and (5) the production of progressive scoliosis and contralateral emphysema.

V. *Resection*: The complete removal of all diseased tissue is the ideal in any surgically treated disease provided (1) it can be accomplished with relative safety to the patient (2) it is accompanied by a reasonable postoperative complication rate and (3) it leaves a minimum of disabling after effects.

Resection as applied to pulmonary tuberculosis has evolved from a limited application to a wide and increasing variety of indications. The operative mortality has declined from an extremely high to a remarkably low one. The once numerous serious complications have, to a very considerable degree, been controlled and eliminated.

This improvement has been effected by (1) improved anaesthetic facilities (2) the pre-operative control of exudative, parenchymal disease and ulcerative bronchial disease by streptomycin, para-amino-salicylic acid, isonicotinic acid hydrazide, and related drugs (3) the post-operative control

of infection and spreads by the same agents (4) improved operative technique (5) improved post-operative management, and (6) the inclusion of less serious and less extensive types of disease in the list of indications.

In evaluating reported results it is essential to note (1) the dates of the period covered, whether of the pre or post streptomycin era, (2) the predominant indications in the series covered, whether "last resort" cases or elective cases of more limited disease, and (3) the geographic position of the particular tuberculous population included in the report and their predominant racial and economic origin.

*Summary:*

I. Surgery is helping to control tuberculosis in the individual in ever increasing numbers. It must therefore be contributing substantially to the general control of the disease.

II. Major surgery, particularly excisional therapy, by virtue of better pathological understanding, improved techniques, use of antibiotics and related drugs, has become relatively safe and should be used in preference to some of the older "standard" procedures when possible.

III. Patients treated by bed rest alone, no matter where, are, in most instances, not receiving maximum benefit.

IV. The unrestricted use of streptomycin, para-aminosalicylic acid, isonicotinic acid hydrazide, and related drugs is to be condemned. They should be a part only of a comprehensive planned treatment schedule.

V. All treatment should be definitive and the procedure most likely to be successful selected from the start, and the patient not be subjected to minor trial procedure.

VI. A complete consulting service should be available to *all* patients regardless of where they may happen to be located at the time their disease is discovered and treatment begun, and at intervals thereafter.

# How to Present a Scientific Paper Before a Large Audience \*

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THE meetings of many medical societies now provide an audience that can number in the thousands, thanks to modern methods of voice amplification and visual projection. Such large audiences attract essayists whose work has won them high rank in their chosen field. Their names on programmes, in turn, attract yet larger numbers. Unfortunately, a man who is topflight as a scientist may nevertheless be most ineffectual on the lecture platform, usually because he makes some simple but crucial mistakes in his manner of presentation. Yet every mistake is easily avoidable. On the basis of what this writer has suffered while listening to others at important meetings in the last thirty years, he is moved to offer some suggestions to future speakers.

If you have been invited to appear on some major programme, it is hoped you will scan this editorial. You might find here a point or two that will help to make your presentation a bit more effective. If so, it will have been worth both the reading and the writing.

*Time Limit:* You have been assigned a fixed time limit for your entire appearance. Please note that this is an *outside limit* that begins with the first word of introduction by the chairman and ends with the moment when you finish, or are requested to stand down. His words deduct about twenty seconds from the total time at your disposal, and you may lose even more if you are not as close as possible to the podium when called upon.

Of course, you have given your text several time trials in advance. All too often this results in your trying to read it a bit faster next time in order to get under the wire. What you really should do is shorten the text each time that it still seems too long. This can be done without sacrificing any vital point. Merely culling unnecessary words may be enough, and it teaches you to express clearly in a few words the thought that was obscured by verbosity.

Do not forget to include in your timing the demands of your lantern slides. Their text you have reckoned, of course. But you must also allow a few seconds for calling for the next slide, for looking at the slide to orient yourself, and for any "aside" that the moment may require. If the operator of the lantern gets a slide up-side down or out of order, the time lost in correcting this is nevertheless charged against your limit.

Remember that on the platform you must speak more slowly than in a classroom without the use of a loud speaker. Public-address systems in large auditoriums produce echoes and reverberations: if you read deliberately, every

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word will be clearly heard; if you read rapidly, then your words will tend to run together and can become an unintelligible jargon. You should therefore allow at least fifteen per cent more time for platform reading than it takes in your timed trials reading slowly before the bathroom mirror.

Remember that the paper to be printed may be a page or two longer than the one you read, without offending either the editor or the reader. But no one can speak more than a limited number of words per minute without jamming the loud speaker and losing the listener. The worst sin against the time-limit, and the best way to ruin your prospects for future invitations by all who hear you, is to try to read a twenty-three minute paper in twenty minutes. But a seventeen-minute paper possesses the best ingredient for a successful presentation.

*Microphone Technique:* When you speak to an audience numbered in the thousands you are 100 per cent dependent upon the correct use of the microphone 100 per cent of the time. If your technique is only 98 per cent correct, or if it is perfect only 98 per cent of the time, you will probably fail to get across more than two per cent of your message, because the very words that failed to get through may have been the whole key to your thesis.

The microphone has strict limitations which you must recognize. It magnifies by a *fixed* number that which you put into it. If it is *fixed* in space (for example, the microphone on the lectern), then you must maintain a *fixed distance* between your mouth and the microphone. This is best accomplished by holding with one hand to the edge of the lectern from start to finish. If you rock back and forth on your feet as you speak, or if you alternate between standing up straight and leaning confidentially on the lectern, you will alternately shout or whisper to your audience.

Your voice has its limitations, too. The chief ones are *direction*, *loudness* and *pitch*. The direction of your voice is straight *forward* and slightly *downward* from your mouth in a rather *narrow* beam. You should therefore speak only when facing the microphone, which should be at a level slightly *below* that of your mouth. The microphone will lose you, if you turn away and speak while looking at a lantern slide. Therefore, if you use slides, turn a moment in silence to see that the slide is right, then turn back to the microphone before you speak again. To a lesser extent, the microphone will lose you if your head bobs up and down as you look now at the audience, and now at your manuscript, especially if the microphone is at a *higher* level than your mouth.

*Loudness* of your voice is in part a factor of the effort you put into it. But loudness is also related to *pitch*: the lower the pitch, the less loud the sound you produce. When you speak in a conversational tone in a small group, the ends of your sentences are audible only to those nearest you. If you are a good speaker in a class room without the aid of an amplifier, it is because you have learned to keep both loudness and pitch up, so that the man in the back row can hear each word.

The microphone is rather like a person with catarrhal deafness: it hears you well only while you keep the pitch of of your voice up, and the loudness adequate. But it fails to hear you if pitch or loudness falls too low. What is equally important, if you speak too loudly, your voice blares and becomes painfully unintelligible.

*Loudness*, as picked up by the microphone, varies to an extreme degree with the distance between mouth and microphone. If that distance is only one or two inches, then the voice should be soft, low-pitched and confidential, and the same distance must be scrupulously maintained to avoid wide output fluctuations. This is a method that expert announcers use to good advantage. On a speaker's platform, it is useful only if there is a portable microphone that can be held evenly and constantly before the mouth as the speaker points to slides, looks at people on the platform, or moves about. It is not a good method when there is a fixed microphone and you are reading from a text.

If the distance between mouth and microphone is too great, then the man at the controls of the amplifier is forced to turn up full power in the attempt to catch your voice. If you are not too far away, he may succeed; but often he only produces a loud ringing screech that stops the entire proceedings.

The *best distance* between mouth and a fixed lectern microphone is seven to ten inches: at this distance, minor movements of the head produce less fluctuation in loud-speaker output than do the same movements when you are only an inch or so away. The distance is easy to measure by the span of the hand: thumb your chin (not your nose) to the microphone.

The most desirable *loudness* at this distance is that which you would use in speaking to a group of fifty in a classroom, being careful not to drop the pitch too low at the ends of sentences.

Nothing must come between your mouth and the microphone. Every time you scratch your nose or rub your lip, your hand sharply reduces the volume of sound delivered. It is even worse to hold your manuscript in such a way as to blanket the microphone.

*Lantern Slides*: Visual aid by lantern slides is extremely useful to illustrate something by picture, to convey a concept by diagram, and to emphasize salient facts or data, provided your slide technique is good. But a poor *slide technique* can ruin your presentation even more surely than can any of the mistakes thus far mentioned. Here are the chief points to be kept in mind to get the best results:

The *number* of slides to be shown is a function of the time limit assigned. It usually takes over one minute per slide: very few take less and some considerably more. Repeated time trials for the slides are more important to make than those for text, since slides are more likely to go overtime and harder to speed up.

The *size* of slides should correspond, whenever possible, to that of the standard projector available:  $3\frac{1}{2}$  by 4 inches. If for any reason some other



size must be used, be sure not only to get confirmation in writing, and well in advance, of the availability of the size and type of projector you require, but to verify its presence before the meeting starts.

Have your material *centered* and well within the projectable portion of the slide. This will save you the embarrassment of having a picture decapitated, or the total at the foot of a column chopped off, or the beginnings or ends of lines of text deleted, and also the unanticipated loss of time in asking the operator to shift the slide or raise or lower the lantern.

Top and bottom are cut off more frequently, especially if you arrange your material in a rectangle whose long dimension is perpendicular. Such slides work perfectly in all classrooms, where the screen is *square*. But in nearly every large auditorium, the screen is *rectangular* with the long dimension *horizontal*, because the screen is intended primarily and solely for the projection of motion picture film, whose frames are rectangles that are invariably horizontal.

But the lateral edges are also vulnerable, because in a large auditorium the projection lantern is placed as far back as possible in order to get the maximum of magnification which the full width of the screen will allow. Therefore, use a *mat*, to be sure your material is properly centered and limited: the opening of the mat should not exceed  $2\frac{1}{2}$  by 3 inches.

If the slide presents a *picture* or a *photomicrograph*, make use of such devices as an arrow, or circle, to call prompt attention to the important features. As you talk about the slide, you can then mention the ringed area, without using the pointer that someone forgot to provide. Be sure to write out every word of your comment on the slide, so that it, too, will be properly timed.

The use of the *electric torch: arrow pointer* calls for comment. Get to the meeting place early to familiarize yourself with this useful gadget. In using it, point it at once to the item you mean to stress, and turn it off promptly when that purpose has been served, or else point it directly at your feet until you need it again. It is most disconcerting for the audience to follow the arrow's aimless wanderings all over the screen in anticipation of another point of emphasis that never comes. Between applications, do not shine it in the faces of those in the front row, or that of the chairman.

If the slide presents a *diagram* or *figure*, this should be so simple that it can be grasped within seconds and understood without reference to a blue print. The use of *contrasting colours* makes the figure more intelligible and easier to explain.

If the slide presents *data*, these should be minimal in number. Those which are most significant should be so designated by means of contrasting colours, or bold-faced type, or underlining, or combinations of these devices.

If the slide presents *facts* in text form, they should be few, arranged preferably in outline form, and with the separate members of the outline identified by numbers.

In planning the *arrangement* of all slide material, take a leaf out of the book of the commercial advertiser. He knows he has only seconds to catch the eye of the public: so he uses the simple picture, the fewest words, the brightest colours, the biggest type for the most important thought, all to make the most striking effect at a glance.

*Visibility by the man in the last row* is the chief factor that limits the amount of material that should go on a slide. In order to be just legible, the width of every part of a letter must subtend an angle of  $1'$ , and the height and width of the whole letter must subtend an angle of  $5'$ ; that is, an angle whose apex is at the pupil of the viewer and which has an opening of  $5'$ , the over all dimension of the letter. This fact is the basis of the Snellen Test Chart for measuring the visual acuity. Now to subtend an angle of  $5'$  at the pupil of the man in the last row 200 feet from the screen, the letter on the screen must be three inches high and wide. (Multiply the distance from the screen by 0.001425 to get the dimension of the letter.) If the screen is fifteen feet wide, then a single line of text on the screen can have no more than sixty letters and spaces, if that text is to be *just readable* by a man in the last row, if he has 20/20 vision. To be *easily readable*, the line must have decidedly fewer letters and spaces. To be safe in planning your slides, you must know the size of the screen and its distance from the back row.

*Leave the slide on the screen long enough* for everyone to read it. This usually takes half-again as long for the other fellow as it does for you, so give him a break in your timing.

It is better to *signal for the next slide with a buzzer* or "clicker," if available, than to say "next slide," lest the operator mistake a word in your text for such a signal. A recent speaker lost valuable time because the operator shifted slides when he heard the word, "Dextran."

These have been the "*Do's*" to be observed in lantern slide technique. Even more important are the "*Don't's*."

The most important one is this: *Do not put too much on a slide*. If it is a picture or a photomicrograph, do not have too much irrelevant material, such as the whole cross-section of an organ, thereby dwarfing into insignificance the crucial part of the picture. If you wish to show proportion or relations, then use a second slide for further detail.

Do not project a complicated diagram: it takes too long to decipher.

Do not put too many data on a single slide, especially irrelevant data. Yet this unhappy mistake is the one most frequently committed: the author is too lazy to construct a brief summary of salient data, so he photographs instead a detailed table that will occupy a full page in the printed paper.

Do not project whole paragraphs of running text. Use outline form and telegraphic style to get the few important facts across most quickly. If these are more facts, use two slides.

*Do not distract your audience* in any of the following ways: Do not talk away from the slide on the screen: your comments should be to emphasize or amplify what is in sight, not to present new ideas. Do not leave a slide on the screen when it is no longer needed. If you have something new to say before going on to the next slide, ask for "lights, please," or signal the operator by means of a blank slide or by a white card properly placed in your series of slides.

*Do not frustrate your audience* by whisking a slide off the screen before they have had time to read it.

*Do not waste the time of your audience* by reading every word and figure on the screen. They can read, too, so confine yourself to brief relevant comments.

*Do not use slides with white letters on a black background:* their visibility is much less than that of slides with black letters on a white background.

These, then, are the general principles that underlie the proper and effective presentation of a scientific paper before a large audience, and to these the writer has decided to confine himself. But please do not think that your personal problems in presentation have been fully covered in the foregoing advice. They require special study and individual analysis.

Fortunately, you do not have to depend upon your best friend or severest critic to do this for you, although they can be most helpful. It is to-day a simple and inexpensive matter to have a tape recording made of one of your efforts at public speaking. Then, at first alone, and later in the company of an honest critic, play it back to yourself many times, making notes and encouraging the critic to interrupt.

When you have recovered from the first shock of hearing the voice of an utter stranger come back to you out of the machine, you can begin objectively to assess your most obvious mistakes of presentation: the hurried delivery, the monotonous intonation, the failure to pause between paragraphs, or before important points, as you race through your text. Then, at times when you leave your script and "ad lib" a bit, note the slowness, also the hesitation as you grope for the next word; the falling pitch that kills the ends of sentences, especially if the last word is a proper noun; and all the irrelevant "ah's" and "uh's" that eat up so much precious time; and the disconcerting noises, when every few sentences you nervously clear your throat.

Now, if your ego can still take it, have a motion-picture as well as a sound-track recording made of one of your presentations. See for yourself your distracting, and therefore undesirable habit of scratching your face, rubbing your nose, twisting your ear or tugging on a lock of hair. Do you ever look at the people you are trying to impress, or are your eyes glued to your manuscript? And what of your gestures? Gestures, like spices, add zest and interest, if unobtrusive, appropriate to the matter in hand, and if used sparingly; but better no gestures than too many or the wrong ones, awkwardly made. Their proper use calls for native talent as well as careful training.

This article has been written about the proper presentation of a scientific paper, an infrequent and ephemeral activity, indeed, as far as most of us are concerned. Yet it is an aspect and an actual part of a much more important function in the lives of most of us who present papers: the function of teaching. If you are a teacher, then regardless of your specialty in medical science or practice, you should realize that medical pedagogy is as much a specialty as is chemistry or paediatrics. If you are a teacher, it is your responsibility to perfect yourself in pedagogy as well as in your branch of knowledge, in order to bring your teaching mission to its highest fruition; not only to know, but to be able to impart to others what you know. If you are or hope to be a teacher, this editorial deserves a second reading.

# The Role of the Sanatorium in the Tuberculosis Control Program \*

J. E. HILTZ, M.D., D.P.H.\*\*

WHEN Brehmer, in Germany, established the first sanatorium in 1859 and Trudeau, in the Adirondacks, in 1873, or even when the Nova Scotia Sanatorium was opened in 1904, the prime purpose of such an institution was to provide facilities for a moderate degree of rest with reasonably good food in an environment composed mainly of fresh air—the colder and more rarefied the better. What is the purpose of such an institution today?

Firstly, it is to provide education. This must be education of the patient so that he may become aware of the seriousness of tuberculosis; aware that he may be returned to health if he follows good curing principles and adheres to them long enough so that disease which appears to be healed from an x-ray point of view may undergo further fibrosis and absorption and so become healed microscopically as well; education so that he may be aware that unhealed disease is dangerous not only to himself but to others, and so aware of the need of careful examination of his contacts by tuberculin testing and x-rays. He must also develop an awareness of the need for his cautious but progressive rehabilitation under good guidance, so that he may resume his rightful place in the community and also maintain it once resumed.

The sanatorium must also provide education for its own medical and nursing staffs so that they are conscious of the need for the patients to follow good curing principles. The staff must also be so educated that they are anxious and able to provide the best form of treatment available for each individual patient. As mentioned already, they must realize that bed rest treatment is still the foundation upon which we build the cure and without it in adequate amount no form of surgery and no course of chemotherapy will produce effective and lasting results. A temporary sputum conversion from positive to negative is not enough. It must be permanent. A readmission to a sanatorium is a failure and so the education of the medical profession must be spread beyond the sanatorium walls so that all physicians will be interested and informed in regard to the problem. There must be an awareness on the part of all that pleurisy with effusion is frequently a manifestation of primary pulmonary tuberculosis and must be so treated, and also that erythema nodosum is frequently the first indication of a tuberculous infection and must be so considered until proven otherwise.

The education program must also extend to the nursing profession in order that they may be interested in the tuberculosis field and in order that their unwarranted fears of it be dispelled so that our tuberculosis patients

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may receive adequate nursing care. Postgraduate and Undergraduate Tuberculosis Nursing Teaching Programs in sanatoria are therefore essential to this end.

Secondly, a sanatorium must provide diagnostic services for its out-patient clinic and most particularly for its in-patients in order that they may receive adequate care. Many cases which would be and, in the past, have been diagnosed as minimal by ordinary flat or stereoscopic x-ray film examination, when examined by serial planigraphy, are found to have small cavities filled or partly filled with caseous material and so are really moderately advanced in extent and must be so treated. Indeed, the more one sees of such cases and the more one examines lobes removed at operation, the more one becomes convinced that relatively few cases diagnosed as minimal tuberculosis really are minimal. Also, some cases examined and found to be cavity-free by horizontal planigraphy will be found to have cavities when examined in the vertical position, as cavity fluid then will be seen as a distinct level rather than obscuring the cavity, which is the case with the patient lying down.

Good diagnostic services are also required to demonstrate by opaque oil bronchography the presence of tuberculous bronchiectasis which is frequently the source of positive sputum in the absence of an active x-ray lesion. Bronchoscopy also frequently reveals active tuberculous ulcerations of the bronchi or otherwise demonstrates the source of positive sputum.

A good laboratory service, especially for culture work, is also essential if tuberculosis is to be diagnosed adequately and treatment results properly assessed. When it is understood that it requires approximately 100,000 tubercle bacilli per cc. of sputum to yield a positive smear, only 500 to yield a positive concentration, and only about 50 to yield a positive culture, it becomes apparent how essential a good laboratory culture service really is. A person with sputum positive for tubercle bacilli on culture is still dangerous to contacts.

Thirdly, it goes without saying that a sanatorium must provide good treatment facilities for patients. This includes an awareness of the value of good bed rest treatment and a medical staff sufficiently well informed so that, meeting in conference, they may pool their knowledge regarding the best supplemental treatment for each individual case, whether it be artificial pneumothorax, pneumolysis, phrenic nerve paralysis, thoracoplasty, pulmonary resection, decortication, extrapleural plombage, chemotherapy, or some combination of these.

It must not be forgotten that a patient is more than a pair of lungs and so sanatorium staffs must be prepared to diagnose and treat other forms of tuberculosis which occur as complications or, indeed, any other disease which may co-exist with the tuberculosis. As the patients are under treatment for many months, dental care must also be provided, and even a barber service is needed. Many patients may be maladjusted to institutional and, indeed, sometimes maladjusted to community life in general, and so a Mental Health Program with the services of a psychiatrist is essential to the proper understanding and care of tuberculous patients.

The Rehabilitation service is also an important part of treatment and is designed to provide patients with an opportunity to spend their curing hours in a manner to increase their enjoyment of music, reading and the arts, and to improve their educational status so as to fit them better to return to their work and their social contacts when they recover. With this in mind, school courses must be provided for those children and adults who have not had an opportunity to finish or sometimes even start regular school before coming to the sanatorium. Help must be provided with correspondence courses designed to fit them for more suitable jobs or to do their old jobs better when they return home.

Vocational counselling is often needed when they have not decided on a suitable type of work to follow when they have recovered. There must be made available to them business courses leading up to more advanced instruction than can be taken at vocational schools when they leave the sanatorium. Courses in home management for the women, and radio repair for the men, are worthwhile, and classes in weaving, woodwork, leatherwork, rug making, and other crafts, provide useful hobbies and help to pass the curing hours as well as keep the patient active mentally. A library service, a radio service, a moving picture service, and a chaplain service are all essential parts of a Rehabilitation Department.

With the increasing use of chest surgery there have developed certain disabling chest and shoulder girdle deformities. Some of these are unavoidable, but many can be corrected with proper instruction of the patient regarding posture, arm exercises, massage and heat treatment. For this reason many thoracic units have now established Departments of Physical Therapy and one has recently been established and is serving a very useful purpose at the Nova Scotia Sanatorium.

This dissertation has, of necessity, been brief and probably somewhat incomplete. A sanatorium should be a place where a patient may go to receive thorough investigation of his illness, a proper diagnosis and, finally treatment for the whole body, and the mind as well, in a kindly and sympathetic atmosphere where doctors, nurses, dietitians and auxiliary workers are united in an effort to learn more about tuberculosis, to spread this knowledge to the patient and his relatives, to apply this knowledge to help the patient protect others, to recover his own health, and, eventually, become firmly re-established in his community as a useful citizen.

# Case Reports

## OMENTAL TORSION

**T**ORSION with infarction of the omentum was first described by Marchette in 1851, and soon after, many other reports appeared in the literature. All of the early cases occurred in association with inguinal hernias and it was not until 1899 that Eitel described the first case of idiopathic infarction unassociated with hernia (1). For the next quarter-century the volume of reported cases steadily grew, and in the past quarter-century with these reports, classifications have evolved and theories of etiology have appeared.

The majority of cases have occurred in association with some other pathologic condition, i.e. hernia, appendicitis, etc., and well over 300 such cases have appeared in the literature. A much smaller number of idiopathic cases have been reported—64 were reported by Altemeier in 1946 (2).

Omental torsion is a relatively uncommon cause of acute abdominal pain and is still not clearly defined as a clinical unity but is one in which the pathological lesions are well recognized. As more reports accumulate the clinical features of this condition will become better known and the diagnosis will be made more often in acute abdominal conditions. Up to the present time, 85% of the cases have been diagnosed as acute appendicitis. (3).

Anton (3) proposed the following classification:—

- (a) Primary—idiopathic.
- (b) Secondary—
  - 1. Hernial
  - 2. Abdominal
    - (a) Intrinsic i.e. cysts, tumors of the omentum
    - (b) Extrinsic—pathology of the abdominal and pelvic organs and peritoneum.

The cause of primary omental torsion with infarction is unknown. However, many theories have been proposed but none has been proven. Trauma appears to play a part in some cases. (4) Peristalsis has been blamed by Fagge. (5) Payr (6) developed the haemodynamic theory based on blockage of veins by twisting of the omentum and torsion of the congested omentum around the artery. Teller and Baskin (7) observed that torsion occurred more frequently in obese individuals.

The cause of secondary torsion is much easier to explain on the basis of adhesions formed, i.e. in hernias, tumours, etc.

We were able to study the clinical picture of this condition in two cases of primary segmental omental infarction due to torsion.

### Case 1.

D. K., male, age 26. No previous abdominal disease; relatively obese. Developed generalized abdominal discomfort one week prior to admission.



Pain was most severe in the right lower quadrant, was dull and not colicky. Rest appeared to relieve pain. No nausea or vomiting. On admission, tenderness was most marked in RLQ near McBurney's point. No diagnosis of appendicitis was made and at operation blood tinged peritoneal fluid was noted. The appendix was normal. A segment of omentum in the right inferior portion was found twisted into a mass 4" x 6". This was resected. Pathologic examination showed infarction of the omentum due to torsion.

### Case 2.

W. C., Male, age 63. No previous abdominal disease. Not obese. Developed generalized abdominal pain at first but later dull aching pain in RLQ. Pain was worse on effort and relieved by rest. Nausea but no vomiting. Examination shows moderate tenderness and guarding in right iliac fossa. Temperature 99 degrees. Pulse 80. White cell count 10,000. A diagnosis of acute appendicitis was made and at operation the appendix was found normal. A mass indurated omentum was found 2" x 2". This was resected and reported pathologically as infarction of the great omentum due to torsion.

Our two cases of primary segmental omental infarction presented clinical features not unlike that recorded in the literature. This condition occurs most frequently in men at any age but usually from 20-55. (8) In our cases there was no history of abdominal trauma, hernia or other intra-abdominal disease.

The pain is of a constant dull type which tends to increase in intensity. Jefferies (9) states that in 88% of cases it is located in the right lower quadrant. Pain is characteristically relieved on lying down.

The patient when first seen does not have the very ill appearance of the usual case of appendicitis. The patient with torsion appears comfortable in bed. His temperature and pulse are only slightly elevated and the white cell count ranges from 8,000-15,000.

On examination of the abdomen, tenderness is usually moderate in degree and it is said to be most pronounced on the right side at a higher level than that of acute appendicitis. This was not found to be so in our two cases. Guarding is not a prominent feature. Some authors Jefferies, (9), Etherington-Wilson (8) describe a rapidly appearing doughy tumour in the right lower quadrant as a valuable sign.

These symptoms and signs closely resemble appendicitis and most reported cases have been operated on with this diagnosis. The finding of blood stained peritoneal fluid suggests strangulation of a viscus, one type of which is omental infarction.

### SUMMARY

1. A brief review of the literature has shown an increasing number of reports on omental torsion.
2. Two cases of primary segmental omental infarction due to torsion were presented.
3. The classification, etiology and diagnosis have been briefly discussed.

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# Births and Stillbirths

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IN these days of increasing social welfare programs the prompt registration of births is becoming increasingly important, not only to the individual concerned, but also to the Province and its citizens, and Canada as a whole.

Information from the Childrens Allowance Branch of the Department of National Health and Welfare would indicate that they are paying allowances to a substantial number of Nova Scotian children whose births are not registered with the Registrar General of this Province. Since parents are responsible for registering the births of their children, it would appear that the source of the trouble lies with the parents; however, the medical attendant also has a duty in connection with the procedure. Section 2 of the Vital Statistics Act, 1952, reads as follows:

"Every person who assists at the birth of a child or at a stillbirth in the province shall, within twenty-four hours thereafter, deliver or mail to the division registrar of the registration division in which the birth or stillbirth occurs a notice of the birth or stillbirth in the prescribed form."

Failure to carry out this duty is provided for in Section 41 (1.) Vital Statistics Act, 1952, as follows:

"Every person who fails to give any notice, or to furnish any statement, certificate or particulars required under or pursuant to this Act, within the time limited by this Act, is liable on summary conviction to a penalty not exceeding fifty dollars, and in default of payment thereof to imprisonment for not more than one month."

In order to simplify the procedure the Registrar General has made available a sealable postage free form—these forms are available from this office and from all Division Registrars of Births and Deaths. On receipt of this form the Division Registrar is made aware of all births and stillbirths in the area and can take steps to obtain registrations on these births which are not sent in within a reasonable time by the parents. If, however, the medical attendant fails to notify the Division Registrar of the birth or stillbirth the registration may be missed since the Division Registrar would have no information on which to base her follow-up. By carrying a supply of the notification forms in his obstetrical bag the doctor could be reminded of the necessity of notification—in addition to the statistical importance the doctor would be doing an important service to the new born infant—failure of registration means the person concerned will have to go through quite an involved procedure and will have to produce proof of the date and place of birth—such information is frequently difficult to obtain in later years.

May we again request that the provisions of the Vital Statistic Acts be carried out by medical practitioners—legally it is a requirement—morally it is a duty.

With regard to the registration of stillbirths there seems to be some confusion, although the Vital Statistics Act is quite clear on the subject, as will be noted from the following:

Interpretation—Section 1 (u) — “ ‘stillbirth’ means the birth of a foetus, after at least twenty-eight weeks pregnancy, which after complete separation from the mother does not show any sign of life.”

Section 2—as previously noted—this requires that notification be made by the physician to the Division Registrar using the form provided.

Section 9 (3)—“The medical practitioner in attendance at a stillbirth, or, where there is no medical practitioner in attendance, a medical practitioner or a coroner shall complete the medical certificate included in the prescribed form showing the cause of the stillbirth and shall deliver it to the funeral director.”

From the above it should be quite clear that *stillbirths must be notified and registered*. With complete registration we feel sure that the loss of infants from this source would be more forcibly brought to the attention of those workers in this phase of Public Health. Research workers in this field would also have more accurate figures to deal with and could assess the problem in a more realistic way.

In addition, there is a legal responsibility on medical practitioners. A recent case brought to our attention by the Department of the Attorney General would indicate that some physicians are not aware of the above provisions of the Vital Statistics Act. It must be emphasized that stillbirths must be legally dealt with the same as any other birth and death—further, the body must not be disposed of other than by legal burial or cremation after a medical certificate has been signed and a burial permit obtained. Failure of the medical attendant to give this information to the parents or guardian can only result in embarrassment to both himself and the other parties concerned.

# General Practitioners Training at Dalhousie Medical School

THERE was a meeting on January 12th, 1954, between representatives of The Medical Society of Nova Scotia and the Executive of the Faculty of Medicine of Dalhousie to discuss the training of general practitioners at the Medical School.

The representatives of The Medical Society of Nova Scotia were Doctor J. A. McDonald of Glace Bay, Doctor H. F. McKay of New Glasgow, Doctor A. G. MacLeod of Dartmouth, Doctor D. M. Cochrane of River Hebert and Doctor M. G. Tompkins, the President of The Medical Society of Nova Scotia. The Executive of the Faculty of Medicine was fully represented.

To insure accurate reporting of this meeting a recording machine was installed, but like a lot of machines, it did not work, so that this report is given entirely from memory.

One of the first things discussed was the feasibility of the establishment in the Medical School by The Medical Society of Nova Scotia of a Chair in General Practice. This had previously been discussed by a special committee of The Medical Society, and the suggestion was dismissed as it was felt that it would only tend to create discord between the Chairs of Medicine and Surgery in the University. The meeting concurred in this view.

Several thoughts were expressed as to how the present teaching could be improved upon. One was that there be established in the Dalhousie Public Health Clinic a modern doctor's office which would be staffed by general practitioners chosen by the University. That this doctor's office should be run daily, and the students should attend and receive instruction by the general practitioner in charge.

A second was that consideration be given to the establishment at the Victoria General Hospital of an out-patient's department of general practice run by general practitioners, and that the appointment to teaching posts in connection with this out-patient's department be under the same arrangement as now pertains between the Hospital and the University, that is that the appointments be made by the Hospital on the nomination of the University.

It was also suggested that perhaps the Hospital might consider the establishment of a general ward which perhaps could be a clearing ward, and that this ward would be run by well trained general practitioners, that they should treat all the cases coming into this ward, and if they felt that they needed help on any particular case they could refer this case to some special ward, or bring in a consultant.

The matter of praeceptorships or assistancies was also discussed, and in the discussion it was brought out that this system now prevailed in a few of the

medical schools throughout America. The idea was that the student should, before graduation, spend a period of at least one month, and preferably two months, serving as an assistant to a general practitioner who had been approved by the Faculty of Medicine.

The opinion was expressed that there was not as good instruction for internes to-day as there was a few years ago, and that this perhaps came about as the result of the present system of internships and residencies in the hospital.

It was planned that the minutes of this meeting should be typewritten and circularized to all members who attended at that meeting, and that another meeting should be held. On account of not being able to get an accurate recording of the meeting this was not possible, but another meeting of the two groups will be held shortly.

F. MURRAY FRASER

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### POSITIONS VACANT

Positions are available in the Department of Public Health, Nova Scotia' for active keen Physicians—training bursaries available if untrained.

Positions available in Tuberculosis Sanatoria, Mental Hospitals, Mental Health Clinics, Pathology, Field Public Health and Radiology. Full Civil Service benefits, sick leave, holidays, hospitalization and superannuation.

For further particulars and application forms, apply to:

J. S. ROBERTSON, M.D., D.P.H.  
Deputy Minister,  
Department of Public Health,  
Provincial Building,  
Halifax, Nova Scotia

or

Nova Scotia Civil Service Commission,  
P. O. Box 943,  
Halifax, Nova Scotia.

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### ASSISTANT WANTED

Established physician in one of the larger towns wants an assistant; duties to begin any time after May; living quarters available; would prefer a married man; salary \$450 to \$500 a month. For further particulars to the Secretary.

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### COUNTRY PRACTICE VACANT

House, office equipment and drugs available. For further particulars apply to the Secretary.

# Announcement of a Diet Manual Prepared by Department of Public Health

Juanita H. Archibald

Director, Nutrition Division

THE Department of Public Health offers a consultative nutrition service to hospitals and other institutions in the Province. Over the past few years, nutritionists have visited all hospitals, county and municipal homes, and child-caring institutions regarding their food service and have found that there is a general lack of dietary information.

Therapeutic dietary information throughout the Province varies greatly. There are few written outlines available to staff. Of course, there are certain hospitals with excellent diet manuals. There are others, however, that have adapted information from various sources so that conflicting ideas have resulted. Accordingly, A Diet Manual has been prepared by the Nutrition Division, Department of Public Health.

This Diet Manual was submitted to The Medical Society of Nova Scotia and to the Maritime Hospital Association with the result that certain changes were made in the material. A copy of the Diet Manual will be sent to physicians. It is requested that they criticize the Manual and make suggestions to the Department of Public Health for its improvement.

The Diet Manual contains practical information suited to the food habits and food supply of Nova Scotia because fitting a special diet into the accustomed food pattern of a patient is one of the most important factors in diet therapy. It does not contain all diets used in the treatment of disease but only those that are required most commonly. Information given in the Diet Manual includes:

Important Dietary Information for Physicians

Normal Diets

Standard Hospital Diets

Special Diets

A special feature of the Manual is that easily understood discharge diets for the patient and guides for the menu planner and cook accompany this information.

Canada's Food Rules have been used as the basis of an adequate diet in the Manual. Where modification of the diet was necessary, there was as great adherence as possible to the adequate diet. The number of special diets was reduced to a minimum for it is not necessary to have a diet prescribed for every condition. Diet is important in the treatment of certain diseases, but not that important.

Standardization of diets and terminology ensures better service from any dietary department. Special diets should be given only on written prescription of the physician. Accordingly, the diseases for which diets are prescribed are not written on the majority of the diets but descriptive terms are used in the title of the diet, for example, names such as "cardiac" are omitted and "low sodium" are used. Physicians can assist in the promotion of the Diet Manual through becoming familiar with it, especially if it is used in their local hospital, and deciding wherein they wish to deviate from it in their written prescriptions. Patients will be assisted by discharge diets expressed in everyday foods and household measures. The diabetic patient will be helped by having a statement regarding his food for the day which he can follow in his home or when he travels.

Physicians are assured that considerable care has been taken in the preparation of this Diet Manual. References consulted include the recognized authorities in the field. The Nutrition Division acknowledges its indebtedness to the Metabolism Department, Victoria General Hospital, for the Diabetic Progression. It is hoped that physicians will find the Diet Manual of supplementary use.

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## **Bursaries For Training in Public Health, Pathology and Radiology**

Applications are invited from physicians wishing to train in the above.

Bursaries to successful applicants—\$200.00 per month if single, \$250.00 per month with dependents, plus tuition, books and travel expenses.

Applicants must agree to return to salaried positions in the Province for a stated period depending on the length of training.

Apply to:

J. S. ROBERTSON, M.D., D.P.H.  
Deputy Minister  
Department of Public Health,  
Provincial Building,  
Halifax, Nova Scotia.



# The Royal College of Physicians and Surgeons of Canada

## ANNOUNCEMENT OF ANNUAL AWARDS

An annual essay contest is held by The Royal College of Physicians and Surgeons of Canada in order to stimulate original work by young investigators in the basic sciences, or in clinical research, in medicine and in surgery. An Award in Medicine and an Award in Surgery are offered. The recipients of these Awards will be invited to present their work at the Annual Meeting of the College, their travelling expenses being paid by the College up to the limit set by Council.

### *Conditions governing the Essay Contest*

1. Any graduate in Medicine, under the age of 40 years, who fulfils the other conditions may apply.
2. Where the contestant is a Canadian citizen, or Fellow of this College, the investigative work need not be carried out in Canada. Applicants who are neither Canadians nor Fellows may apply by submitting work which has been done in Canada.
3. Any investigative work in the basic sciences relative to medicine or surgery, or in the field of clinical research, done or completed during the preceding twelve months is acceptable.
4. The manuscript must be concerned with original investigative work—not simply a review of the literature.

### *Submission of Essays*

The closing date for submission of Essays is April 30, 1954, although earlier submission is desirable.

Essays must be submitted through a Fellow of the College who personally nominates the author for one of the Awards. A Fellow may submit his own essay.

The manuscript must be double-spaced on letter-size paper (8½" x 11"), should be 20 to 30 pages in length, and must not exceed 30 pages, exclusive of bibliography and illustrations. (Essays not conforming with these regulations will be returned to the author, giving him an opportunity, prior to the closing date of the contest, to resubmit his essay in acceptable form.)

*Further particulars may be obtained from:*

The Honorary Secretary,  
The Royal College of Physicians and Surgeons of Canada,  
150 Metcalfe Street, Ottawa 4, Ontario.

**DALHOUSIE UNIVERSITY POST-GRADUATE  
PROGRAMMES**

**SHORT COURSE IN ANAESTHESIA**

**MARCH 29th — 31st & APRIL 1st, 1954**

**Guest Lecturer — Dr. Wesley Bourne**

Mornings will be spent in the Operating Rooms of the Victoria  
General Hospital.

**MONDAY, MARCH 29th, 1954**

- 2.30- 3.15 Intratracheal Anaesthesia—Dr. C. C. Stoddard.  
3.15- 3.45 Anaesthesia in the Aged—Dr. C. H. L. Baker.  
3.45- 4.15 Anaesthesia in Children—Dr. A. S. Wenning.  
4.30- 5.00 Some Useful Nerve Blocks in General Practice—Dr. R. A. P. Fleming.

**TUESDAY, MARCH 30th, 1954**

- 2.30- 3.00 Intravenous Anaesthesia—Dr. C. M. Kincaide.  
3.00- 3.30 New Drugs in Anaesthesia—Dr. A. S. MacIntosh.  
3.30- 4.00 Muscle Relaxants—Dr. R. W. M. Ballem.  
4.15- 4.45 The Effect of Positioning on Table on Vital Capacity—Dr. C. A. Gordon, Dr. C. U. Henderson.

Evening:

- 8.00 Meeting of Nova Scotia Division of the Canadian Anaesthetists' Society.  
Guest Speaker:—Dr. Wesley Bourne, Formerly Professor and Chairman, Department of Anaesthesia, McGill University.

**WEDNESDAY, MARCH 31st, 1954**

- 2.30- 3.30 The Role of Basic Sciences in Anaesthesia—Dr. Wesley Bourne.  
3.45- 5.00 Symposium:—Shock and Fluid Replacement Therapy—Dr. C. H. L. Baker, Dr. Wesley Bourne, Dr. D. J. Topping, Dr. R. W. M. Ballem, Dr. R. A. P. Fleming.

**THURSDAY, APRIL 1st, 1954**

- 2.30- 3.30 Factors Involved in the Choice and Administration of an Anaesthetic.—Dr. Wesley Bourne.  
3.30- 4.15 Anaesthetic Emergencies—Dr. C. C. Stoddard.  
4.15- 4.45 Mechanics of the Gas Machine—Dr. A. S. MacIntosh.  
4.45- 5.15 The Role of CO<sub>2</sub> Absorption in Anaesthesia—Dr. C. M. Kincaide.

**FRIDAY, APRIL 2nd, 1954**

- 5.00- 6.00 Victoria General Hospital Staff Conference—"Trends in Anaesthesia"—Dr. Wesley Bourne.

Registration fee for this course is \$20.00. Kindly make early application to the Post-Graduate Office, Victoria General Hospital.

# Week in Surgery—April 26th - 30th, 1954

## APRIL 26th — 30th, 1954

Guest Lecturers—Dr. Joseph C. Luke; Dr. Donald A. Thompson

### MONDAY, APRIL 26th, 1954

- 9.00-10.00 Intestinal Obstruction—Dr. W. A. Curry.  
10.00-11.00 Injuries to the Ankle—Dr. H. D. O'Brien.  
11.10-11.45 Lesions About the Anus—Dr. E. F. Ross.  
11.50- 1.00 Painful Shoulder and Arm—Dr. B. K. Coady.  
2.30- 4.00 Round Table—Surgical Jaundice—Dr. N. H. Gosse, Dr. C. M. Harlow.  
4.00- 5.30 Round Table—Low Back Pain—Dr. B. F. Miller, Dr. H. B. Atlee.

### TUESDAY, APRIL 27th, 1954

- 9.00- 1.00 At Camp Hill Hospital.  
Indications for Arthroplasty of the Hip.—A review.  
Repair of Hernia.  
Psychiatric Assessment of Surgical Patients.  
Spinal Fusion—A review.  
2.30- 3.30 Fluid Balance and Renal Shut Down—Dr. C. M. Harlow.  
3.30- 4.30 Emergency Treatment of Head Injuries—Dr. W. D. Stevenson.  
4.30- 5.30 Lesions of Breast—Dr. C. E. Kinley.  
Evening  
8.30-10.00 Informal Discussion Period with Department Staff.

### WEDNESDAY, APRIL 28th, 1954

- 9.00-10.00 Ca of Lip, Tongue and Mouth—Dr. A. L. Murphy, Dr. G. W. Bethune.  
10.00-11.00 Trauma—Dr. D. A. Thompson.  
11.00- 1.00 Children's Hospital—  
Pyloric Stenosis  
Congenital Dislocation of Hip.  
I. V. Techniques.  
Hernia, etc.  
2.30- 5.30 Symposium on Gynaecological Procedures—Staff.

### THURSDAY, APRIL 29th, 1954

- 9.00-10.00 Emergencies During Anaesthesia—Dr. C. C. Stoddard.  
10.00-12.00 Post-Phlebotic Syndromes and Varicose Ulcers—Dr. J. C. Luke.  
12.00- 1.00 Blood Transfusion—Hazards in Use—Dr. H. C. Read.  
2.30- 4.00 Urology—Dr. C. L. Gosse.  
4.00- 5.30 Round Table—Melena—Dr. D. A. Thompson, Dr. J. H. Charman.  
Evening  
8.30 "Diagnosis and Treatment of Occlusive Vascular Diseases"—  
Dr. J. C. Luke.

### FRIDAY, APRIL 30th, 1954

- 9.00-11.00 Arterial Occlusion—Dr. J. C. Luke.  
11.00- 1.00 Case Presentations—To be announced.  
2.30- 3.30 Symposium: Haematemesis—Dr. V. O. Mader, Dr. R. L. Aikens.  
3.30- 5.00 Investigation of Respiratory Symptoms—Dr. C. J. W. Beckwith, Dr. E. P. Nonamaker.  
5.00 Victoria General Hospital Clinical Staff Conference. Program by Department of Surgery.

Registration fee for this course is \$25.00 and may be paid on arrival in Halifax. Please make early application for this course to the Post-Graduate Office, Victoria General Hospital.

## Obituary

The death occurred at New Glasgow on February 7th of Doctor Donald Francis MacLellan. Doctor MacLellan was born in Glenville, Inverness County, Nova Scotia, December 1st, 1891, the son of Donald and Christine MacLellan.

He received his B.A. from St. Francis Xavier in 1915 and then went on to McGill for his M.D., C.M., which he received in 1922. During his student days at McGill he earned his "M" for football.

He went to New Glasgow in 1920 where he soon built up a large general practice. He was one of the family doctor type and beloved by his patients.

He served on the Town Council and the School Board. He was a member of the Medical Staff of Aberdeen Hospital and had served as its President and as a member of the Hospital Board of Trustees. He was a past President of the St. Andrew's Society and the Pictou County Liberal Association, and a member of the Knights of Columbus and the Bluenose Curling Club.

Doctor MacLellan is survived by his widow, the former June Sullivan of New Glasgow; two daughters, Christine and Joan, and two sons, Donald and Peter; also three brothers, Rev. Alexander MacLellan of Vancouver, Donald G. at Glenville and John in Victoria, B. C., four sisters, two in Cape Breton and two in the West.

The funeral service was held in St. John the Baptist Church, New Glasgow, Wednesday, February 10th, and was largely attended. His brother, Rev. Father Alexander MacLellan, celebrated Requiem High Mass.