

# Factors Involved in the Choice and Administration of an Anaesthetic\*

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Let us choose to us judgment: let us know among ourselves what is good.

Job XXXIV, 4.

FIRST of all, let it be said, with Sir James Paget<sup>1</sup> that, "The roughest country-practice might be made a way of science: and every man, whoever he is, ought to try to do 'some good bit or original work.'" And, "Those who have done best, who have had the most single mind for the proper duties of their lives, and who, in striving after fitness for these duties, have cared least for the circumstances in which they were placed; have used every help, but depended on none; and have set no limit to their work but the limit of their power."

As an epigraph for this discourse I have chosen a verse from the Book of Job, namely; "Let us choose to us judgment; let us know among ourselves what is good." The factors involved in the choice and administration of an anaesthetic ought to be considered by the physician, the surgeon and the anaesthetist together in consultation. The physician's opinion, the view of the patient's doctor, is of inestimable value. He knows his patient. He knows the particular incidents in the life of the individual. The surgeon, although aware of the problems of anaesthesia, likes to be able to do his work with the least possible hindrance. The anaesthetist thinks of the harmful effects which drugs are capable of producing and of the relative suitabilities of the various methods of their employment. With polarity of mind these three medical philosophers, after considering the nature of the operation to be done and the character of any additional disability, will plan the procedure. Following this deliberation, the duties become esoteric to the anaesthetist. In effect, they are essentially his responsibility.

Whatever the course determined, whether it be by methods regional or general, and irrespective of what drugs are used, before the administration, the anaesthetist, unvaryingly, will have made preparations for any eventuality. This means that he will have examined carefully the details of his equipment in order that all things will be in good working order for any incident. The importance of this point cannot be stressed too much. It has been found that the duty of being so prepared is obligatory. And now, he will do his work with circumspection and will pay momentary attention to the patient's condition in observing the character of the breathing and the state of the circulation.

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Whatever the course determined, the problem of *fear* ought to be regarded. Fear is a real emotion. In the words of Lucretius,<sup>2</sup> "When the intelligence is more deeply moved by *vehement fear*, we see the whole spirit throughout the frame share in the feeling, sweatings and pallor hence arise over the whole body, the speech falters, the voice dies away, blackness comes before the eyes, a sounding is in the ears, the limbs give way beneath, in a word we often see men fall to the ground for mental terror." This is a good description of physical shock, and it should lead us to realize that thoroughly to dispel fear is always the physician's duty. To drive away anxiety ought to be a supreme obligation. It behooves us then, that our physiological approach should have symmetry and proportion and harmony. These are aesthetic terms, not scientific terms. While it is true that by how much the more medicine becomes scientific, by so much the more will medicine make progress; yet, giving heed to the power of art; despite the beneficent inroads of science, art will little wane nor long lag in medicine. In the commotion of modern life not nearly enough attention is paid to fear. Fear, to some extent, almost always prevails before anaesthesia and starts as soon as an operation is suggested. Someone has said that suggestion is an attenuated form of hypnosis! It is commendable, therefore, and should be permissible, nay more, indeed even imperative, to give assurance, to inspire confidence and to gain reliance by skilled and practiced methods, conceived in sincerity. So, *the throes of fear to swage*, through gentle gesture, tender touch and wise word uttered in soft voice. In such manner your patient may be brought to just dependence, may be led in simple trusting faith to the drowsy house of Sleep, where are no clamorous tongues of men. There mute silence dwells.

Not until full confidence is gained will sedative drugs give their most favourable results. I do not believe in fixed doses nor do I believe in set methods of administration. It seems better to consider each subject individually, each patient separately, and, in order adequately to obtund the perceptions, adequately to produce a condition of obnubilation, it seems suitable to give somewhat small but repeated doses of sedative drugs sufficiently to enhance the abandonment. As an example, the combination of morphine and sopopolamine is generally quite desirable, but great pains must be taken carefully to reduce the quantities of any type of premedication for the aged or handicapped patient.

Now then, here we have, in the immediate pre-operative period, a typical instance of comprehensiveness in anaesthesia, of complemental over-lapping of methods. Let us call anaesthesia an art and a science. Let us call it both or call it neither. J. W. N. Sullivan<sup>3</sup> has said that "to the great man of science, science is an art, and he himself is an artist." Let us understand therefore that art and science are not disparate. Indeed, they are at their best when thought of together.

In the light of our present knowledge, for the anaesthesia proper, one of three procedures will have been chosen: (1) By regional anaesthesia, that is, local or spinal, or one of the various forms of "block" anaesthesia. (2) By general anaesthesia by inhalation, or by the intravenous route. Or (3) by a combination of regional and general. For the first, procaine, pontocaine



and nupercaine are the drugs still in favour. Virtually, they cause little impediment to the vital processes; as a consequence, their employment ought to be encouraged. On account of the technical difficulties, however, local infiltration, field block, and the different forms of nerve block are found to be tedious and time consuming, and therefore, have not gained much support. Spinal anaesthesia, on the other hand, has become more particularly a part of the duties of the anaesthetist, with the result that, through increased individual experience, the dangers are now almost completely controllable. Nevertheless, there is much difference of opinion about spinal anaesthesia. In many places the method has fallen into disrepute because of reports of deaths or neurological complications. In large measure this has come from the fact that all too many of us have gotten into the bad habits of becoming too fond of some one thing and of following routines. We must fight incessantly these habits. And yet, the advantages of spinal anaesthesia are very great, especially on account of the muscular relaxation and the excellent recovery. And it may be pointed out that, with the exception of some blood dilution, the deleterious effects which occur so easily in general anaesthesia do not take place from spinal. It would seem that spinal anaesthesia is contra-indicated only when, for one reason or another, the fall of blood pressure, which it frequently causes, is to be feared, for instance, in advanced cardio-vascular disease. In a general way, it is suggested that regional anaesthesia ought to be given wider application so long as preliminary sedation is to be made complete. But I must be careful, for this statement may sound imminent of contradiction and redolent of the seeds of that bad habit of "being too fond of one thing." Indeed, I am not. For I believe firmly that the physician—even the physician-anaesthetist—ought not to allow himself to become too fond of any one drug, or too enamoured of a particular appliance. He should eschew the routine, and, being familiar with all of the agents and all of the methods, he should, with *thought* of the patient's condition and of the surgical procedure; with careful thought of these, he should make percipient choice from among the drugs and, as well, from among the methods of their employment. Furthermore, the anaesthetist should be able to change momentarily from one drug, or method, to another; and he should be able to combine drugs, or methods, as he sees fit, in the interest of the patient. The practice of using small amounts of several drugs, each having its peculiar pharmacological effect with little derangement is spoken of as "complemental combinations in anaesthesia."

We shall all do well to remember what Alfred North Whitehead said: "Now it is the beginning of wisdom to understand that social life is founded upon routine. Unless society is permeated, through and through with routine, civilization vanishes. . . . But there are limits to routine, and it is for the discernment of these limits, and for the provision of the consequent action, that foresight is required."

Whitehead's contemporary, John Dewey, has written that, "Even to-day to speak of a physician as an empiricist is to imply that he lacks scientific training, and that he is proceeding simply on the basis of what he happens to have got out of the chance medley of his past practice. Just because of the



lack of science or reason in 'experience' it is hard to keep it at its poor best. The empiric easily degenerates into the quack. He does not know where his knowledge begins or leaves off, and so when he gets beyond routine conditions he begins to pretend—to make claims for which there is no justification, and to trust to luck and the ability to impose upon others—to 'bluff.' . . . . . Experience is always hovering, then, on the edge of pretense, of sham, of seeming and appearance, in distinction from the reality upon which reason lays hold." Continually, medical men generally must fight against the dangers of empiricism. More specifically, "it is true for Anaesthesiology as for any other profession that *service* must be leavened with progressive thought." Such is the opinion of the renowned pharmacologist, the late William T. Salter. Such, I believe, is the most important of the factors in the choice we now ponder.

So now, let us think of how some of the effects of the drugs might become factors involved in the choice and administration of an anaesthetic. Let us think of how pervadingly interwoven and abundant is function between all of the vital structures and processes. To consider any one without the others is to be blind and halting. There is an interdependence of function. Let us think with the philosopher, Santayana, of how "the precision of adjustment between organs and functions, far from being a miracle, is in one sense a logical necessity or tautology; since nothing has any functions but those which it has come to have, when plasticity here with stimulus and opportunity there have conspired to establish them." (The Realm of Matter) The anaesthetist must continuously remember that he cannot interfere with any one vital function without interfering with other vital functions.

On account of the regard that we all have always had for the functions of the liver and the kidney, something may be said of their interpenetration. The superfluity of structure in these organs, the reserve of power they possess and the integration of their activities through the blood stream, through nerve influences and hormone essences, are so bewildering and so extensive that I can do no more at this time than to exemplify a little. Despite disparate structure, functions are correlated in action whether they are acquired with seemingly reasoned purpose or an innate, spontaneous and altogether inconscient. Van Slyke<sup>4</sup> has followed some of the paths in the body that are taken by amino acids after digestion and absorption in the alimentary tract. Among other things he says that "one could watch the work of the liver in taking up the amino acids and destroying them, turning their nitrogenous parts into urea for excretion by the kidneys. Unreasonable and wasteful though it seems, a large part of the amino acids absorbed from the intestine appears to be captured and destroyed by the liver and never to have a chance to reach and nourish the other tissues." It is interesting parenthetically to posit beside this statement one by Carlson (Man's body and man's behaviour, Sigma Xi Quart. 29: 170, 1941): "The normal kidneys are very effective regulators of the composition of the internal environment, the blood, but fail to eliminate excess thyroxin, excess parathyroid hormone, excess pituitary growth hormones, and also excess insulin. Is this a failure in evolution? Or are we just on the way?" According to Van Slyke, it would appear that every protein molecule in the living body is itself alive in the sense that it is continual-



ly changing and renewing its structure through the continual replacement of amino acids. The detoxifying effects of the amino acids have been known for some time and we are now all familiar with Quick's hippuric acid test for liver function (Clinical value of the test for hippuric acid in cases of disease of the liver, *Arch.Int.Med.*, **57**: 544, 1936). Incidentally, it is not inappropriate to say that anaesthetists do well to know the liver function tests so clearly set forth by Mateer and his associates (A comparative evaluation of the newer liver function tests, *A. J. Digest.Dis.*, **9**: 13, 1942). It may be worth while to point out that the liver transforms amino acids into dextrose; that this organ stores protein against the occasion of starvation or haemorrhage; that since the discovery of the glycogenic function of the liver by Claude Bernard in 1853, study of the part played by the liver in carbohydrate metabolism has been greatly expanded. The liver takes up glucose from the blood and converts it into glycogen, indeed, as much as 20 to 25 per cent of the weight of the liver may be glycogen. The liver is the sole source of supply of glucose to the blood of the fasting organism. Mann and his associates (Studies on the physiology of the liver: effect of total removal of the liver on the formation of urea, *Am.J.Physiol.* **69**: 371, 1924) have shown, from work done on hepatectomized animals, that the normal blood sugar cannot be maintained without the liver. The animals die of hypoglycaemia unless dextrose is administered.

Beside the transformation of amino acids, already mentioned, the liver is able to convert other carbohydrates, proteins and fat into glucose and glycogen.

Hepatic glycogenesis is increased by the anterior pituitary hormone and inhibited by insulin. Epinephrine causes hyperglycaemia, resulting in a sharp fall, then rise of liver glycogen.

That the liver can convert lactic acid to glycogen and muscle glucose to lactic acid is the basis for the Cori cycle. By this cycle the muscle and liver glucogen becomes virtually interchangeable.

With regard to protein metabolism, part of the absorbed amino acids go to the formation of the plasma proteins, that is, albumin, globulin and fibrinogen.

The liver can also synthesize some of the amino acids. Alanine, tyrosine, phenylalanine, histidine, glycine and others have been produced by the liver in profusion experiments.

Concerning fat metabolism, there is abundant evidence to show that the liver has several mechanisms of dealing with these anabolically and catabolically. The formation of ketone bodies is an important step in the catabolism of fatty acids. Important too is the metabolism of sterols in the liver.

Again, the liver has to do with the metabolism and storage of vitamins, just as it has to do with the metabolism and storage of minerals, such as iron, copper and iodine.

For the sake of brevity, let me simply enumerate some other functions of the liver:

Embryonic blood formation.

Storage of haematinic principle, necessary for normal blood formation.

Production of prothrombin.

Production of heparin.

Regulation of blood volume—a valuable mechanism, and a water regulating mechanism.

Production of bile and its secretion. The bile contains, chiefly, bile salts, pigments, cholesterol, lecithin, inorganic salts and water.

Next comes the power of the liver to detoxify, to destroy and to excrete substances. The methods include conjugation, oxidation, reduction hydrolysis, esterification and methylation. As samples may be given, acetylation of the sulfonamides to paraminobenzoic acid; hydrolysis to paraminobenzoic acid of procaine and cocaine; conjugation of morphine, and partial hydrolysis of atropine and of scopolamine.

Different substances are excreted through the bile, including some metals, estrogens and dyes, namely, rose bengal and bromsulphthalein.

Lastly, there are the miscellaneous functions of the liver: This organ produces heat to the extent of one-third of the entire organism. It is the chemical factory of the body.

Histamine has been found to be liberated from the liver in large amounts during shock. The liver is markedly damaged and profound changes take place during haemorrhagic shock from anoxia. Cicero wrote that, "In a fragile body every shock is obnoxious." (*In fragili corpore odiosa omnis offensio est. De Senec., C.18*).

One is recommended to study the article, with its references, by Jean T. Hugill, entitled, *Liver function and anaesthesia, Anaesthesiology, II: 567-588, 1950.*

Briefly then, the liver is the largest organ and by virtue of its many functions, has aptly been called the laboratory of the body, or the clearing house of the body. In it is everywhere multiformity, everywhere immensity. It has a double blood supply. Its duties are many and various and are particularly strenuous after ingestion of food or poison. Its activities include the breaking down of food materials (catabolism), the building up of essential materials for itself and the rest of the body (anabolism), the rendering soluble of difficultly soluble products for excretion (by conjugation) and the detoxifying of poisons.

In health the liver is remarkably capable of withstanding heavy strain, but it becomes readily susceptible to damage if its stores of carbohydrate (glycogen), protein and vitamins are low. Fortunately, however, the cells are possessed of extraordinary regenerative powers. Mann and Magath have shown that it is possible to remove all of the liver of the dog except the lower right lobes (approximately 70 per cent) without damage to the portal



and vena cava circulation; the animal does not seem to suffer from such loss. The reason for this may readily be ascertained by examination a few months after operation, when the two remaining lobes will be enlarged and the amount of tissue practically the same as before operation. But at once it must be pointed out that although histological repair may be complete, it does not necessarily mean that functional activity has been re-established. Such was shown to be the case when, after chloroform poisoning, liver tissue seems to be normal in three weeks; by functional tests physiological performance does not return to what it was for six weeks. A number of laboratory and clinical investigations have been made at McGill University since 1927. The bromsulphalein dye test was employed and compared with estimations of bile pigments in the blood and urine, showing that it afforded a much more definite index of injury to the liver cells. Even after fifteen minutes of chloroform inhalation healthy dogs always show considerable impairment of liver function; as a matter of fact, the damage is frequently so severe that recovery is not effected for eight or nine days. Following two hours of chloroform anaesthesia all of six weeks are required for a return to normal.

When ether is used similarly, the functions of the liver are also definitely damaged, in proportion to the degree and length of the narcosis, but they return to normal in about forty-eight hours, even after a two-hour period of anaesthesia. With nitrous oxide, as well as with ethylene, the experiments showed that when sufficient oxygen is supplied, anaesthesia, from one or two hours, produced neither immediate nor delayed impairment of hepatic function: whereas, when the percentages of oxygen were purposely reduced, immediate impairment of function resulted and required about six days for recovery. The important lesson in this is, *most carefully to avoid hypoxia during anaesthesia.*

Like investigations have revealed, at least from a practical point of view, that liver function is not disordered following the anaesthetics produced by the derivatives of barbituric acid, by avertin, by vinyl ether, and not at all by cyclopropane.

From a consideration of the effects of anaesthetics on the liver, two aphorisms may be engendered, namely, that chloroform is to be eschewed, and that *oxygen should be used with all "general" anaesthetics, indeed, even in many "regional" anaesthetics.* Just now, it is perhaps not impertinent to draw attention to the destructive changes in the brain when asphyxia accompanies nitrous oxide anaesthesia, so explicitly described by C. B. Courville (Pathogenesis of necrosis of the cerebral gray matter following nitrous oxide anaesthesia. *Ann. of Surg.* 107: 371, 1938).

Thus may be seen the importance of the functions of the liver. The ancients held this organ in high regard. They believed it to be the seat of the affections. But we must not forget that, with all its importance, it is still dependent upon the vital functions of other structures and we ought always to remember the expression, "interdependence of function."

Now there are indeed many other factors involved in the choice and administration of an anaesthetic, but we must content ourselves with a few

examples and leave the rest for further meditation. Pascal wrote in "Man's Disproportion": "Our senses can perceive no extreme. Too much noise deafens us, excess of light blinds us, too great distance or nearness equally interfere with our vision, prolixity or brevity equally obscure a discourse, too much truth overwhelms us."

So much then for a rather desultory discourse. It may suffice, however, to elucidate the importance of carefully selecting those anaesthetics and methods of administration that are least harmful.

Let us say, as Charles Eliot Norton wrote to a former pupil, C. C. Stillman that, "The greatest service which any man can render to his fellows consists *not* in any specific, and may be rendered in any profession. It consists in the influence, direct and indirect, which he may exert by force of character. Let him possess himself not merely of the common virtues of industry, but let him steadily aim to acquire open-mindedness, independence of judgment, generosity, elevation of purpose in his dealings with other men, and keep himself simple, pure, tender-hearted and sympathetic in relations with those nearest to him, and whether he be business man or clergyman, he will be doing the best service to his kind."

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# Pulmonary Emphysema

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**P**ULMONARY emphysema is a disorder of the lungs in which dilation of the alveoli takes place and the parenchymal tissue is ballooned or hyperinflated. Various classifications of emphysema have been presented but the physiological phenomena produced are probably best listed by Richards.

## Classification (after D. W. Richards, Jr.)

1. Acute Emphysema.
  - A. Acute physiologic emphysema.
  - B. Acute vesicular emphysema.
  - C. Acute bullous emphysema.
2. Chronic Emphysema.
  - A. Obstructive emphysema.
  - B. Bullous emphysema, air cysts of the lung.
  - C. Non-obstructive (senile, postural) emphysema.
  - D. Localized ("compensatory") emphysema.

### *Acute Emphysema*

Acute physiological hyperinflation of the lungs occurs in the normal person after strenuous exercise, or at high altitudes, and is readily reversible. Acute bronchial asthma or other conditions causing obstructive dyspnea will trap air in the lungs on the expiratory phase and will produce an acute vesicular emphysema. A foreign body in or an extrinsic pressure on the bronchus will cause a localized bullous emphysema in the segments of the lung distal to the obstruction.

### *Chronic Emphysema*

Chronic pulmonary emphysema is a common pulmonary disorder. In fact these changes of significant anatomic extent are found in about 5% of all autopsies. It is found in patients with a long standing history of cough especially those with a previous history of bronchial asthma, chronic pulmonary infection, in the diseases which produce pulmonary fibrosis and in patients with chest deformity. A large percentage of these patients are erroneously diagnosed "chronic bronchitis" because of the presence of a chronic cough. Chronic bronchitis recorded as a diagnosis has been proven wrong in about 80% of cases when a more careful examination is carried out. (1)

Chronic pulmonary emphysema develops over a long period and is evident in the middle aged patient with chronic respiratory complaints. The symptoms may be suddenly accentuated after a bout of pneumonitis or other respiratory infection. The consequences of the pathophysiological changes is a loss of pulmonary elastance and may lead to a pulmonary insufficiency. The major complaints in this group are chronic cough, wheezing and various degrees of dyspnea. The most common and important type encountered is



obstructive emphysema, also known as "hypertrophic emphysema" or as "diffuse obstructive emphysema".

Bullous emphysema, air cysts of the lung and pneumatoceles are synonymous terms. They may be single or multiple and are the result of trapping of air in pulmonary segments. This process can be considered an anatomic variant of chronic obstructive emphysema. Senile emphysema is part of the normal aging process with loss of elastic properties of the lungs, similar to the loss encountered in the cardiovascular system. Localized "compensatory" emphysema takes place around areas of fibrosis as a physiological process to replace the loss in lung volume. The same process occurs following lobectomy or segmental resection or in the contralateral lung after pneumonectomy but marked clinical symptoms do not ensue unless there has been a pre-existing tendency to trap air in the alveoli. The criteria for making a diagnosis of chronic pulmonary emphysema varies considerably as does the etiological factors responsible. Certain aspects are always found and will be discussed briefly.

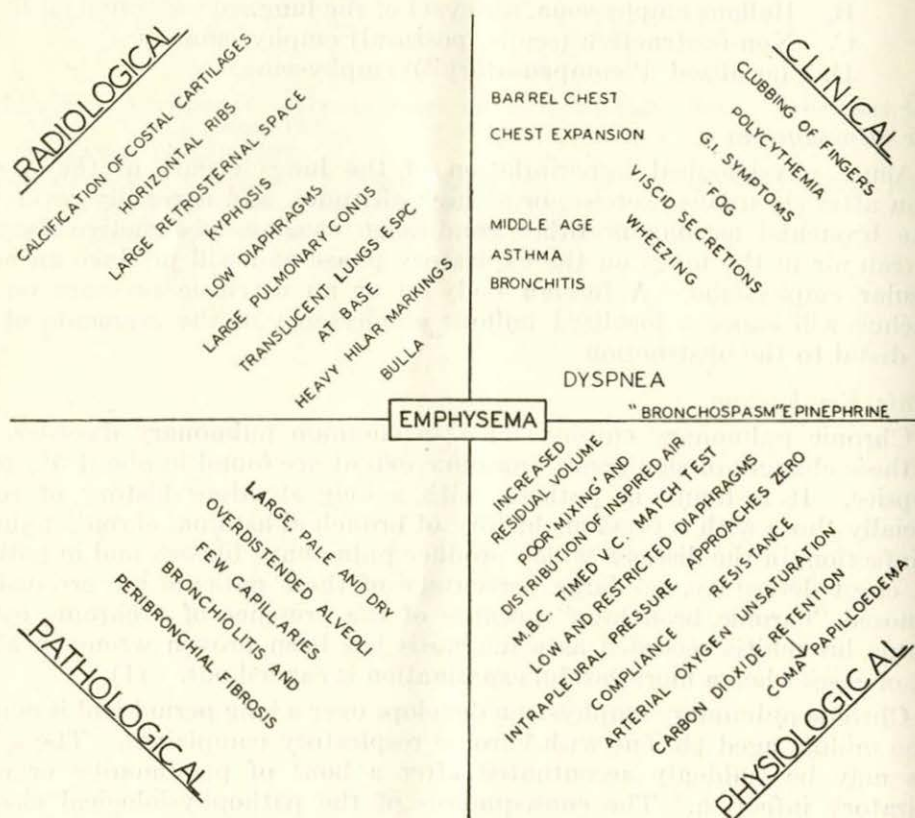


FIGURE 1. THE ESSENTIAL ASPECTS OF CHRONIC PULMONARY EMPHYSEMA



*Clinical Signs and Symptoms.*

Clubbing of the fingers, poor chest expansion, barrel chest and secondary polycythemia give little aid as to the diagnosis as they are not present until emphysema is well advanced and may be misleading because they may be the signs of other disorders. Although of insignificant value in diagnosis they receive attention in the classical textbook descriptions. Sometimes the emphysematous patient is diagnosed with the aid of a functional inquiry when the presenting complaints are those of another system. For instance the incidence of peptic ulcer is high with emphysema and some have spectacular weight losses due to dyspnea interfering with proper eating.

The diagnosis can easily be made when a middle aged patient with a history of chronic cough or asthma complains of increasing dyspnea, cough and viscid secretions from the lungs. With a careful history the cough symptoms will date back 15-20 years. You have to cross examine carefully because for some unknown reason people often deny such a long tussic history. The cough with tenacious sputum is usually worse in the morning and the patient is somewhat relieved of dyspnea after an effective coughing bout. Seasonal variation is noticeable; the symptoms are usually worse in the winter. Exertional dyspnea is the main feature in suspecting the underlying disorder. It is progressive from year to year and is markedly increased with any intercurrent respiratory infection. Fog exaggerates the symptoms and the increased death rate in the London fog of 1948 was largely composed of patients with emphysema.

The clinical response to oral ephedrine and in the more severe cases, aerosol epinephrine, is often of aid as a confirmatory test. These drugs act by reducing the oedema of the bronchial mucus membrane thereby facilitating proper air distribution. The rhonchi and expiratory wheezes heard with the stethoscope are caused by bronchial oedema and viscid secretions blocking the airway. It is doubtful if any so called "bronchospasm" exists. Bronchiolitis with inflamed oedematous membrane and viscid secretions can be visualized by bronchoscopic examination and shrinking of the oedematous mucus membrane directly when epinephrine is given.

*Radiological Aspects.*

Gross radiological changes may or may not be present but an x-ray of the chest will often show some of the characteristic changes listed in Figure 1 especially when the disease is advanced. Unfortunately there is a tendency in the medical profession to await radiological confirmation before establishing that the patient has emphysema and in the meantime entertain such terms as chronic bronchitis to explain the cough, or arteriosclerotic heart disease to explain dyspnea. Overaeration of the lungs can more readily be radiologically detected if inspiratory and expiratory films are done, and, better still, if the patient is studied fluoroscopically.

*Pathological Aspects.*

Lanneac first described the large pale and dry lungs of emphysema which signified the two underlying pathological changes—large overdistended alveoli



and few capillaries; other workers have conclusively shown that the majority of deaths are due to a bronchiolitis and further bronchiole narrowing caused by fibrosis in the inflamed areas. The increased resistance to blood flow through the reduced capillary bed of the lungs caused a hypertension of the lesser circuit and may lead to frank cor pulmonale in a few cases. But the majority of deaths are due to intercurrent pulmonary infection.

#### *Physiological Aspects.*

The physiological aspects of emphysema are a virtual playground because everything you measure is changed. It must be remembered that physiologic tests provide only an analysis of functional disturbances and not an anatomic, pathologic or microbiologic diagnosis.

As air trapped in the lungs the residual volume of the lungs is increased. If the residual volume is over 35% of the total lung capacity, emphysema is said to be present (1). This is also a normal physiologic disturbance of aging. Uneven distribution of inspired air occurs in numerous pulmonary diseases, especially emphysema, due to changes in the distensibility of the lungs and patency of the airways. Methods designed to measure gas distribution have been reviewed by Fowler (2). Maximum breathing capacity is reduced out of proportion to decrease in vital capacity in patients with diminution in elasticity of the lung tissue. A timed vital capacity (3) gives a rough estimation of reduction in expiratory flow velocity as produced by emphysema. A simple modification of this is the match test. Have the patient keep his mouth open and try to blow out a match. This shows the reduction in airflow velocity. Intrapleural pressure is of reduced negativity and is not practical in the study of emphysema but directional changes in intrapleural pressure are reflected in changes in the peripheral venous pressure and intraoral pressure (4). Normal intravenous pressure will help distinguish dyspnea of congestive heart failure from emphysema. Measurements of relaxation pressure (compliance) and work loops of breathing are carried out only in highly specialized studies. It is interesting to note that the efficiency of breathing, as calculated from work loops and oxygen consumption, is only about 10%. Resistance in the airways with the laminar and turbulent components are also out of the range of practical studies.

Arterial blood gas studies on the other hand are very practical and can be carried out without elaborate equipment. The major function of the lungs is to arterialize venous blood, that is, to add O<sub>2</sub> and remove excess CO<sub>2</sub>, so that is an important test of pulmonary function. Peripheral venous blood analysis would be purposeless because of the added factors of tissue metabolism and the variable rate of venous blood flow. The improved oximeters on the market permit easy determination of changes in arterial O<sub>2</sub> saturation of the blood with exercise but do not give any information regarding the pH and CO<sub>2</sub> content. This is essential data to the analysis of pulmonary function. The necessary basic equipment for blood gas analysis is a manometric Van Slyke apparatus and pH meter and these should be available in most general hospital laboratories. Many advanced emphysematous patients are in a state of respiratory acidosis due to CO<sub>2</sub> retention in the blood. With super-



added infection to obstruct the airways these patients may easily become markedly acidotic and even develop the so called "CO<sub>2</sub> Narcosis" if oxygen therapy is improperly instituted. Furthermore the appearance of cyanosis is an unreliable guide to arterial oxygen saturation. Definite cyanosis is not recognized clinically until the oxygen saturation falls below 75% (6).

In the Pulmonary Laboratory, Camp Hill Hospital, Halifax, N. S. the following equipment is used:

Ventilatory and Spirometric studies—9½ litre Collins Respirometer.

"Nitrogen washout index" and residual volumes—

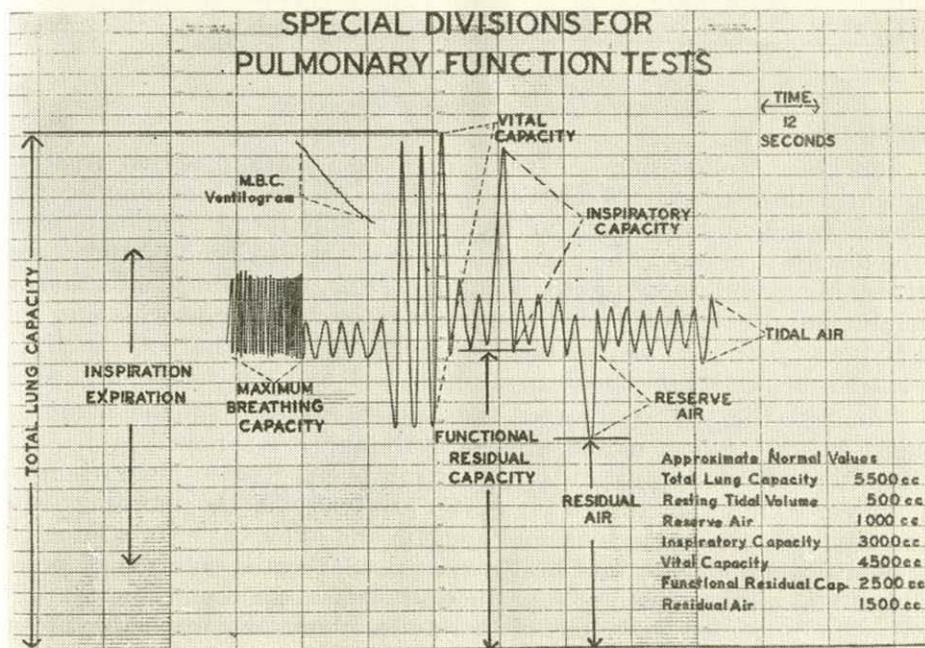
Collins 120 litre gasometer (modified) and Scholander micro gas-analyzer.

Arterial Blood Gas Analysis—Courmand arterial needles,

Beckman pH meter and Van Slyke manometric apparatus.

Oximeter studies—Elema Type B 3 (supplied for study through courtesy of Mr. N. Heald, X-ray and Radium Supplies)

The special divisions for spirometric and ventilatory studies used are shown in Fig. 2 with the approximate normal value. The actual normal values for each individual case are derived from the formulae of Baldwin, Courmand and Richards (7).



A patient with emphysema who is subjected to pulmonary function studies can be assessed objectively as to the amount of disability and furthermore an objective estimation of the value of treatment can be derived. In Fig. 3 the data on a moderately severe case of pulmonary emphysema is shown.



## CAMP HILL PULMONARY FUNCTION LABORATORY

## — OBSTRUCTIVE EMPHYSEMA —

VENTILATION & SPIROMETRIC STUDIES		
CALCULATED VITAL CAPACITY	4000 cc	
CALC. MAX. BREATHING CAPACITY	136 l.p.m.	% OF NORMAL
ACTUAL VITAL CAPACITY	3660 cc	91.6
ACTUAL M. B. C.	68.8 l.p.m.	50.6
RESERVE AIR	860 cc	Sl. Reduced
RESTING MINUTE VENTILATION	11.95 l.p.m.	Sl. Increased
RESIDUAL VOLUME	51.0 %	(Normal < 35%)
TOTAL CAPACITY		
N <sub>2</sub> WASHOUT INDEX	6.0 %	(Normal < 2.5%)
ARTERIAL BLOOD GAS STUDIES		OXIMETER STUDIES
pH	7.41	REST (ON AIR) 94%
OXYGEN CONTENT	81 mm	REST (ON 100% O <sub>2</sub> ) 100%
OXYGEN CAPACITY	92 mm	EXERCISE (ON AIR 2 MIN) 83%
% SATURATION	90%	
CO <sub>2</sub> CONTENT	46.3 Vols %	

FIGURE 3

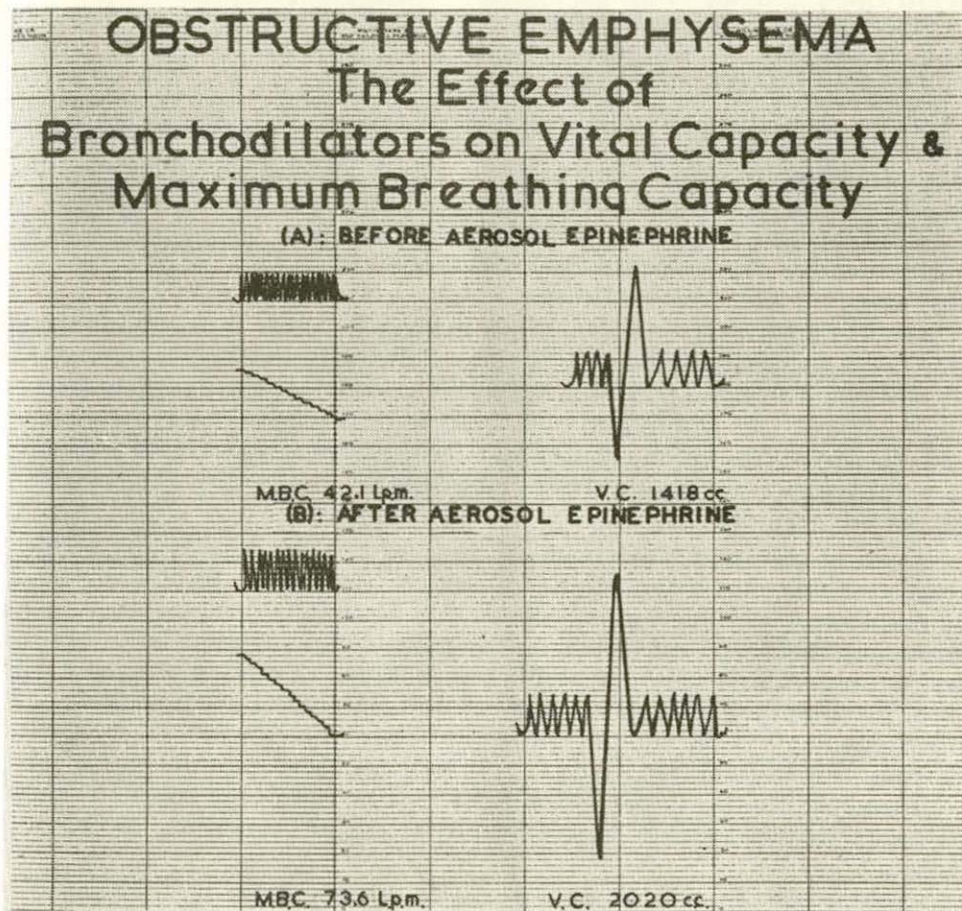
*Treatment.*

Pessimism concerning the value of preventive and actual treatment is frequently unjustified. Much can be done for the symptomatic relief of dyspnea, cough and expectoration and presumably for prevention of extension of the disease process. The basic principles of therapy are to improve ventilatory function and to promptly treat recurring respiratory infections. The fundamental derangement of the lungs is an irreversible process and this has led to many programs of treatment, some of which are hard to justify. The basic treatment is mainly medical and physical, and sometimes surgical.

Medical therapy is directed towards alleviation of the symptoms of cough, wheeze, dyspnea and sputum. Smoking is known to be a cough irritant and efforts to curtail this habit may help. Many heavy smokers do not agree. They feel that a cigarette, especially in the morning, will help them eliminate the viscid tenacious sputum and allow easier breathing. Occupational dusts and gases are best avoided. Saturated solution of potassium iodide 10-20 minims three or four times daily is a good expectorant. It acts by causing increased secretions of the mucus glands which makes the sputum less viscid. Other expectorants, such as ammonium chloride, can be used if uncontrolled reaction to the iodide solution occurs.

As bronchial obstruction is partly due to oedema of the mucosa and viscid secretions, therapy to alleviate the oedema factor is necessary. In the mild cases of emphysema ephedrine tablets 50 mg. two to four times daily will produce considerable relief. In the more advanced cases epinephrine

0.3 - cc. subcutaneously, or more conveniently as an aerosol spray of one of the commercial preparations such as Vaponephrin or Isuprel will effectively reduce the bronchial oedema. The effect is rapid when given by means of a proper small particle size nebulizer, because some of the medication will be absorbed from the alveoli into the pulmonary artery system simulating an arterial injection. Fig. 4. shows the effect of a so called aerosol "bronchodilator."



Aminophylline is a useful medicant. It can be administered by the oral or rectal routes and, in cases of dire distress, can be used intravenously. The oral preparations on the market at present have limited side effects and those containing barbiturates and local anaesthetic, such as Dainite tablets, are always well tolerated. The common mistake made in prescribing oral aminophylline is giving it in the presence of food in the stomach. Experimentally it has been shown that the absorption is much enhanced on an empty stomach. When rectal suppositories are not well tolerated the drug may be used in aqueous solution, 0.5 gm. doses am. & h.s. by catheter.



Bronchopneumonia causes the majority of deaths in advanced emphysema. Purulent sputum necessitates the administration of antibiotics, and repeated courses are necessary. Penicillin is the drug of choice in those who respond because the development of resistant strains of organisms in the sputum is not so likely to occur. Sulfonamides are also useful. If the broad spectrum drugs are used, the course of medication should be restricted to four or five days, and not repeated more often than necessary. In this manner the unpleasant side effects are usually avoided.

When a case appears to become refractory to the above medical regime and the patient becomes hypoxic, oxygen by nasal catheter 1-2 litres per minute with Demerol 50-100 mgm. q.8h. for a period of 4-5 days will improve the condition. After the rest the former therapy again may be reinstated. High oxygen concentrations may precipitate "CO<sub>2</sub> Narcosis" in about 10-15% of advanced emphysema. This state of stupor which progresses to coma and is due to increased carbon dioxide levels in the blood which is brought on by depression of the respiration with oxygen therapy. If this should occur, the treatment is hyperventilation with room air. This is best carried out in an "iron lung" or tank respirator.

ACTH and Cortisone therapy has little or no place in the management of emphysema, except perhaps when a pre-existing asthmatic condition continues. If it is remembered that asthma is characterized by repeated attacks of dyspnea whereas the emphysematous patient is dyspnoeic on exertion at all times, these two conditions should not be confused. Most asthmatics merge into emphysema after a number of years and this is the type that occasionally benefits by hormonal therapy.

Physical therapy in emphysema is directed towards improving the mechanics of breathing and attempting to correct the over inflation of the lungs. The diaphragmatic function is reduced and as the diaphragms are responsible for moving about 60% of the air in the normal, proper remedial exercises will often improve the ventilatory ability up to 30%. Training the patient in the use of his diaphragms is often difficult but the results are gratifying. Pneumoperitoneum (8) therapy, small refills of air at two week intervals, aids in restoring the normal convexity to the diaphragms. Suprapubic supports (9, 10) such as the Burgess-Gordon belt, are also helpful in suitable candidates and accomplish somewhat the same physiological correction as pneumoperitoneum.

Chronic cor pulmonale may eventually develop in 30-40% of cases. This type of congestion responds somewhat poorly to digitalis but diuretics and low-sodium diet will temporarily relieve the increased venous pressure and tissue congestion. Phlebotomy, in the presence of secondary polycythemia, to normal hematocrit levels should be carried out.

Emphysematous bullae, single or multiple, sometimes require surgical treatment. The solitary type of air cyst which is compressing otherwise functional lung tissue should be removed by excisional therapy. Spontaneous pneumothorax resulting from emphysematous bullae may require re-expansion by means of an intrapleural catheter and suction. When re-expansion is accomplished, pleural symphysis should be made by means of

an intra-pleural irritant such as 1% silver nitrate. If not, the recurrence rate of collapse is about 20%.

In the recent literature some authors have been advocating the use of intermittent positive pressure breathing. The lung parenchyma is already hyperinflated and it is not conceivable how further hyperinflation with positive pressure will benefit. In cases of pulmonary insufficiency it may help to hyperventilate. Exsufflation with expiratory negative pressure, as advocated, by Barach et al., is sounder therapy from the physiological point of view. The clinical application of this in its present form is still somewhat cumbersome.

In summary, of the various types of emphysema, the chronic obstructive type is by far the most common. The clinical, radiological, pathological and physiological aspects have been briefly discussed. The important point is to realize that permanent lung damage has occurred when symptoms are present. This process is irreparable but further damage can be prevented by judicious management. A discussion of the various methods of therapy is given which is directed towards alleviation of symptoms.

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# Doctor John Fox. 1793-1866

K. A. MacKenzie, M.D.  
Halifax, N. S.

**D**OCTOR John Fox was the fourth native born Nova Scotian to follow the medical profession. Those who are known to have begun the study of medicine before Fox were Samuel Head, Halifax, David Barnes Lynds, Truro and William Bruce Almon of Halifax. Dr. Fox was one of the few who kept a diary much of which has been preserved, and is in possession of his descendants at the present day. In 1895 MacLean's Magazine published a biographical article with two illustrations, a photograph of Dr. Fox and a picture of the H.M.S. Majestic on which he served as a surgeon for two years.

John Fox was born at Cornwallis on May 23, 1793, one of four children born to Cornelius Fox and his second wife Olive Cleveland. His father had come to Nova Scotia in 1772 from County Cork, Ireland, at the instance of the "Church Society", as a schoolmaster for Horton and Cornwallis. At this school John received his general education and at the age of seventeen went to England for further study. Among his preserved records are a Diploma in Anatomy, Surgery and Physiology and certificates that he attended the "Theatre of Anatomy" Peter Street, Dublin. Teachers mentioned are Sir Anthony Carlisle, Royal College of Surgeons, London and Sir George Tuthill.

In 1813, at the age of twenty-one, he was appointed Assistant Surgeon on H.M.S. Majestic, on the recommendation of Surgeon David Rowlands who at that time was in charge of the Naval Hospital at Halifax. He had a remarkable experience which included being present at the taking of Washington and witnessing the burning of the Capitol. Many interesting letters, written to his family and relating his experiences, have been preserved.

After his discharge from the Naval Service he returned to London and spent a year at Middlesex Hospital paying special attention to Midwifery. On his return to Nova Scotia he practised in several communities, in turn, at Barrington, Chester, New Glasgow, Guysborough, Halifax, Windsor, Horton and Bridgetown.

The first Barrington period was 1819 to 1836., where he was associated with Dr. Jamieson, a retired Officer of the British Army and Dr. George Snyder of Shelburne, who is reported as having said that Fox was a good surgeon and had forgotten more than he (Snyder) ever knew. Fox was Surgeon to the Shelburne Militia in 1827. There are no records of his Chester period, but he was there for a few years.

From 1841 to 1846 he practised in New Glasgow, the first medical man to reside in that village and the only one until the arrival of Dr. Alexander Forrest in 1843. His nearest colleague was Dr. James Donnelly at Albion Mines (Stelarton). Fox in his diary refers to consultations which he had with Donnelly whom he speaks of "as a fine upright man." New Glasgow records contain the names of well-known families, Graham, Fraser, Carmichael, Chisholm, Ross and MacNeill. While in New Glasgow, Fox married Agnes Barry of West River and they had several children.

In 1846 Fox moved to Guysborough where he lived for about five years. Here was born a daughter who became Mrs. Harlow, the author of the Article in MacLean's Magazine.

In 1852 he was living at Halifax, on Hollis St., opposite the Halifax Hotel. After short periods at Windsor, Horton and Bridgetown he returned to Barrington where he had many friends and where he wished to spend his declining years. He was living at North East Harbour when the end came in 1866, following a year of suffering. In his later years he is described as a portly figure, six feet, one inch tall with a fresh complexion and an abundance of iron grey hair.

There are many points of interest in the Life of John Fox. He had excellent training in Dublin and London and he was recognized as a good surgeon for his time. It was long before antiseptic surgery became known and anaesthesia only came in late in his professional life. To-day, one can hardly appreciate the courage of the surgeon who had to amputate limbs without any anodyne except alcohol. It is on record that Fox amputated a leg at the hip joint, a great undertaking in his day. The fee was twenty pounds but was never collected. Transportation in those days was usually by horseback; a trip of fifteen or twenty miles was common. His diary records a visit fifteen miles from his house to see a family of five children, all ill with scarlet fever. The saddle bag contained not only medicines but a liberal supply of groceries.

Dr. Fox was a Charter Member of The Medical Society of Nova Scotia in 1854, at which time he was residing at Windsor. He was a prominent Mason and helped to organize several lodges in various parts of the Province.

Dr. Harlow, well-known pathologist at Camp Hill Hospital is a great grandson.



# Fourth Annual Meeting

CANADIAN PUBLIC HEALTH ASSOCIATION—ATLANTIC BRANCH

ISLE ROYALE HOTEL—SYDNEY, NOVA SCOTIA

September 9 and 10, 1954

## Thursday, September 9th

- 8.30-9.30 **Registration**—All those in attendance are expected to register. A fee of \$2.00 is charged to cover in part the expenses of the meeting.
- 9.30 **Address of Welcome**—Dr. H. E. Kelley, President Atlantic Branch, Canadian Public Health Association.  
**General Session**—9.35 a.m. to 12.30 p.m.  
Chairman—Dr. A. C. Guthro.
- 9.35-10.00 **Standard Treatment and Criteria of Cure in Venereal Disease.**  
Dr. Clarence Gosse, Professor of Urology, Dalhousie University.
- 10.00-10.30 **Child Health Conferences in Nova Scotia.**  
Miss Phyllis J. Lyttle, R.N., Superintendent of Public Health Nurses.  
Discussion by Miss Dorothy Fowler, R.N., Atlantic Supervisor, Victorian Order of Nurses.
- 10.30-10.40 **Recess.**
- 10.40-12.30 **Symposium on Facilities Available to Help Rehabilitate:**
- (a) The Tuberculous Patient—Mr. Fred Barrett, Director of Rehabilitation, Nova Scotia Tuberculosis Association.
  - (b) The Arthritic Patient—Dr. J. F. L. Woodbury, President, Nova Scotia Arthritis and Rheumatism Society.
  - (c) The Polio Patient—Miss Osra B. Morton, M.C.S.P., C.P.A., Physiotherapist, Can. Found. for Poliomyelitis.
  - (d) The Paraplegic Patient—Dr. W. D. Stevenson, Asst. Prof. of Surgery in Neurosurgery, Dalhousie University.
  - (e) The Cerebral Palsy Patient—Miss Margaret Pirie, Teacher, Special Class for Cerebral Palsy Children.
  - (f) Discussion. (Above Presentations limited to 15 minutes each).
- Moderator**—Dr. A. C. Guthro.
- 12.30-2.30 **Recess for Luncheon.**  
**General Session**—Chairman—Miss Phyllis J. Lyttle.
- 2.30-3.00 **A Modern Immunization Program for All Ages.**  
Dr. C. B. Stewart, Dean of Medical School, Dalhousie University.
- 3.00-5.00 **Symposium on Health of the School Child.**
- (a) Nutrition—Miss M. T. Doyle, Nutritionist, Department of Public Health.
  - (b) Dental Care—Dr. W. G. Dawson, Director, Division of Dental Services, Department of Health.
  - (c) School Sanitation—Mr. W. J. Chisholm, Sanitary Inspector.
  - (d) Teaching of Health—Miss Ellen Reid, Normal College.
  - (e) Hearing Defects—Miss Dorothy Levine, Audiometer Technician.

(f) Sight Defects—Miss Gertrude MacNeil, R.N., School Nurse, Glace Bay, N. S.

(g) Discussion.

**Moderator**—Miss Phyllis J. Lyttle.

(N.B.—Each of the above papers is limited to 15 minutes).

7.30 **Annual Banquet.**

Speaker—Magistrate E. MacK. Forbes, Glace Bay, N. S.

Subject—The Life of Giant MacAskill.

**Friday, September 10th.**

**Business Session.**

9.00-10.15 Chairman—Dr. H. E. Kelley, President.

**General Session**—Chairman—Miss Electa MacLennan, R.N., Director, School of Nursing, Dalhousie University.

10.30-11.00 **Modern Trends in Psychiatry**—Dr. Clyde Marshall, Director, Neuro-psychiatric Division, Department of Public Health.

11.00-11.30 **The Child Guidance Clinic**—Dr. F. A. Dunsworth, Ass't Professor of Psychiatry, Dalhousie University.

11.30-11.40 **Recess.**

11.40-12.10 **The Function and Status of Poor Boards in Nova Scotia**

Mr. L. T. Hancock, Director Maritime School of Social Work.

12.10-12.40 **Water Pollution and Sewage Disposal in Nova Scotia.**

Mr. R. D. MacKay, Sanitary Engineer.

12.40-2.30 **Recess for Luncheon and Transportation to Point Edward Hospital.**

2.30-4.30 **Sectional Meetings at Point Edward Hospital.**

**Section on Diseases of the Chest.**

**Section on Nutrition.**

**Section on Sanitation.**

**Section on Industrial Nursing.**

4.30 **Afternoon Tea**—Host—Dr. S. J. Shane and Staff of Point Edward Hospital.

**Friday, September 10th**

**Sectional Meetings—Point Edward Hospital.**

**Section on Diseases of the Chest**—Sponsored by The Nova Scotia Tuberculosis Association.

Chairman—Dr. D. G. McCurdy, Divisional Medical Health Officer, Sydney.

2.30 **An Outbreak of Tuberculosis in a School and Community.**

Dr. G. M. Smith, Divisional Medical Health Officer, Windsor, N. S.

3.00 **Tuberculous Meningitis Treated by Cortisone.**

Dr. S. J. Shane, Medical Superintendent, Point Edward Hospital.

3.30 **Results to Date of Hospital Admission X-Ray Program.**

Dr. G. G. Simms, Ass't. Deputy Minister of Health.



- 4.00 **The Importance of the Bacillary Status.**  
Dr. C. J. W. Beckwith and Dr. J. E. Hiltz, Medical Superintendents of Halifax Tuberculosis Hospital and Nova Scotia Sanatorium, respectively.
- Section on **Nutrition**—Chairman—Dr. Juanita Archibald, Director Division of Nutrition, Department of Public Health.
- 2.30 Subjects to include **The Diet Manual, The School Lunch Program** and others to be announced.
- Section on **Sanitation**—Chairman—Mr. R. Donald MacKay, Sanitary Engineer, Department of Public Health.
- 2.30 Demonstration and Talk by Representative of **Diversey Corporation.**
- 3.15 Discussion.
- 3.30 Films on Water Supplies.
- 4.00 Discussion.
- 5.15 Question Box.
- Section of **Industrial Nursing**—Chairman—Miss Mildred I. Walker, R.N., Senior Nursing Consultant, Occupational Health Division, Dept. of National Health and Welfare, Ottawa.
- 2.30 **Subject—"The Nurse in Industry"**—A discussion of present industrial nursing services and how the efficiency of these may be increased to meet Canada's expanding economy.
- N.B.—The Industrial Nurses plan to continue their Sectional Meeting on Saturday morning as well.

**Reservations for Hotel Accommodation**—These should be made as soon as possible direct with the management of the Isle Royale Hotel, Sydney, N. S., giving proposed time of arrival and stating that you are attending the meeting of the Canadian Public Health Association, Atlantic Branch.

# The College Of General Practice

## *Membership Fees and Privileges*

1. Honorary Members—No fee, no vote, may not hold office.
2. Active Members—Initial fee \$30.00 for first year, then \$15.00 per year. May vote and hold office.
3. Associate Members—Fee of \$10.00 per year except for those in first or second years of practice or assistantship, when fee shall be \$5.00 per year. The fee for internes shall be \$5.00 per year. Associate members may not vote nor hold office.

## *Foundation Fund and Membership*

On June 30th there had been received 400 applications for membership. There were 135 donations to the Foundation Fund. The receipts from dues and donations were \$21,500.00. The Foundation Fund will close at the time of the annual meeting in June, 1955. Donations of any size to this Fund are welcomed. Those who donate \$100.00 or more will be considered Foundation Benefactors and suitable recognition given them.

## *Provincial Chapters*

Any province having six members of the College may make application to the Board of Representatives for permission to form a chapter.

The officers shall be Chairman, Secretary and Treasurer. These officers along with the provincial representative on the Board of Representatives of the College shall constitute the Executive of the chapter. The Executive shall appoint a Credentials Committee.

The Provincial Chapter may authorize the establishment of component chapters within its boundaries. Any six members of the College residing in a particular city, county or district may petition their provincial chapter for the formation of such a component chapter.

## *Nova Scotia Chapter*

It is hoped shortly to petition the Board of Representatives for the formation of a Nova Scotia Chapter. We have far more than the minimum requirement of six, and enthusiasm is running high. In this connection, Doctor Victor Johnston, Executive Director of the College, will be at the meeting of The Medical Society of Nova Scotia in Sydney in September and hopes to address the General Practitioners at their initial business meeting which is provisionally arranged for 8.30 p.m. on September 6th.

It is hoped that as many general practitioners as possible, who are planning to attend the annual meeting, will be present at this session. Doctor Johnston, on behalf of the College, will be requesting names of members who will act as provincial consultants on such committees as hospitals, constitution and by-laws, education, fellowship and certification in general practice, etc.

## *A Thought for General Practitioners*

Is it not time that we general practitioners took stock of ourselves? For years we have been loudly lamenting and moaning over the fact that our field of practice is being narrowed by various agencies; by government schemes for preventive medicine in Tuberculosis, Venereal Disease, Cancer, Immunization, Mental Hygiene; by private organizations zealously looking after Rheumatism and Arthritis, Multiple Sclerosis, Paraplegias; by hospital boards aided and abetted by the Royal Colleges with their mania for certi-



fications; by some of our specialist colleagues in their desire to be monopolists in their own fields; and we have done nothing but talk, talk, talk.

Why is it that the monthly meetings at the Infirmary in Halifax are well attended by general practitioners? Is it because we are treated like children, with a Sister at the door to tick off our names as we enter, and if we do not enter often enough we are taken off the Active list and relegated to the Courtesy staff with allegedly lesser privileges? Why are we noticeably absent from the Friday afternoon clinics at the Victoria General Hospital, the monthly meetings of the Grace, the weekly ward walks at the Children's? Is it because we relish compulsion in gentle form in the one case and do not respond voluntarily to opportunity in the other?

For some time we in Halifax have advocated a general practitioner service at the Victoria General Hospital, so far without success. Do we deserve such success? It *can* be achieved when we realize our own strength and our shortcomings. Look at the Executive of The Medical Society of Nova Scotia, at the Halifax Medical Society; general practitioners are in the majority everywhere, but as individuals, with no unity of thought or purpose.

In Buffalo, U.S.A., there are six hospitals affiliated with the University Medical School. Three of them have their out-patient departments staffed entirely by general practitioners. They require that the participating general practitioners devote two hours a week, and there are 37 such doctors. This experiment has been working for two years and this Spring they had 70 applications for these positions. General practitioners are elected to the Board of the hospital and are on the staff of the University Medical School. They have equal privileges with their specialist colleagues. But privileges carry responsibilities, and each doctor must attend a Saturday morning pathological conference, and an hour's seminar once a week for forty weeks.

I wonder how many of us would really be prepared to undertake similar service; to organize our work so that we *could* undertake such services. If we are how can we bring this state of affairs about?

By becoming *active* members of the General Practitioners Society and if possible the College of General Practice; by becoming a tightly knit and well-organized group, willing to subject ourselves to control and even discipline by our own Society, by showing our specialist colleagues, who now make up most hospital boards, that with privileges we are willing and anxious to accept responsibility and in due course we will be in a position not only to request but to demand our rightful place in the professional life of our community.

Our American friends who have tried this procedure insist that a rigid control over their own members is an absolute essential to success. There is no doubt that such recognized control and discipline would produce opportunities for service which are now non-existent, would give us an influence which would not be disregarded by any group, would improve our relationship with our specialist colleagues and raise to unprecedented heights the status of the general practitioners in the community.

What now?

Do we talk or act?

F. MURRAY FRASER,  
Secretary, General Practitioners' Branch.

## Forty-Three Doctors Given Awards At The 10th Annual Physicians' Art Salon, Vancouver

SALON M and the Main Mezzanine, Hotel Vancouver, were transformed into an art gallery from June 14-18. More than 600 Fine Art exhibits, Monochrome photographs, and Colour Transparencies were on display for the entire week of the C.M.A. Convention. All entries were the tangible result of after-hours work by Canadian physicians from all parts of the country. The paintings and photographs were displayed on panels, and there were regular showings of the colour transparencies.

Salon was again organized and sponsored by the Physicians' Art Salon Committee and Frank W. Horner Limited, the Montreal pharmaceutical house.

### A Difficult Choice

The Jury of selection; chosen by Dr. John L. Parnell of Vancouver, was made up of Lawren Harris, L.L.D., B.C. Binning, and Jack V. Long; and spent seven long hours judging the three sections. The Fine Art section was subdivided into Traditional, Contemporary, and Portrait. Prizes were awarded in each of these categories. Engraved plaques and awards of merit are furnished by Frank W. Horner Limited.

### Art Salon Calendar

A selection of the winning works will appear in the Physicians' Art Salon Calendar, 1955. The Calendar is sent to physicians all across Canada during the month of November. Any physician not receiving his copy may obtain one by writing Frank W. Horner Limited, P.O. Box 959, Montreal.

The Art Salon Calendar and blotter series will also include contributions from the Palette Club which is composed of exhibitors who have taken a first prize in previous years, plus the popularity award winners which are determined by visitors to the Salon.

### List of Award Winners

1954

### PHYSICIANS' ART SALON PRIZE WINNERS

#### FINE ART—Traditional

- |      |                     |                                     |
|------|---------------------|-------------------------------------|
| 1st. | "Shore Farms".....  | E. R. Rafuse, M.D., St. James, Man. |
| 2nd. | "Coal Harbour"..... | G. L. Burke, M.D., Vancouver, B. C. |

#### Awards:

- |                               |   |
|-------------------------------|---|
| "Rosenberg's Farm".....       | A. G. MacKinnon, M.D., Vernon, B. C.    |
| "Still Life".....             | John L. Parnell, M.D., Vancouver, B. C. |
| "Torremolinos".....           | W. D. S. Cross, M.D., London, Ont.      |
| "Study in Silver".....        | W. J. Hart, M.D., E. Kildonan, Man.     |
| "Lone Butte".....             | L'Eaubois, New Westminster, B. C.       |
| "Autumn".....                 | Ella Evans, M.D., West Vancouver, B. C. |
| "Market Square—Hamilton"..... | F. B. Bowman, M.D., Hamilton, Ont.      |



- "Harmony Harbour"..... D. F. Macdonald, M.D., Yarmouth, N. S.  
 "Cariboo Winter"..... J. C. Haramia, M.D., Williams Lake, B. C.  
 "Late Afternoon"..... D. W. Burgess, M.D., Campbellford, Ont.

**Portrait**

- 1st. "The Old Fisherman"..... S. L. Williams, M.D., Vancouver, B. C.  
 2nd. "Chloe"..... W. J. Hart, M.D., E. Kildonan, Man.

**Awards:**

- "Portrait"..... E. V. Currie, Dorval Station, Que.  
 "Ruth"..... M. F. Newell, M.D., Edmonton, Alta.  
 "The Hunter"..... M. H. Connell, M.D., Scarborough Jet., Ont.

**Contemporary**

- 1st. "Child at Play"..... H. Baker, M.D., Vancouver, B. C.  
 2nd. "The Card Game"..... M. S. Wilson, M.D., Toronto, Ont.

**Awards:**

- "Four Figures"..... J. M. Parker, M.D., Toronto, Ont.  
 "Portrait de Mlle. X"..... Paul Lariviere, M.D., Montreal, Que.  
 "Terminus"..... J. A. Weir, M.D., Cooksville, Ont.  
 "Fishing Stage"..... G. H. Agnew, M.D., Toronto, Ont.

**MONOCHROME PHOTOGRAPHY—**

- 1st. "Ronald"..... W. P. Goldman, M.D., Vancouver, B. C.  
 2nd. "Passing Parade"..... Alex Riehm, M.D., Montreal, Que.  
 3rd. "Drifted Pines"..... F. T. Dennis, M.D., Port Arthur, Ont.

**Awards:**

- "Death Valley Dunes"..... G. B. Helem, M.D., Port Alberni, B. C.  
 "Silver Spires"..... J. D. Bricker, M.D., Toronto, Ont.  
 "Migraine"..... E. V. Spackman, M.D., Lethbridge, Alta.

**COLOUR TRANSPARENCIES**

- 1st. "Coy"..... W. R. Read, M.D., Drumheller, Alta.  
 2nd. "Spray 'n Rain"..... W. L. Percival, M.D., Windsor, Ont.  
 3rd. "Television"..... A. W. Gyorf, M.D., Glace Bay, N. S.

**Awards:**

- "Aquabatics"..... J. E. Fox, M.D., Edmonton, Alta.  
 "Sabbath Calm"..... H. W. Schwartz, M.D., Halifax, N. S.  
 "Autumn Glory"..... J. C. Sibley, M.D., Hamilton, Ont.  
 "Eventide"..... L. R. Hirtle, M.D., Halifax, N. S.  
 "The Camp at Night"..... H. E. Meema, M.D., Toronto, Ont.

**POPULARITY AWARDS****Fine Art**

- "Nuliasak"..... J. A. Weir, M.D., Cooksville, Ont.

**Monochrome Photography**

- "The Ninety and Nine"..... C. A. Cleland, M.D., Toronto, Ont.

## Personal Interest Notes

The following were successful candidates in the Medical Council of Canada examinations held at Halifax in April: Robert Norman Anderson, St. Peter's Bay, P. E. I.; Martin Bandler, Alberton, P. E. I.; David Harry Blinkhorn, North Sydney, N. S.; James Allan Brander, Wallace, N. S.; Lieselotte Brown, Dartmouth, N. S.; John McCurdy Burris, Upper Musquodoboit, N. S.; Joseph Cairn, Iona, P. E. I.; Alexander Newell Campbell, Yarmouth, N. S.; William Albert Condy, George Harvey Cook, Louis Cullinan, Halifax, N. S.; Ralph John Day, Gaultois, Newfoundland; Charles Frederick Raysheal di Profio, Sydney, N. S.; Charles MacNeill Dewar, Brudenell, P. E. I.; Lionel Gordon Clement Dockrill, Halifax, N. S.; George Everett Eddy, Bathurst, N. B.; James Alexander Gibson, Fredericton, N. B.; Maurice Glickman, Sydney, N. S.; Harold Grant Good, Fredericton, N. B.; Charles Horace Graham, Charlottetown, P. E. I.; Clarence Maze Hardy, Halifax, N. S.; James Frederick Harrigan, Edmundston, N. B.; Tremaine Edmund Heffler, Halifax, N. S.; Aubrey Densmore Hudson, Moncton, N. B.; Percy Hugh Kirkpatrick, Aylesford, N. S.; Irving Herdsall Koven, Grand Falls, N. B.; Paul Lois Landrigan, Cambridge Road, P. E. I.; William Mitchell Larsen, New Glasgow, N. S.; James Hugh Lounder, Moncton, N. B.; Eldred Hugh MacDonell, Port Hood, N. S.; Lennis Ralph McFadyen, Cornwall P. O., P. E. I.; Adrian MacKenzie, Stellarton, N. S.; Donald Irving MacLellan, Moncton, N. B.; David Everett MacLeod, Pictou, N. S.; Carl Joseph Mader, Mahone Bay, N. S.; Thomas Walter MacLean, Westville, N. S.; Lionel Russell McMaster, New Waterford, N. S.; Margery Una Morris, Dartmouth, N. S.; Hazel Jones Murphy, Hantsport, N. S.; Raymond Mary Murphy, Jamaica Plains, Mass.; Winston Blair Orser, Hartland, N. B.; Stanley William Potter, Westville, N. S.; Eva Gilchrist Powell, Pictou, N. S.; Ruggles Bernard Pritchard, Ottawa, Ont.; Wallace Boyd Rendell, Hearts Content, Trinity Bay, Newfoundland; William Henry Allen Richards, Fredericton, N. B.; Athol Leith Roberts, Southport, P. E. I.; Walter Sharwan Anandpati Singh, Demerara, British Guiana, S. A.; Marjorie Lorraine Smith, Pictou, N. S.; James Murray Snow, Halifax, N. S.; Walter Sulvanis Totten, Sydney Mines, N. S.; Dennis Wolfson, Sydney, N. S.; Millan Grant Worthylake, New Glasgow, N. S.

Doctor G. B. Shaw, Dal. 1945, who has been practising in Shelburne for the past seven years, has been appointed medical director of Maritime Medical Care Incorporated.

Doctor E. L. Eagles, Dal. 1936, who has been in Yarmouth for the last seven years, as Divisional Medical Health Officer, has been appointed director of the new Division of Child and Maternal Health for Nova Scotia with headquarters in Halifax.

Doctor Joan M. Crosby, Dal. 1951, of Halifax, retired recently as chief resident from the Children's Hospital, and was presented with a desk set, given by the hospital and graduate nursing staff, and a desk lamp by the interne staff, at a luncheon held in her honour.

Doctor Joan M. Crosby, Doctor Bruce St. C. Morton and Doctor Garnet J. H. Colwell have recently opened offices in Halifax.



Early in July some 450 residents of the Musquodoboit Valley, with Rev. L. P. Archibald, chairman, gathered at the Rural High School in Middle Musquodoboit, to honour Doctor and Mrs. J. R. Cameron. Doctor Cameron was presented with a desk set and a purse of money and Mrs. Cameron received a bouquet of red roses. Doctor Cameron who graduated from Dalhousie Medical School in 1940 has been practising in Middle Musquodoboit since 1941. He expects to take a year's post-graduate course prior to taking a position with the Public Health Department. Doctor T. Harvie Earle, Dalhousie 1948, who has been practising in Upper Stewiacke, has taken over Doctor Cameron's practice.

The Bulletin regrets that in the July issue the item extending sympathy to Doctor Hugh MacKinnon of Bridgewater on the death of his father, Rev. Dr. M. A. MacKinnon, should have read on the death of his brother, Rev. Dr. M. A. MacKinnon.

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The Mira Boat Club will be holding their annual races Labor Day, September 6th, and anybody interested in boat racing will be sure to see some excellent sport. Mira is about a twelve mile drive from Sydney

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