

The NOVA SCOTIA MEDICAL BULLETIN

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EDITORIAL

S.G.O.T.S.G.P.T.E.T.C.

Nothing in medical practice is mutating faster than the bewildering flora of new drugs, unless of course it is the glossy sheaf of catalogues describing them which arrives daily on our desks. No one can say that the research workers are not doing their bit for the drug-houses or that the drug-houses are not doing their bit for the drug-houses or that the drug-houses are failing to keep us informed of their successes.

Changing almost as fast are some lab tests and it is just as difficult in these to tell real advances from mere gimmicks. The advance of chemists into body chemistry, of the kind the average doctor could pretend to understand, was strain enough: the advance through inorganic chemistry into organic and now into enzymes is really stretching what most of us remember of amino acids and all that.

And there is a notable lack of any readable information on most of these tests. If you take time to go to the big journals and try to find out what they are doing in Rochester, Minn., and Toronto, Ont., you really don't find yourself much ahead on the latest so-called laboratory break-through. It is doubtful anyway whether the average patient in the teaching unit is really comparable to an average patient; it is a pity that some G.P. doesn't take time out to do a hundred or so of these tests with the local pathologist and maybe they would come up with some useful information which would at least be applicable to our own situation and, just incidentally, maybe even be worth passing on to the teaching hospitals so that the professor could teach it too.

A minor aspect of the confusion is in nomenclature. The drug-houses are now, we are told, using computers to jumble combinations of syllables to make names for drugs which have not even been invented; the medical technologists, who have been using short-hand double-talk from away back, are now playing alphabetic bingo with certain new blood tests. This is a menace, for it seems that these tests, like a lot of the new ones, are useful not only in diagnosis but in control of treatment. It is not that the laboratory physicians have any monopoly in the use of capitals letters; we all use abbreviations like TPR, T&A, D&C, but everybody knows what these mean. In laboratory nomenclature we now have among variations of the old WR alone, KWR, VDRL, TPA, TPI, and many others, —all with some subtle difference of connotation in interpretations; so much so that the pathologist or bacteriologist

THE MEDICAL SOCIETY OF NOVA SCOTIA

NOVA SCOTIA DIVISION
OF
THE CANADIAN MEDICAL ASSOCIATION
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NOVA SCOTIA DIVISION OF CANADIAN ANAESTHETISTS' SOCIETY - - - - -	C. H. L. Baker
NOVA SCOTIA ASSOCIATION OF PATHOLOGISTS - - - - -	J. N. Park

is rather excessively cagey about handing out a real interpretation and, if you press him, he starts quoting the big Clinics and if you really take him on the boards he squeals that none of the local clinicians ever fed him back any information so how can he tell what his positives really mean.

Now there is one thing about the alphabet and that is that most of us can recite it in order; so why not at least have the labs put out a little index to these tests? And I say little because I do not mean duplicated on legal-size. Pocket-size, loose-leaf descriptions of these new tests would be of the greatest value to us in ordering the right test, in knowing just what to send and in interpreting the result. In fact I really wouldn't object to seeing a drug-house detail man who would hand me a glossy little leather three-ring binder in which I could keep releases about new and old lab tests. I only hope that if the idea catches on, it will not be implemented on a continental or even on a national level, for most of my patients are local patients and the specimens go to local pathologists.

W. A. T.

PAGES FROM THE PAST

With this issue the Nova Scotia Medical Bulletin celebrates its 40th Anniversary of publication.

The Maritime Medical News was founded in 1888, but ceased publication in 1910 with the founding of the C.M.A. Journal. There was then no specifically Maritime Medical publication until 1922.

The first three 'Bulletins' were but news letters and the fourth, dated September 1922 was the first printed issue.

The 'Bulletin' was quarterly at first but soon became a monthly publication and has so continued to this day.

We will endeavour to publish a short excerpt "from the Bulletin of 40 years ago" in succeeding issues.

FROM THE BULLETIN OF 40 YEARS AGO

The Medical Society of Nova Scotia Bulletin, Sept.: 1922.

Not long since a number of doctors, inspired largely by Doctors Sullivan and Roy of Cape Breton, met in the Halifax Hotel, and talked of the need of some regular means of the Doctors of Nova Scotia keeping in touch with each other. Great regret was expressed over the discontinuance of the "Maritime Medical News". It was felt and so expressed by all, that some informal, but constant medium might be found by which the Friendships formed at the Annual Meeting, might be kept alive throughout the year.

Transactions

of the

4TH REGULAR MEETING OF THE EXECUTIVE COMMITTEE 1961-62

SATURDAY, MAY 19th, 1962, NOVA SCOTIAN HOTEL, HALIFAX, N. S.

The Chairman, Dr. L. C. Steeves called the meeting to order at 9.40 a.m.

Present were:

PRESIDENT - - - - -	Dr. R. F. Ross
PRESIDENT-ELECT - - - - -	Dr. D. F. Macdonald
CHAIRMAN OF EXECUTIVE - - - - -	Dr. L. C. Steeves
HON. TREASURER - - - - -	Dr. J. F. Boudreau
EXECUTIVE SECRETARY - - - - -	Dr. C. J. W. Beckwith

Representatives from Branch Societies:

ANTIGONISH-GUYSBORO - - - - -	Dr. T. W. Gorman
CAPE BRETON - - - - -	Dr. H. F. Sutherland
COLCHESTER-EAST HANTS - - - - -	Dr. H. R. MacKean
CUMBERLAND - - - - -	Dr. J. C. Murray
HALIFAX (alternate) - - - - -	Dr. A. J. Brady Dr. F. J. Barton Dr. K. M. Grant
LUNENBURG-QUEENS (alternate) - - - - -	Dr. A. J. M. Griffiths
PICTOU - - - - -	Dr. M. F. Fitzgerald
VALLEY - - - - -	Dr. D. MacD. Archibald
WESTERN COUNTIES - - - - -	Dr. C. K. Fuller

Observers:

Representative to C.M.A. Executive:—Dr. R. O. Jones

Chairman, Public Relations:—Dr. S. C. Robinson

Chairman, Medical Economics:—Dr. H. E. Christie

Dr. Steeves drew to the members' attention the several changes in the agenda due partly to the rapid strides in medicine today and referred particularly to the Saskatchewan situation which will be discussed. It will also be discussed in detail on Sunday, May 20th, 1962, at the Executive Annual Meeting when Dr. A. F. W. Peart will be in attendance.

Minutes of the 3rd Regular Executive Meeting, February 24th, 1962 were approved as circulated.

BUSINESS OUT OF MINUTES (3rd Regular Meeting Feb. 24, 1962)

1. Resolution: Re Rehabilitation Committee relative to Physiotherapy Departments.

It was regularly moved and seconded:

"That the medical staff should appoint a hospital committee to supervise a physiotherapy department and to act as liaison between medical staff of the hospital and administration; and that a consultant psychiatrist be appointed when available." Carried.

2. Resolutions Committee:

The Chairman stated there is a Resolutions Committee on the books which has never functioned effectively. Following discussion it was moved and seconded:

"That the Resolutions Committee for the Executive Committee and General Business Sessions shall consist of the President, The President-Elect, Chairman of the Executive Committee, the Vice-Chairman of the Executive Committee (when elected) and the Executive Secretary; and that any two members with the Executive Secretary shall be a quorum. It is understood that if a resolution is not clear it will be discussed with the mover and the seconder." Carried.

Several items from Business out of the Minutes were deferred to be brought forward when the specific item appeared in the agenda.

3. The Executive Secretary reported that representatives of the Society had met with the Committee on Medical Education of the Royal Commission on Health Services. Also that representatives had accompanied representatives of the Board of Governors of Dalhousie University for an interview with the Premier in the interests of the Dalhousie Medical School.

Reports of Committees.

Special Committee on Salaried Physicians. The report of this Committee (Dr. J. S. Robertson, Chairman) had been distributed to members of the Executive. After discussion it was moved and seconded:

"That the Executive Committee of the Medical Society meet with Dr. J. S. Robertson and his Committee to discuss all aspects of the relationships of salaried physicians to the Medical Society as a whole, particularly to consider comments made in the recent report of his Committee." Carried.

Representative to C.M.A. Executive — Dr. R. O. Jones.

This report gave information relative to the C.M.A. Executive. The C.M.A. Brief to the Royal Commission on Health Services had been presented in Toronto on May 15, 1962. The Brief had been submitted to the Nova Scotia Division for comments prior to printing and some suggestions made had been incorporated. The Executive Secretary of this Division had been present in Toronto at the hearing.

Presidential Insignia

Dr. A. W. Titus, Chairman of this Special Committee displayed the Presidential Insignia to the meeting together with Past President's Pins, the Branch Society Certificates and scrolls for Senior Members.

The Executive Committee congratulated Dr. Titus and Dr. C. M. Bethune on their efforts toward this achievement. The Presidential Insignia will be used at the induction of the President 1962-63.

Invitations to twenty-six living Past Presidents were issued to attend the Annual Banquet and to receive recognition of their services.

Committee on Health Insurance. Chairman, Dr. N. K. MacLennan.

The report reviewed the activities of the Committee since the last Executive Meeting of February 1962. It gave particulars of a member's stand in regard to his position as a radiologist and that of the three hospitals he is serving. Representatives of the Boards of the three hospitals, and representatives of this Committee accompanied by two radiologists as observers had met. This has been one incident in a very long and involved problem as a result, the Committee is now in a position to have frank discussions if and when there is a problem requiring such attention.

Committee on Medical Economics. Dr. H. E. Christie.

This report informed the Executive of a meeting of the C.M.A. Committee on Economics which took place on April 8, 1962. Dr. Christie drew to the members' attention, various sections of the report.

On motion the report was accepted for information.

Special Committee on Rowe Commission Inquiry into Victoria General Hospital.

Chairman, Dr. D. I. Rice.

The members were provided with copies of the report which had been forwarded to Commissioner Mr Frank Rowe, Q.C.

Dr. Rice gave the background leading to the preparation and finalization of the report. The report was then reviewed and discussed in detail. Dr. Rice agreed to inform Mr. Rowe of the discussion at the Executive Committee. It was moved and seconded:

"That the reports of all Standing and Special Committees always be approved by the Officers or Executive Committee prior to release if they are to be representative of the views of the Medical Society of Nova Scotia."

In discussion of this motion, it was emphasized that it was not intended to reflect on the work of this Committee.

The motion was carried.

Re-Invitation from Saskatchewan.

An invitation to attend a 'Special meeting of the Saskatchewan Division' had been received. It had been declined with regret because the proximity of the Saskatchewan meeting to the Annual Meeting of the Society made it virtually impossible for a member to attend.

A letter from Mr. J. O. Millard, Executive Assistant Ministry of Highways, re Snow Removal Regulations, included the following:

Quotation re-Snow Removal from general instructions. Issued from the Ministry of Highways.

"In an emergency, on the request of a responsible authority or person such as a Doctor or Funeral Director, the Division Engineer may open such driveway or driveways as in his opinion may be necessary to deal adequately with the emergency."

New Business.

Eight items of new business were presented and dealt with. Of these the following should be mentioned.

1. Dr. S. B. Bird, Chairman of Committee on Civil Disaster was nominated to represent the Nova Scotia Advisory Committee on Emergency Health Services. The Executive Secretary will also be on the Committee.
2. Ten representatives will attend General Council C.M.A. June 18, 1962 in Winnipeg. Membership in C.M.A. from Nova Scotia now exceeds 600.

New Members to the Medical Society of Nova Scotia.

3. Approval of eleven new members since the last Executive meeting was moved and seconded. Carried.
4. A resolution from Local Union 1064 Sydney, United Steelworkers of America which had been received May 19th, 1962 was referred to the Committee on Medical Economics.

Old Business.

The amendment to Chapter 69 — Section 3. Act of 1861, which is the Constitution of the Medical Society of Nova Scotia had been approved by the Legislature 1962. This reads: Section 3. "The Company may purchase, take, hold, mortgage and sell real estate."

This will appear shortly in Statutes of Nova Scotia for 1962 as Chapter 115. All other items were for information and direction.

Other Business.**Resolutions from Branch Societies.**

Only one resolution had been received. This being passed by the Halifax Medical Society at their April 25th, 1962 Meeting.

'Be it resolved.

1. That the Halifax Society recognizes the need for extended Out-patient facilities in Psychiatry in the Halifax-Dartmouth area and congratulates the government on the setting up of an Out-Patient Clinic at the Nova Scotia Hospital.
2. That this Society is strongly opposed to the setting up of Out-Patient Clinics in Psychiatry or any other field, staffed by the full time government employees to which any patient can be admitted regardless of financial status.
3. That this Society urges that the proposed Out-Patient Clinic at the Nova Scotia Hospital should operate with the acceptable means test similar to that presently employed at the Victoria General Hospital.

It was moved and seconded that this resolution of the Halifax Medical Society be endorsed by the Executive. Carried.

Excerpt from Public Health Act. Para 128 re Research.

This excerpt deals with privileged information and offers protection as far as the courts are concerned. This section of the Act is of value to every member of the Society. (See Transactions, 5th Business Session).

Correspondence re Insurance Forms.

It was recommended and supported by the Executive that we enquire from C.M.A. why a named insurance company is not using C.M.H.I.A. forms which have been accepted by 90% of the insurance companies.

Requests re Annual Meeting and Banquet.

Two Tobacco Companies had offered to supply complimentary cigarettes for the Annual Banquet. It was moved and seconded that their offer be declined with thanks.

A Women's Auxiliary had requested permission to sell cook-books during the Annual Meeting. It was suggested that this would create a precedence and could not be permitted.

An enquiry had been received as to the proper channels for reporting a specific type of congenital malformation occurring in an area where at least three cases had been brought to a physician's attention. This was referred to the Committee on Child Health.

The Saskatchewan Situation.

Preliminary discussion ensued preparatory to the arrival of Dr. G. W. Halpenny, President Canadian Medical Association and Dr. A. F. W. Peart, Deputy General Secretary. The situation in Saskatchewan as it now exists was reviewed in detail. A letter stating support of the Saskatchewan College by the Executive of the Medical Society of Nova Scotia had been forwarded on April 6th, 1962.

The first meeting of the New Executive Committee 1962-63 is May 24th at 9.30 a.m. in the Board Room of The Maritime Medical Care Inc., Lord Nelson Hotel.

On motion 4th regular meeting of the Executive Committee adjourned at 6.25 p.m.

C.J.W.B.



Transactions

Annual Meeting of the Executive Committee 1961-62

May 20, 1962

Nova Scotian Hotel

Halifax, N. S.

AE 1.—The Chairman, Dr. L. C. Steeves called the meeting to order at 10.00 a.m., May 20, 1962.

AE 2—Present were:

PRESIDENT - - - - -	Dr. R. F. Ross
PRESIDENT-ELECT - - - - -	Dr. D. F. Macdonald
CHAIRMAN - - - - -	Dr. L. C. Steeves
HONORARY-TREASURER - - - - -	Dr. J. F. Boudreau
EXECUTIVE-SECRETARY - - - - -	Dr. C. J. W. Beckwith

Representatives from Branch Societies:

ANTIGONISH-GUYSBORO - - - - -	Dr. T. W. Gorman
CAPE BRETON - - - - -	Dr. H. F. Sutherland
COLCHESTER-EAST HANTS - - - - -	Dr. H. F. McKean
CUMBERLAND - - - - -	Dr. J. C. Murray
HALIFAX - - - - -	Dr. A. J. Brady
	Dr. F. J. Barton
	Dr. K. M. Grant
LUNENBURG-QUEENS - - - - -	Dr. A. J. M. Griffiths
PICTOU - - - - -	Dr. M. F. Fitzgerald
VALLEY - - - - -	Dr. D. MacD. Archibald
WESTERN COUNTIES - - - - -	Dr. C. K. Fuller

Observers:

Representative to C.M.A. Executive (1961-62)—Dr. R. O. Jones.
Chairman, Public Relations:—Dr. S. C. Robinson
Chairman, Medical Economics:—Dr. H. E. Christie
Representative C.M.A. Executive (1962-63):—Dr. D. I. Rice
Chairman of Special Research Committee:—Dr. A. A. Giffin
Chairman, W. B. C. Liaison Committee:—Dr. A. W. Titus
Representative, Trusteeship Committee C.M.R.S.P.:—Dr. C. H. Young
Dr. A. F. W. Peart, Deputy General Secretary, C.M.A.

AE 3—The Chairman welcomed Dr. A. F. W. Peart to the meeting.

AE 4—The Annual Reports of twenty-four Standing Committees, eleven Special Committees, and those representatives of the Society to nine other organizations were studied prior to presentation. These, and pertinent resolutions from the Executive Committee will be presented to the membership during the five Business Sessions of the Annual Meeting, May 21st to 23rd inclusive.

AE 5—Honoraria and grants of The Medical Society of Nova Scotia were approved.

AE 6—Dr. A. F. W. Peart, Deputy General Secretary, C.M.A. then outlined the situation in Saskatchewan and much discussion ensued. A resolution was moved and seconded,

“THAT: We are in sympathy with and support the Saskatchewan Division in their efforts to provide medical services to the people of Saskatchewan in the face of civil conscription of the medical profession.” Carried.

AE 7—The Saskatchewan situation would also be discussed at the Annual Meeting of the Society.

AE 8—The Committee on Committees meeting is to meet Thursday, May 24th, at 7.30 at the Lord Nelson Hotel.

AE 9—The Annual Meeting of the Executive Committee adjourned at 7.00 p.m.

C.J.W.B.

EDITORIAL BOARD (Editor)	-	-	-	-	-	-	-	-	J. F. Filbee, M.D.*
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INSURANCE	-	-	-	-	-	-	-	-	A. J. Brady, M.D.
LEGISLATION AND ETHICS	-	-	-	-	-	-	-	-	D. F. Smith, M.D.
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MEDICAL EDUCATION	-	-	-	-	-	-	-	-	D. C. Cantelope, M.D.
MEMBERSHIP	-	-	-	-	-	-	-	-	J. A. Myrden, M.D.
NUTRITION	-	-	-	-	-	-	-	-	W. A. Cochrane, M.D.
PHARMACY	-	-	-	-	-	-	-	-	J. E. MacDonell, M.D.
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PUBLIC HEALTH	-	-	-	-	-	-	-	-	S. D. Dunn, M.D.
PUBLIC RELATIONS	-	-	-	-	-	-	-	-	S. C. Robinson, M.D.
REHABILITATION	-	-	-	-	-	-	-	-	G.J.H. Colwell, M.D.
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WORKMEN'S COMPENSATION BOARD LIAISON COM.	-	-	-	-	-	-	-	-	A. W. Titus, M.D.

Special Committees.

ANNUAL MEETINGS	-	-	-	-	-	-	-	-	Lloyd Allen, M.D.
BUILDING COMMITTEE	-	-	-	-	-	-	-	-	C. L. Gosse, M.D.
FEDERAL HEALTH GRANTS	-	-	-	-	-	-	-	-	C. J. W. Beckwith, M.D.
PREPAID MEDICAL PLAN FOR ATLANTIC PROVINCES	-	-	-	-	-	-	-	-	J. F. L. Woodbury, M.D.
SALARIED PHYSICIANS	-	-	-	-	-	-	-	-	J. S. Robertson, M.D.
SPECIAL RESEARCH	-	-	-	-	-	-	-	-	A. A. Giffin, M.D.
SPECIALIST REGISTER	-	-	-	-	-	-	-	-	H. J. Martin, M.D.
RESOLUTIONS	-	-	-	-	-	-	-	-	L. C. Steeves, M.D.

Representatives:

MARITIME HOSPITAL SERVICES ASSOC.	-	-	-	-	-	-	-	-	H. E. Christie, M.D.
BOARD OF REGISTRATION, NURSING ASSTS.	-	-	-	-	-	-	-	-	C. J. W. Beckwith, M.D.
CANADIAN CANCER SOCIETY, N. S. DIVISION	-	-	-	-	-	-	-	-	J. E. Stapleton, M.D.
V.O.N. BOARD OF GOVERNORS (Can.) and MEDICAL ADVISORY, N. S.	-	-	-	-	-	-	-	-	J. J. Stanton, M.D.
DALHOUSIE MEDICAL LIBRARY	-	-	-	-	-	-	-	-	H. C. Still, M.D.
CANADIAN MEDICAL ASSOC. EXECUTIVE	-	-	-	-	-	-	-	-	D. I. Rice, M.D.
TRUSTEESHIP COMMITTEE (C.M.R.S.P.)	-	-	-	-	-	-	-	-	C. H. Young, M.D.
PROVINCIAL MEDICAL BOARD	-	-	-	-	-	-	-	-	G. M. Saunders, M.D. M. F. Fitzgerald, M.D.

It was regularly moved and seconded:

"That the Executive Secretary be instructed to draw the attention of the Chairmen of Committees of the advisability of including a recent graduate amongst the membership of their Committees in order to stimulate the interest of younger members in the affairs of the Society." Carried.

Signing Officers for the Society.

On motion the following were declared signing officers:

1. The Honorary Treasurer
2. Chairman, Executive Committee
3. Executive-Secretary.

Authority was given to the Hon. Treasurer to arrange bond for the signing officers.

On motion the officers of the Society were authorized to approve the Hon. Treasurer's nominations to the Finance Committee, 1962-63.

Dates for regular Executive Committee meetings 1962-63 were scheduled as follows:

- 1st—May 24, 1962
- 2nd—Sept. 22, 1962
- 3rd—Dec. 1st, 1962
- 4th—Feb. 23rd, 1963
- 5th (probably) June 29th, 1963

Re: Scheduled Branch Society Meetings. The Branch Representatives agreed that the Branch Societies be requested to set dates for their meetings to be scheduled prior to Executive Committee Meetings.

New Business.

Re Branch Society in Inverness County. The Executive-Secretary was authorized to visit this area to encourage this.

Out of discussion on that subject the following resolution was moved and seconded:

"That the matter of establishing sub-groups or branch societies in the more sparsely populated areas of the Province be taken under advisement by the Membership Committee." Carried.

The agenda was interrupted to receive Dr. J. S. Robertson, Chairman of the Special Committee on Salaried Physicians. A frank and productive discussion ensued during which points of view were exchanged. This resulted in the following motion which was regularly moved and seconded.

"That Whereas the Executive has reviewed the representations contained in the Salaried Physicians' Report and recognizes the need to have any inequities resolved, and

Whereas the Executive is anxious to take any steps to correct such inequities, **Therefore be it resolved** that as a primary step the Salaried Physicians and group be advised of the Executive's opinion and be invited to make a submission detailing grievances. It is suggested that the Salaried Physicians avail themselves of Chapter V. of the New By-Laws to set up a Salaried Physicians' Section within the Society." Carried.

Communication from Valley Medical Society, suggesting that the Medical Society become a group under M.M.C. Inc.,

It was moved and seconded:

"That the Executive-Secretary inform the Valley Medical Society at this time they do not approve of their resolution at this time, because it is felt there may be ethical problems involved. Therefore the whole question is being referred to the Committee on Ethics for clarification." Carried.

Resolutions Committee. This Committee was authorized to review the resolutions from the Annual Meeting as there had not been time available during the meeting.

Annual Meeting 1963. Further discussion on this subject resulted in direction to the Executive-Secretary to visit Braemar Lodge with the President Dr. D. F. MacDonald, to decide if the accommodation was suitable and whether satisfactory dates are available for 1963. If such were satisfactory, authority was given to decide on Braemar Lodge for the Annual Meeting, 1963.

The first regular meeting of the Executive was adjourned at 1.15 p.m.

The 1963 Annual Meeting of the Medical Society of Nova Scotia will be held at Braemar Lodge, Yarmouth County. The general meeting will be Tuesday to Friday, July 2-5, inclusive.

C. J. W. B.

THE RESPIRATORY PATIENT AND ANAESTHESIA*

by

LEON CUDKOWICZ, M.D., M.R.C.P.

Halifax N.S.

Anaesthesia and respiratory physiology are at last betrothed and much is to be expected from so legitimate a union. Already both disciplines have been combined by the challenge of mechanical respiration in respiratory paralysis and to some extent also in the management of pulmonary insufficiency resulting from varieties of lung disease. The empirical, although very successful guidance of ventilation during routine anaesthesia for surgery have made it essential for the anaesthetist to estimate degrees of ventilation for relatively short periods particularly if myoneural blocking agents are used. This experience has been invaluable in the much longer periods of assisted respiration required by paralyzed patients. Hence clinicians lean now heavily on the anaesthetist in the day to day management of their patients. Nevertheless a great mass of potentially valuable information concerning the physiology of respiration, has, of course, long reposed beneath a broad layer of clinical indifference and the small number of investigators, attempting to indicate the utility of their concepts to clinicians, have found the acceptance of their findings the most difficult and least successful of their tasks. The concepts involved draw heavily from the fields of mathematics and abstract thought, and most physicians view both with a quiet but profound inner terror, and naturally prefer the practical confidence of their anaesthetist confrères, when this is compared with obtuse measurements stemming from pulmonary laboratories. Despite the impact of such exponents of functional medicine as Claude Bernard, clinicians have difficulty in remodeling thoughts of bodily function without reference to specific anatomical structure. When the physiologist mentions the alveolus, he does not envision the histological structure defined by the anatomist, but a region devoted to the process of gas diffusion from a higher to a lower concentration.

Similarly the respiratory dead space does not represent to him the volume of the respiratory airways, but a functional entity of which the conducting airway is but one component. Most important of all, alveolar ventilation is not a mere gas movement in and out of certain anatomical compartments but a concise mathematical abstraction derived from measurements of expired volume and the changes of concentration of a gas during an expiration.

Following the late war medicine entered an era of rapid advance in thoracic and cardiac surgery, and pulmonary physiology suddenly assumed a vast new practical importance. A mathematical correlation had been established between arterial blood gas tensions and alveolar ventilation, and a major advance was scored by relating alveolar gas tension to this ventilation and physiological dead space. Thanks to these intensive efforts, the functional status of the lungs can today be determined with unsurpassed ease and precision.

*Lecture delivered before the Atlantic Division of the Canadian Anaesthetists Society Moncton, April, 1962.

In modern anaesthesia estimates of ventilation are almost obligatory, particularly as empirical underestimation leads to hypoventilation with CO_2 retention and respiratory acidosis. The arterial level of CO_2 depends upon the precise balance of production and elimination and the latter is mainly governed by alveolar ventilation. The clearance rate of CO_2 is readily equated with ventilatory equivalent, and 4.8 liters of alveolar ventilation clears 160 mls. of CO_2 , which under normal resting states maintains an arterial pCO_2 at 40 mm.Hg. Thus, oligopnoea would clearly be established by any elevation of arterial pCO_2 in excess of 40 mm.Hg. In contrast with O_2 uptake CO_2 elimination is but little affected by an impairment of diffusing capacity, since CO_2 can cross the alveolar-capillary membrane some 20 times more easily than O_2 .

The estimate of ventilation during anaesthesia determines arterial CO_2 concentration, and it is this estimate which is the most variable in practice, and arterial pCO_2 tensions are thus least satisfactorily controlled. Because of the steep slope of the CO_2 dissociation curve, alveolar ventilation needs to be carefully balanced to maintain a normal arterial pCO_2 tension at 40 mm.Hg.

With the exception of N_2O and low ether concentrations anaesthetic agents invariably depress respiration. Halothane, cyclopropane and the barbiturates reduce both frequency and tidal volume. Myoneural blockers, of course, lower tidal volumes to very low levels.

If spontaneous respiration is maintained the resulting minute volume in liters/minute are as follows:

TABLE I

	<u>Mean</u>	<u>Range</u>
N_2O and Ether :	9.1 L/min.	2.0 -15.0 L/min.
Thiopentone sodium	5.4 ,,	0.5 -12.5 ,,
N_2O and relaxants	4.16 ,,	1.95- 4.10 ,,
Halothane	4.0 ,,	1.9 - 7.8 ,,

Thus the last three are really incompatible with the maintenance of normal arterial pCO_2 tension, which, as mentioned already requires an average of 4.8 L/min. of alveolar ventilation.

When the anaesthetist assumes control of ventilation by bag squeezing the minute volume may be at any level up to about 20 L/min. In the experience of Nunn,¹ who has measured the M.V. during normal compression of the reservoir bag, the mean was 8.5 (range 4-17 L/min.). The minute volume thus is generally more dependent upon the habit of the anaesthetist and the resultant range of arterial pCO_2 in relatively healthy patients is about 22-65 mm.Hg.

To some extent such variation in the estimate of respiration are partly based on an absence of actual measurement or even prediction of dead space for each patient, and any chosen minute ventilation tends to ignore the absolute alveolar ventilation requirement. i.e. $\text{M.V.} - \dot{V}_{\text{DS}} = \text{alveolar ventilation L/min.}$ ($\dot{V}_{\text{DS}} = \text{Minute dead space ventilation}$).

Radford² drew attention to the convenient fact that in normal circumstances the anatomical dead space in mls. is approximately equal to the weight of the subject. However, during anaesthesia there are many factors apart from weight, which influence dead space.

Dead space diminishes in the supine position. Protusion of jaw increases it by at least 35 mls. Separation of the teeth may increase dead space by 50-100 mls.

50% of anatomical dead space lies above a point 6 cm. above the carina, tracheal intubation results in considerable reduction in dead space as is well known in pulmonary insufficiency, when intubation or tracheotomy reduce dead space by half and improvement is often dramatic, because of the augmented alveolar ventilation equivalent to this reduction in dead space.

Severinghaus and Stupfel³ drew attention to the considerable increase in dead space following the pre-operative administration of 0.5 mgm. of Atropine.

These changes in anatomical dead space would seem to be of crucial importance in the selection of a minute ventilation in relatively normal patients.

In patients with emphysema this problem becomes even more complicated and more crucial inasmuch as the concept of physiological dead space now assumes greatest importance and thus must influence the selection of an appropriate minute ventilation.

In emphysema an appreciable part of the inspired gas passes to alveoli which are relatively or totally unperfused. Again part of pulmonary blood flow may pass through relatively or totally unventilated alveoli. These alveoli augment the anatomical dead space and the sum of these areas constitutes the physiological dead space. Normally the $p\text{CO}_2$ of gas within an alveolus is the same as that in end pulmonary capillary blood, however, if an alveolus is ventilated and not perfused the $p\text{CO}_2$ within it will be very low. The unperfused alveolus cannot influence the composition of arterial blood, and the ventilation reaching it is wasted.

In order to maintain an effective obligatory alveolar ventilation of not less than 4.8 L/min. some assessment of physiological dead space in patients with emphysema seems imperative particularly as this may now exceed the anatomical dead space by as much as 100-125 mls. Such an enlarged physiological dead space, will, of course, demand an obligatory increase in minute ventilation which cannot be easily guessed at but should be calculated prior to anaesthesia.

In some centers where ideally arterial $p\text{CO}_2$ should be measured during anaesthesia attempts are often made to avoid arterial puncture by monitoring end tidal CO_2 concentration by means of an infra-red analyzer. While this practice is helpful in normal individuals it is calculated to confuse the issue in patients with lung disease suffering from impairment of intra-pulmonary mixing and ventilation perfusion disturbances.

This is understandable on the basis of unperfused lung areas which are still ventilated. These areas contain very low CO_2 concentrations, and the gas from these territories on expiration reduces the true alveolar $p\text{CO}_2$ of those lung areas which are both ventilated and perfused. Only by the use of the Bohr equation and utilizing the arterial $p\text{CO}_2$ in the denominator of the formula, can the physiological dead space be properly calculated in order to give the required ventilation if respiratory acidosis is to be avoided in this group of patients. It has, of course, been frequently suggested that in order to avoid respiratory acidosis, patients during anaesthesia should be slightly hyperventilated. Respiratory alkalosis is thought to be less deleterious than acidosis. That this is erroneous would be self evident from experience. Elevation in arterial pH leads to a loss of arteriolar tone and sets the stage for circulatory collapse. Furthermore this dilatation of the peripheral vasculature may lead to the appearance of cyanosis, and the unexperienced person may conclude

that central cyanosis or hypoxaemia is present, and proceed to increase ventilation further with oxygen. Obviously a dangerous manoeuvre; which would be completely obviated if oxygen saturations could be measured frequently while patients are respired on a 25% oxygen mixture. Nevertheless, mistakes are possible and here again arterial pCO_2 and ideally arterial pH should set the required minute ventilation.

Hypothermia has introduced several new problems in anaesthetic management. Hypothermia decreases the B.M.R. but it also exerts certain direct and intriguing physico-chemical influences upon the blood. The solubility of CO_2 increases with falling temperature, and a tendency towards alkalosis obtains in the blood. In other words alkalosis appears without change in plasma CO_2 content. Hypothermia also influences the combination between O_2 and Hb. and the O_2 dissociation curve is shifted to the left. This means that O_2 clings more to Hb. and dissociates less rapidly. Similarly a rise in arterial pH also shifts the Hb. dissociation curve to the left. Thus the maintenance of normal arterial O_2 saturation becomes simple with very low alveolar ventilations. However, a considerable rebound occurs on re-heating, and the frequency with which respiratory acidosis and low arterial pH have been noted towards the end of procedures, indicates that the alveolar ventilation during reheating probably is usually inadequate and did not keep pace with the new metabolic demands.

Of interest also are the changes which take place with the elimination of spontaneous respiration which is accomplished with curare. The loss of muscle tone decreases the BMR and the overall O_2 requirements by about 30-35%. If artificial ventilation is not correspondingly decreased alkalosis will occur and once more the ideal of guidance would stem from arterial pH monitoring.

Barbiturates including pentothal of course reduce minute ventilation and in the respiratory patient their use will reduce respiratory drive and thus inevitably cause transient respiratory acidosis or aggravate existing acidosis.

The effect of these drugs and post-operative analgesics such as demerol or morphia in causing respiratory center depression is of course well known. Unfortunately, it is so frequently assumed that the only danger is that of hypoxaemia, and that all would be well and without damage to the patient by simply administering oxygen post-operatively. The dangers of such assumptions are summarized below:

TABLE 2

Patient aspirated blood after bronchoscopy with biopsy.
Adequate spontaneous respiration with 70% Oxygen

Alveolar ventilation	2.3 L/min
Arterial blood	
O_2 capacity Vol. %	18.9
O_2 saturation	94.4
CO_2 content (Vols.%) plasma	73.9
pH	6.91
pCO_2 mm. Hg.	146.0

This table indicates that it is quite easy to maintain a high arterial oxygen saturation while the patient suffocates. In fact oxygen breathing in this patient had a profound and dangerous sedative effect.

Following this long introduction I ought now to come to the point of this communication, namely anaesthesia and the patient with respiratory disease. There are two distinct problems as experience in most large centers indicates. Firstly, patients with long standing lung disease requiring immediate or elective surgery i.e. prostactectomy in a man with long standing bronchitis and emphysema; and secondly exploratory thoracotomy and possible pneumonectomy in a similar patient now suspected of bronchial neoplasia.

The problem from the anaesthetist's point of view is probably simpler in the second type of patient. The recommendation for lung biopsy in the complicated differential diagnosis of pulmonary reticulation with fibrosis, which might entail thoracotomy, is relatively uncommon and would be supported by a powerful combination of clinical and surgical opinion, and, one hopes, by the careful analysis of ventilatory reserves by the laboratory. Here, therefore, a team decision would almost certainly guide the anaesthetist. Recommendations might be made by the laboratory that during anaesthesia and open thoracotomy for biopsy alone, ventilation should be maintained by intermittent positive pressure not exceeding 25 cm. in view of the lowered cardiac output which this would induce particularly in the presence of low lung compliance.

A much more careful assessment of pre-existing ventilatory and pulmonary function components would be obligatory in a decision for pneumonectomy in any one already suffering from coexisting lung disease such as old tuberculosis, pulmonary fibrosis, chronic bronchitis and emphysema or pulmonary vascular disease. This information is not only necessary in the interest of the patient's subsequent course but particularly for the immediate prospects during surgery and the post-operative phase. The almost heroic surgery for pulmonary tuberculosis practiced by Björk⁵ in Sweden, is the logical development of such guidance. In Uppsala it is assumed that careful resection of tuberculous areas of lung must be coupled with the release of potentially useful areas of lung restricted by fibrosis and that no definite conclusions concerning long term lung function are possible until these areas have been properly expanded. Hence, ventilatory requirements are predetermined and tracheotomy carried out well before surgery. Complete rest of the ventilatory musculature is practiced and ventilation is mechanical before, during, and after surgery, often for as long as 2-3 weeks. The precision of guidance from the laboratory has to match the excellence of anaesthesia, surgery and nursing. The results which Björk⁴ obtained are, of course, well known and remarkable. It is of interest that in spite of this prolonged arrest of spontaneous respiration and respiratory muscle sparing, the respiratory drive is immediately restored on cessation of mechanical respiration and relatively little wasting during the weeks of mechanical ventilation obtains in the muscles of respiration. The subsequent ventilatory requirements are solely based on the levels of arterial pH and pCO₂ and aided respiration supplied by IPPB if indicated. In the majority of patients this is entirely unnecessary and their post-operative ventilation is frequently much more efficient than prior to surgery.

In practice of course surgery of the lung is elective and only rarely unguided by laboratory measurements. Pneumonectomy for bronchial neoplasia occasionally dictates decisions which run counter recommendations from the laboratory and a live respiratory cripple would seem to be preferable than demise from the carcinoma unpalliated. Such decisions are rarely subject for debate or publication and must be left to the individual surgeon or physician but may mean a stormy post-operative course and hazardous anaesthesia.

I must now come to the main problem in this discussion, namely anaesthesia for elective or emergency surgery in patients who are known to have long standing lung disease, and I mentioned the example of some one with chronic bronchitis and emphysema in need of prostatectomy. Such patients often develop acute retention of urine while on sympathomimetic broncho-dilator therapy and decisions have to be made rapidly. Again high abdominal surgery such as a cholecystectomy or partial gastrectomy pose their problems particularly in those who have had extensive thoracoplasty, a phrenic avulsion, or high diaphragms from fibrotic pleurae and bronchiectasis. If the thoracoplasty or diaphragmatic paresis is on the left and cholecystectomy is required, post-operative splinting of the right diaphragm and upper right abdomen would create serious problems and render respiratory acidosis inevitable. Chronic bronchitis and emphysema with long histories of cough and sputum often becomes complicated by inguinal or femoral hernias and surgical reluctance adds a truss to the burden of these unhappy patients. There can be no doubt that almost everywhere surgery in these individuals is often put off to the summer or postponed until urgency strikes. The anaesthetist will then be the pillar on whom physician, surgeon and patient will have to lean and his decision will be crucial. Time for study and detailed analysis of the patient's chest disease, let alone respiratory function, will not be available and instinct must substitute for facts. It must be stated at once that such instinct is pretty sound and that disaster is rare but let no one think that this is a resounding triumph for intuitive decisions, rather let it be admitted that constitutionally man is remarkably adapted to withstand the profound effects of respiratory acidosis if not that of hypoxia. And it is respiratory acidosis which is the rule in these patients during and after anaesthesia rather than the exception. During the bustle of a busy hospital day, the decision will usually be in favour of immediate and fast surgery and the anaesthetist will now have to act without much help from anyone. He may, therefore, in emphysematous patients decide in favour of spinal anaesthesia. According to a leader in the *Lancet*⁶ earlier this year, spinal anaesthesia, as a result of authoritative pronouncements in a law court concerning neurological sequelae, almost underwent an eclipse in the United Kingdom. Such an extreme condemnation of a very useful form of anaesthesia, although apparently hazardous, seems unjustified in view of the exceedingly painstaking studies from this country⁷ and Philadelphia.⁸ In the same leader it is even suggested that the fairly remote risk of neurological sequelae may be outweighed by the advantages, for example prostatic surgery, in the emphysematous. In respect of herniotomies spinal anaesthesia would seem to have no ponderable advantages over inhalational methods, but, so this same leader laments, unlike the complications specifically due to anaesthesia the ensuing pulmonary complications have remained obstinately frequent, and atelectasis is as common now as it was 30 years ago. It goes on to say that its treatment is now better understood owing to antibiotics, physiotherapy, and breathing exercises, but that the use of bronchoscopy as a therapeutic measure, except after thoracic surgery, has declined with the growing appreciation that as long as the basic cause of the condition, a painful upper abdominal incision is present, mere removal of the bronchial plug achieves nothing beyond temporary alleviation of the results of bronchial blocking. What these patients need is to cough, but cannot do so because of pain or unawareness as a result of powerful pain relievers. In the presence of an ineffective cough mechanism atelectasis is almost inevitable unless substitution is made for it, which at this moment means bold and

calculated tracheostomy, planned pre-operatively in all respiratory patients in whom surgery is calculated to interfere with this all important cough mechanism. Tracheostomy with repeated and careful suction as well as intelligent postural drainage and physiotherapy constitutes the only presently available substitute to an impaired cough mechanism, and at the same time facilitates the control of alveolar ventilation inasmuch as anatomical dead space is reduced by at least 50%. The acceptance of the control of an obligatory minimum alveolar ventilation during and after surgery, which is moderately carefully measured and checked against arterial pH and pCO₂, I submit constitutes the main challenge posed by the respiratory patient in relation to anaesthesia. It also seems to me that this need for measurement in the operating room has created a certain reluctance to admit these patients to the operating room, although I am prepared to consider that they slightly reduce the statistics of successes in most surgical series. Björk, however, pointed out, that because of lung disease basic physiology does not change, the problem is only more interesting. To the mathematics of minute ventilation, we have to add those of dead space ventilation, and to the resultant alveolar ventilation the carbon dioxide dissociation curve should always be superimposed. So equipped these patients need not be denied the benefits of modern surgery. The repair of their hernias is just that more interesting, particularly from the anaesthetist's point of view, and that applies also to all the other needs which might arise. Granted time is an enemy of all of us and that extension of responsibility for ventilation outside the operating room imposes great burdens, particularly in patients in need of cholecystectomy who had a leftsided thoracoplasty in their youth. This is, of course, not an argument against cholecystectomy in this patient, but a plea for aided respiration after surgery which should be carried out with the same care as during surgery. Exactly the same premises hold, in my view, in respect of all other forms of surgery in these patients. There are no contra-indications to surgery other than ablation of lung, but often greater indications and this means better anaesthesia, careful measurements and prolonged supervision. Granted then that this is so, the burden upon the anaesthetist may be intolerable, and clearly unpracticable. Clearly he needs help and this brings me to the final aspect of this communication. How can the anaesthetist be aided?

Respiratory patients require prolonged medical supervision of a kind which it is difficult to provide in a routine office. They should really belong to some regional center or outpatient clinic where the facts concerning such a patient are kept up to date and made available to his own private doctor, the anaesthetist and others. What then should be known about him? Here I would suggest that the old time subdivisions into clinical and laboratory should be rapidly abandoned and that only information of relevance should be available, and by this I mean that the current timed vital capacity on steroids is of much greater relevance than a recent chest radiographic report which indicates that pulmonary fibrosis remained unchanged over the last 12 months.

In brief the information that the anaesthetist would find of immediate relevance concerning such a patient would be as follows:

Accurate diagnosis of chronic lung disease.

Current status of sputum, culture of organisms and their sensitivity. A staphylococcal, Friedlander or H. influenzae flora might clearly invite post-operative disaster.

A precise summary of current therapeutics, with particular reference to the maximum dosages of bronchodilators or steroids necessary to combat bronchospasm.

The current electrocardiogram and a history, if any, of rhythm changes.

The precise recent resting minute ventilation.

The precise physiological dead space.

The precise resting alveolar ventilation.

The resting arterial $p\text{CO}_2$, pH and arterial oxygen saturation.

The response of this oxygen saturation and of the minute ventilation to pure oxygen breathing.

The precise current timed vital capacity and maximum breathing capacity.

This information will at once enable a division to be made namely which of these patients require tracheostomy **prior** to their surgery. Clearly all patients who are in respiratory failure before surgery need tracheostomy. A $p\text{CO}_2$ in arterial blood in excess of 40 mm.Hg. with an effective alveolar ventilation of less than 4.8 liters/minute falls into this category irrespective of diagnosis and the type of surgery to be employed.

Patients whether on the verge of respiratory failure or not, who because of severe bronchiectasis require high abdominal surgery should be tracheostomised to guard against atelectasis and respiratory acidosis.

Borderline patients whose alveolar ventilation is just 4.5 liters and who are known to respond poorly to broncho-dilators including steroids during respiratory infections and elevate their arterial $p\text{CO}_2$ levels during such episodes, and now require high abdominal surgery, should be tracheostomised before surgery.

Patients who because of a large physiological dead space due to past pulmonary emboli and pulmonary emphysema, have to hyperventilate at rest in order to maintain themselves at a normal arterial pH + $p\text{CO}_2$ level. They would clearly be much more easily controlled post-operatively if their dead space could be diminished. This can be accomplished during anaesthesia by means of intubation, but following high abdominal surgery their discomfort from attempts at hyperventilation would be extreme, and the use of analgesics would clearly threaten them with respiratory acidosis. Patients not falling into this category can be allowed to proceed to surgery without tracheostomy. The anaesthetist knowing the magnitude of their physiological dead space can rapidly predict the alveolar ventilation necessary during induction, intubation and after surgery. If oxygen is used by positive pressure, no harm arises during short periods provided that the alveolar ventilation is kept constant and guidance other than the colour of the patient determines respiratory rate and tidal volume.

In patients who have been tracheostomised the effect of the tracheostomy upon arterial blood pH + $p\text{CO}_2$ should be established before surgery. Pre-medication with atropine may abolish the reduction in D.S. accomplished by tracheostomy by virtue of its effect upon the bronchial mucosa, and a minute ventilation requires to be selected which is similar to that measured in the ambient state. The guide to the required alveolar ventilation during surgery is that supplied by the laboratory before tracheostomy and ought to suffice to maintain normal arterial blood gas tensions, provided that the smaller additional volumes are carefully assessed by the anaesthetist in terms of his knowledge of the pre-existing dead space and the effects upon this by pre-medication, anaesthetic agents used and tracheostomy. If any doubt obtains during or immediately after surgery concerning adequacy of spontaneous respiration, assisted respiration in magnitude calculated prior to surgery should be continued and an arterial blood sample taken, from which requirements can be re-calculated.

The post-operative needs will fluctuate and pain may make it impossible to maintain adequate minute volumes. Here again it would be perfectly justified to use the most powerful analgesics if necessary provided that the patient is tracheostomised so that adequate ventilation can be ensured throughout the effect of such analgesics. The exhibition of oxygen and analgesia post-operatively without at the same time taking the certain step that such therapy will in no way compromise the patient's obligatory minute ventilation is of course no longer tenable. A decision as to its use places the person attending on such a patient under the obligation to maintain by his own efforts or those with whom he collaborates a minute ventilation which will not be compromised by the analgesia or oxygen concentration to be administered.

In practice, of course, such exhortations would seem unnecessary in the presence of tracheostomy and a team of attendants fully conversant with these problems, but in many hospitals such teams are not available and the burden would seem to fall on the anaesthetist. The measurements that might be useful to him, he has to determine for himself. The Radford approximations are probably fairly reasonable in patients other than those suffering from bronchitis and emphysema, and the latter might best be served by prophylactic tracheostomy if surgery is imperative. The care of tracheostomy is of course of vital importance and should be possible in all hospitals. Tracheostomy coupled with adequate suction, reasonable postural drainage and physiotherapy as well as nursing of some skill will meet the need of most of these patients.

In conclusion, therefore, I would like to re-iterate that the respiratory patient who is in need of surgery is entitled to the benefits of surgery as much as anyone else. If universal indications for surgery are accepted then they are applicable to this group also. According to Björk the problem in these patients is more interesting rather than more complicated, hence the satisfaction of a hernia well repaired even with the aid of temporary tracheostomy is always superior to that which might be obtained from the prescription of a truss. The anaesthetist is the person on whom this great challenge has fallen, aid is at his disposal and the laboratory is anxious to share his burden.

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PARA - MEDICAL ORGANIZATIONS (2)

NOVA SCOTIA SOCIETY FOR CARE OF CRIPPLED CHILDREN

The Nova Scotia Society for the Care of Crippled Children is a voluntary organization supported almost entirely by the proceeds of the Easter Seal Campaign with several grants for specific purposes from the Nova Scotia Department of Public Health.

The Society is an affiliate of The Canadian Council for Crippled Children and Adults and has affiliated with it as well, The Nova Scotia Cystic Fibrosis Council and the Halifax and Sydney Cerebral Palsy Associations. Thirty-one community groups across the province, holders of Easter Seal franchises, are also engaged in assisting handicapped children in local areas, and one of the Society's functions is to stimulate and co-ordinate the work of these local groups.

In a brief presented to the Royal Commission on Health Services in October 1961, the Society outlined its functions and responsibilities as follows:

- (1) To identify gaps in the existing services available to handicapped children and to establish the needs for new services.
- (2) To demonstrate to the public, and to private and professional groups and individuals how necessary services may best be provided.
- (3) To promote a programme of education with all lay and professional persons concerned with crippled children, so that such children will have an opportunity for treatment and so that facilities will be available for such treatment.
- (4) To press for the provision by the Government of such services as are properly the business of government.
- (5) To provide those services that are not otherwise available.

In order to meet these responsibilities the Society has developed the following services:

1. **Mobile Diagnostic Clinics:** Mobile Diagnostic Clinics, to assist the family physician by giving him consultant services for the needy children of his practice who may require more specialized knowledge than he feels he himself can give, are held twice a year in various areas of the province. (Baddeck, Bridgewater, Digby, Guysboro, Liverpool, Lunenburg, Neil's Harbour, New Glasgow, New Waterford, Pictou, Port Hawkesbury, Shelburne, Springhill and Truro.) The clinic staff consists principally of a paediatrician, orthopaedic surgeon and staff nurse. Each child must be referred to the clinic by the family physician and a written report of the consultation is sent to the referring physician following the clinic. In 1961 a total of 1195 consultations were provided for 929 children at these clinics. While the responsibility for further actions rests with the child's family and physician, the Society does assist with further arrangements where requested, and does attempt to encourage the more lackadaisical parents to keep their children under medical supervision. Doctors are invited to visit the clinic when it is in their area to meet the clinicians and discuss these children they have referred to the clinic.

2. **Welfare Services:** The Society, together with the Easter Seal Franchise Holders, endeavours to supply some necessary equipment for children whose parents are financially unable to do so. Wheelchairs, braces, transportation, medication and hearing aids are the most frequently requested items, but each request is considered on its own merits. It should be emphasized that before any such service is provided the advice of the child's physician is obtained.
3. **Speech Therapy:** In co-operation with local groups the Society sponsors qualified speech therapists in Dartmouth and the Cape Breton industrial area. Their work is primarily with the school children but as more funds and personnel become available, it is hoped to expand this service to other children and to other parts of the province.
4. **Camp Tidnish:** This camp on the Northumberland Strait has facilities and staff to accommodate 25 handicapped children. Any child between 8-18 years of age, who is capable of profiting by camp experience, may, with the approval of the family doctor, submit an application. If the child's parents cannot afford all, or part, of the fee they are sponsored by the Easter Seal Funds. Three ten-day periods are held each summer—one each for girls and boys and one exclusively for diabetic children. (This latter is jointly sponsored by the Maritime Branch of the Canadian Diabetic Association.) A day camp for handicapped children is also operated in Halifax at Flinn Park during the summer. You are invited to visit the camps at any time during the season—the campers and staff will be pleased to see you.
5. **Education:** This Society co-operates with other groups in sponsoring the Annual Maritime Conference for the parents of Cerebral Palsied children. This, so far, is our most spectacular educational endeavour, but just as important is our ongoing programme of education of the public. Too many people are still unaware of the fact that handicapped children can be helped through existing services. Even more do not realize the gaps in our existing services which can only be closed through the support and interest of the public.
6. **Central Register of Handicapped Children:** The Society was delegated the responsibility of developing and maintaining this register by the provincial Department of Public Health. The Registry, which is under the direction of Dr. G. B. Wiswell, endeavours to maintain a record of all handicapped children in Nova Scotia whether treated privately or otherwise. All information obtained is treated on a confidential basis, but the statistics obtained have been used to assist in research, planning for future needs, etc. As of February 28, 1962 there were 8534 handicapped children listed with the register.

The Society has the guidance of a Medical Advisory Board chaired by Dr. J. Fraser Nicholson, and would be pleased to receive suggestions regarding improvements in our programme, or specific requests from any of the physicians in Nova Scotia at any time.

The definition adopted by this Society of a crippled child is as follows:

“A crippled child is any person under the age of 18 with any handicapping condition which may interfere with his education or later the earning of his livelihood.”

Service Clubs and groups holding The Easter Seal Franchise in Nova Scotia are as follows:

THE ROTARY CLUB OF AMHERST
 THE LADIES AUXILIARY, CANADIAN LEGION, BRANCH 59, ANTIGONISH
 THE BADDECK HOME AND SCHOOL ASSOCIATION
 THE LIONS CLUB OF BEDFORD
 THE LIONS CLUB OF BRIDGEWATER
 ASPY CHAPTER ORDER OF THE EASTERN STAR, CAPE NORTH
 THE WOMEN'S INSTITUTE OF COLLINGWOOD-WYVERN, COLLINGWOOD
 THE ROTARY CLUB OF DARTMOUTH
 THE KIWANIS CLUB OF DIGBY
 THE ROTARY CLUB OF GLACE BAY
 THE GUYSBOROUGH HOME AND SCHOOL ASSOCIATION
 THE ROTARY CLUB OF HALIFAX
 THE KIWANIS CLUB OF LIVERPOOL
 THE LIONS CLUB OF LUNENBURG
 THE LIONS CLUB OF MIDDLETON
 THE ROTARY CLUB OF NEW GLASGOW
 THE ROTARY CLUB OF NEW WATERFORD
 THE ROTARY CLUB OF NORTH SYDNEY
 BLOMIDON REBEKAH LODGE, NUMBER 121, PARRSBORO
 THE ROTARY CLUB OF PICTOU
 THE LADIES AUXILIARY, CANADIAN LEGION, BRANCH 43, PORT HAWKESBURY
 THE SILVER SPRAY REBEKAH LODGE, PUGWASH
 THE LIONS CLUB OF SHEET HARBOUR
 THE KIWANIS CLUB OF SHELBURNE
 THE WOMEN'S INSTITUTE OF SHERBROOKE
 THE ROTARY CLUB OF SPRINGHILL
 THE ROTARY CLUB OF SYDNEY
 THE ROTARY CLUB OF TRURO
 THE ROTARY CLUB OF WINDSOR
 THE ROTARY CLUB OF WOLFVILLE
 THE ROTARY CLUB OF YARMOUTH

THE TREATMENT OF MENINGITIS

JOAN M. CROSBY, M.D.

Halifax N.S.

This is a broad subject which will be dealt with in the light of clinical experience rather than academic teaching.

Most cases of this disease have been partially treated before the diagnosis is established and therefore frequently no organism can be cultured or a sensitivity done;

Etiology

It is known that certain organisms are more prone to cause the disease in certain age groups:

- Prematures and neonates—E Coli
Staphylococci
Listeria monocytogenes.
- Infant age group—Staphylococci
E Coli
Pneumococci
- Childhood—Pneumococci
Haemophilus influenza
Tuberculous meningitis
Meningococcal meningitis
Streptococcal meningitis

In the five year period 1956-60 at the Halifax Children's Hospital there were eighty cases of meningitis treated and of these haemophilus composed 33%, unknown 22%, meningococcus 17.5%, pneumococcus 16%, staphylococcus 5% and E Coli 1%. The mortality in this group was 10%. The peak age incidence in this series was in the first year of life, with forty-two cases. Without having actual figures at hand this year the incidence of pneumococcal meningitis has risen very sharply in all age groups.

Therapy

Our main objective in therapy of meningitis is to clear the organisms from the blood, the cerebral spinal fluid and cortical surfaces of the brain as quickly as possible to avoid such complications as cerebral abscesses, subdural effusions, pyemia, sagittal sinusthrombosis and hydrocephalus.

With the above information in mind most centres utilize what might well be called "shot-gun" therapy in an effort to cover all possibilities before the culture results are available which may require 24 to 48 hours. Before therapy is begun in hospital and as soon as purulent fluid is found, it is wise to do a nose and throat culture and sensitivity and a blood culture. These take only a few seconds to do and may, in many cases, give the diagnosis when the cerebrospinal fluid is sterile. Following upon these tests, an intravenous is begun and antibiotics ordered. Crystalline Penicillin 1,000,000 Units every 4-6 hours, Soludiazine (intravenous Sulphadiazine) in a dose of 2 grs. (120 mgms.) per pound per day divided into six hourly doses, Chloramphenicol in a dose of 100

mgms. per pound per day or 50 mgms. per kilo per day, divided into eight hourly doses and given in a small volume of fluid intravenously. An important practical point to remember is that Chloramphenicol and Penicillin form a precipitate when mixed in a small volume of fluid; so it is wise to run one drug through at a time. All of these drugs cross the blood meningeal barrier well when the meninges are inflamed. It is necessary to continue these three drugs intravenously for three or four days and then change to intramuscular Penicillin, Chloramphenicol and oral Sulpha for the remainder of the period of treatment. If the organism is meningococcus Chloramphenicol can probably be discontinued when the culture report becomes available. In this disease the therapy is continued for one week. In other types of purulent meningitis treatment is continued ten days to three weeks, depending on the organism and the patient's response to therapy.

Other aspects of therapy in these patients must include sedation where indicated for CNS irritability, intravenous vitamins B and C, and protein, carbohydrate, fluid and electrolyte requirements. The latter group can be given as serum albumin, whole blood, glucose and water and electrolytes as necessary. In addition to these, provision should also be made for special nursing care; maintenance of an adequate airway by suctioning with tracheostomy if necessary; oxygen with moisture; alcohol sponging for hyperpyrexia and the frequent turning of the patient to prevent hypostatic pneumonia. It is likely that all the antibiotics "in the books" will not save a moribund meningitis patient unless the nursing care and observation are of the highest calibre. Steroid therapy is not used routinely but only if the patient threatens peripheral-vascular collapse. Intrathecal antibiotics are not used at the present time.

Once the patient's life is obviously out of danger the next worry is that of medically induced complications such as monilial overgrowth in the mouth and GI tract, thrombophlebitis from the intravenous and subdural effusion.

Finally, as mentioned, the intracranial complications should be closely watched for. In small children and infants it is wise to measure the head circumference every two to three days. In this way an early increase in head size will be appreciated. It is well for the same person to do this each time if possible in order to ensure accurate results. Any increase in temperature, changes in behaviour and disposition, and vomiting should also alert the physician to the possibility of CNS complications.

Tuberculous meningitis must also be considered as it is certainly not uncommon. During the past year at the Halifax Children's Hospital there have been five children suffering from this disease. By the time the diagnosis is suspected in these cases the patient is usually drowsy or semi-conscious and has been ill for a period of from one to two weeks with fever and vomiting. In these patients an adequate sample of cerebral spinal fluid for culture and guinea pig inoculation is necessary. Following this the patient is treated pending the report which may take as long as six weeks. If the patient has the above clinical picture plus increased cranial pressure, high CSF protein, low chloride, normal sugar and a variable number of cells predominately lymphocytes the diagnosis must be seriously entertained. Therapy consists of streptomycin 40 mgms. per kilo per day; INH or Rimifon 10-20 mgms. per kilo per day and PAS 200 mgms. per kilo per day. After two weeks the Streptomycin dose is reduced to twice weekly for three months and then discontinued. INH is decreased to 5-10 mgms. per kilo after the same period and PAS and INH in a lower dosage are continued for as long as a year.

During the acute phase of tuberculous meningitis steroid therapy is indicated in an effort to prevent the formation of adhesions leading to internal hydrocephalus.

It might be wise to end this article with the warning that in order to diagnose meningitis in the early and treatable stage the disease has to be thought of in any patient with an obscure fever of unknown origin. In the neonate and premature infants especially, the typical clinical picture does not occur until much too late for a successful cure. A lumbar puncture in a sick infant is always well worth while, and most rewarding when cloudy fluid is found and therefore can be treated specifically.

LETTER TO THE EDITOR

Dear Sir:

It was good to see Dr. Morse taking issue with my article on Thyroid Tumors (Bulletin, April '62) in your June issue. Disagreement among clinicians on so important a topic as the incidence of cancer in nodular goitre is a healthy sign. In **Surgery, Gynecology and Obstetrics**, concurrent with your June issue, was the abstract of an article giving the incidence of cancer as 14.5% in solitary nodules of the thyroid, and 10.8% in multinodular goitres. (Charles E. Davis, Jr., and A. McKoy Rose, Jr. Virginia M. Month., 1961 2:638). These figures are even higher than those quoted in my article, and suggest an incidence of thyroid cancer in nodular goitre fifty times as great as that represented by the 0.2% quoted by Dr. Morse.

Faced with such a discrepancy, which borders on the absurd, the fate of the thyroid cancer victim distresses me less than that of medical science itself. Surely such a variance in figures cannot be the result of geographic or climatic conditions, nor yet of any sound conclusions developed in detached, scientific minds; surely the variance must have been at least increased by the emotional desires of the observers.

It may be true that the classic internist looks on the surgeon as a blood thirsty creature anxious to cut out what the internist can cure by the pharmacopoea; and that the classic surgeon may look on the internist as a stupid creature willing to expend two years of medication on a condition the surgeon can cure in two weeks. Even these disparities in viewpoint do not explain the difference between 10.8% and 0.2%. Which is correct, or are both in error?

Perhaps when Dr. Morse and I have gathered enough cases of our own to be statistically significant, we can make up our minds without prejudice.

Yours sincerely,

ARTHUR L. MURPHY

PERSONAL INTEREST NOTES

COLCHESTER-EAST HANTS MEDICAL SOCIETY

Dr. William MacJannett, Truro, left to join the Resident Staff of the Victoria General Hospital, Halifax on May 1, 1962, to do post-graduate work in Anaesthesia. His practice in Truro has been taken over by Dr. Malcolm Bruce, who has just completed a year's residency at the Nova Scotia Hospital, Dartmouth.

Dr. James Wilson, Bass River will be associating himself with Dr. J. C. Vibert, Truro, as of July 1, 1962. His practice at Bass River will be taken over by Dr. Arno Elmik, presently of Advocate.

CUMBERLAND MEDICAL SOCIETY

Dr. H. E. Christie, Amherst, recently attended a Cardiology course in Montreal.

Dr. D. C. Brown has recently moved to Amherst from River Hebert.

HALIFAX MEDICAL SOCIETY

Dr. F. J. Barton announced the opening of a Halifax office at the Medical Arts Building, 5880 Spring Garden Road, (phone 423-8621) and will continue his Dartmouth office at 180 Portland Street (phone 466-7471).

Dr. Donald I. Rice, Halifax, was one of ten recently announced winners of a Schering Bursary Award for 1962, these awards being designed to assist selected members of the College of General Practice to further their post-graduate studies at certain teaching hospitals. The grant provides for a 2-week "refresher course" in various newer techniques and therapies which can be applied to General Practice.

Dr. Nicholas Destounis, former research Psychiatrist at Dalhousie University, and presently staff Psychiatrist at the Nova Scotia Hospital, Dartmouth, presented a paper on the effects of Psychotherapy in pregnant women at the First International Congress of Psychosomatic Medicine and Child-birth held in Paris, France, July 8-12, 1962. Dr. Destounis was also accepted as a member of La Societe Internationale De Psycho-Prophylaxie Obstetricale, Paris.

UNIVERSITY

(Editor's note: We are including a complete list of the recent graduates of the local university, so that the more senior physicians may know where their younger confrères intend to go).

CONGRATULATIONS

To Dr. and Mrs. J. A. Y. McCully, Amherst, on the birth of their daughter recently.

To Dr. and Mrs. D. A. MacFadyen, Truro, on the birth of their son in May, 1962.

To Dr. and Mrs. K. B. Shephard, Truro, on the birth of their son in May, 1962.

To Dr. and Mrs. C. C. Giffin, Truro, on the recent birth of their daughter.

To Dr. and Mrs. J. C. Vibert, Truro, on the recent birth of a daughter.

(The above were not included in the regular birth announcements, since we do not have the exact dates).

COMING MEETINGS

Sept. 24-25, 1962—An orientation course in emergency health services for practising Physicians and Surgeons will be held at the Victoria General Hospital, Halifax, under the sponsorship of the Postgraduate Division of the Faculty of Medicine, Dalhousie University and the Emergency Health Services of Nova Scotia. The program will include items concerning local emergencies and nuclear warfare. There will be no tuition charge for this course. Doctors wishing to attend this course should notify the Postgraduate Division, Faculty of Medicine, Dalhousie University, or Emergency Health Services, P O. Box 1502, Halifax, N. S.

OBITUARY

Dr. Humbert A. Giovannetti, 83, died at St. Rita Hospital, Sydney, on July 7, 1962. Dr. Giovannetti received his early education in Port Morien and later attended St. Francis Xavier University. He received his Medical Degree in Boston, 1907, after which he practiced in Newfoundland for some 27 years, then returned to Boston for some years prior to coming to Sydney. He was a member of the Fourth Degree Knights of Columbus, one of the Province's oldest K.O.C. members and was a life member of the Royal Cape Breton Yacht Club. He is survived by his wife, two sons, and two daughters, and one brother, a doctor, residing in St. John's, Newfoundland.

Dr. C. Umha, Sydney died on June 25, 1962, following a lengthy illness. Dr. Umha was born in Lwow, Poland, obtained his M.D. from the Yagillonian University, Cracow, Poland in 1926, following which he took post graduate training in Obstetrics and Gynaecology, and in 1932 became the Director of the Gynaecological and Obstetrical Department of the St. Lazar Hospital in Cracow. In 1933 he was appointed deputy director at the Gynaecological and Obstetrical Departments of Cracow University and in 1937 he received a grant from the Rockefeller Foundation, to visit research institutes, hospitals and universities in eleven large American centres as well as Berlin and Montreal. He served with the Polish Army in World War II in the Polish and later French campaigns. He later came to Great Britain, where he was appointed lecturer in Gynaecology at the newly formed Polish School of Medicine at Edinburgh University. He also taught at Western General Hospital and at the Royal Infirmary in Edinburgh. He moved to Sydney, C. B. with his family some ten years ago. He is survived by his wife, one son and one daughter.

SYMPATHY

The editors of the Nova Scotia Bulletin extend their sympathy to Dr. H. C. S. Elliot, Halifax, on the recent death of his wife, July 21, 1962.

DALHOUSIE UNIVERSITY - FACULTY OF MEDICINE
GRADUATES IN MEDICINE 1962

NAME	HOME ADDRESS	PLANS*	PRESENT LOCATION
DAVIES, Caroline M.	Oxford, N. S.	P.G.	V.G. Hospital, Halifax.
JOHNSTON, Lalia A. D.	Dartmouth, N. S.	P.G.	United Kingdom.
JORDAN, Zoena A. L.	Beach Point, P.E.I.	G.P.	Dept. of Health, St. John's, Nfld.
KOVACS, Edith	Dartmouth, N. S.	P.G.	N. S. Hospital, Dartmouth.
ATKINSON, Theodore E.	Moneton, N. B.	G.P.	Salisbury, N. B.
BISHOP, John Arthur	Chipman, N. B.	G.P.	180 Portland St., Dartmouth.
BONIUK, Isaac	Glace Bay, N. S.	P.G.	U.S.A. Post-Grad. Ophthalmology
BROWN, Claude Bain	Lancaster, N. B.	G.P.	McAdam, N. B.
CHISHOLM, Robert A.	Dartmouth, N. S.	P.G.	55 Pine St., Dartmouth, N. S.
COGSWELL, Eric E.	Berwick, N. S.	P.G.	V. G. Hospital, Halifax.
COLLINS, Jerome A.	Scarsdale, N. Y.	P.G.	V.G. Hospital, Halifax.
COMEAU, Richard E.	Campbellton, N. B.	P.G.	179 Water St., Campbellton.
CUDMORE, Douglas W.	Charlottetown, P.E.I.	P.G.	V. G. Hospital, Halifax.
DeROBBIO, Angelo V.	Providence, R.I.	U.S. Navy	29 Maplehurst Ave., Providence, R.I.
DIONNE, Robert C.	Arthurette, N. B.	P.G.	Royal Victoria Hosp., Montreal.
DOANE, Benjamin K.	Barrington, N. S.	P.G.	V.G. Hospital and Camp Hill, Halifax.
DOUGLAS, Leith G.	Charlottetown, P.E.I.	P.G.	V.G. Hospital, Halifax.
DUBICKI, Carl B.	Toronto, Ont.	P.G.	Banting Institute, Toronto.
EPSTEIN, Stanley W.	Sydney, N. S.	P.G.	Sunnybrook Hospital, Toronto.
FROST, Louis J.	Sydney River, N. S.	P.G.	U.S.A.
GARNHUM, Daniel G.	Truro, N. S.	R.C.N.	R.C.N.
GOLDSTEIN, Ronald F.	Brooklyn, N. Y.	U.S.A.F.	336 Union Ave., Brooklyn, N. Y.
GREENHOUSE, Bernard B.	Jackson Heights, N. Y.	U.S.A.F.	1511 Stephen Marc Lane, L.I., N.Y.
HARRIMAN, Paul M.	Newcastle, N. B.	G.P.	King Geo. Highway, Newcastle.
HARTLEY, Edward L.	Albro Lake, N. S.		51 Pine Hill Rd., Albro Lake.
HAYES, Joseph K.	Halifax, N. S.	G.P.	673 Quinpool Rd., Halifax.

HIGGINS, Donald J.	St. John, N. B.	R.C.A.	Eastern Command, R.C.A., Halifax
JODREY, Jimmy F.	Northport, N. S.	R.C.A.F.	Royal Canadian Air Force
KEDDY, David B.	Mahone Bay, N. S.	G.P.	Mahone Bay, N. S.
LANGILLE, David C.	Yarmouth, N. S.	G.P.	Mahone Bay, N. S.
MACDONALD, E. Fraser	Yarmouth, N. S.	G.P.	Dept. of Health, St. John's Nfld.
MacDONALD, Floyd D.	Woodstock, N. B.	G.P.	Liverpool, N. S.
MacDONALD, George	Whyecocomagh, N. S.	P.G.	St. John's General Hospital.
MacKINNON, Michael A.	Sydney, N. S.	G.P.	Spryfield, N. S.
MacLENNAN, John A.	Glace Bay, N. S.	G.P.	Dorchester, N. B.
MacMILLAN, Carleton L.	Baddeck, N. S.	G.P.	Baddeck, N. S.
MacWHIRTER, Robert B.	Corner Brook, Nfld.	G.P.	Bombay, Newfoundland.
MANDERVILLE, Eugene A.	Derby, N. B.	R.C.A.	Churchill, Manitoba.
MOHAMMED, Esau Samshair	Trinidad, W.I.	G.P.	Walker St., Caroni, Trinidad.
NAPIER, Robert Warren	Halifax, N. S.	G.P.	Dept. of Health, St. John's, Nfld.
NICHOLAS, Eric F.	Canso, N. S.	G.P.	Fort Fairfield, Maine, U.S.A.
NOONAN, James S.	Summerside, P.E.I.	G.P.	Port Elgin, N. B.
O'DONNELL, Joseph E.	Houlton, Maine	U.S.N.	14 Highland Ave., Houlton, Maine.
PEDDLE, Leo J. M.	Corner Brook, Nfld.	G.P.	Stephenville, Nfld.
PINEO, Graham F.	Shubenacadie, N. S.	P.G.	V.G. Hospital, Halifax.
RAMKERRYSINGH, John K.	Trinidad, W.I.	G.P.	19 Donaldson St., San Fernando, Trinidad, W.I.
SAIPHOO, Carl Shaffiet-Ali	Trinidad, W.I.	P.G.	St. John's Gen. Hosp., Nfld.
SINCLAIR, Nicholas R. St. C. S.	Halifax, N. S.	P.G.	Dept. of Biochemistry, Dalhousie University
STEWART, David George	Montague, P.E.I.	G.P.	Crapaud, P.E.I.
WARD, Alan B.	New York, N. Y.	P.G.	150 East 49th St., New York.

*G.P.—General Practice

*P.G.—Post Graduate Training

MATERNAL AND CHILD HEALTH DIVISION
BOOKS, FILMS AND FILMSTRIPS

The following lists of books, films and filmstrips that are available on loan from the Division of Maternal and Child Health.

A short review of the books and films has been included which may be of some assistance in selecting the educational material for a group or a specific purpose.

Books may be borrowed from this office and kept for a period of one month. An extension of one month will be granted to the borrower on receipt of a letter requesting an additional month.

Films must be returned as soon as possible after use so that other requests can be filled with the minimum of delay.

Requests should be sent to the

Director,
Maternal and Child Health Division,
Department of Public Health,
Halifax, N. S.

BOOKS (continued)

MIDWIFERY. Brown, Christie et al, London, Arnold, 1956, 892.

This book is a detailed work designed for the use of midwives and as such is not thought to be a text for the teaching we do in this area. As a reference book this is excellent since it gives so much detail and the explanations and diagrams are good.

NATURAL CHILDBIRTH. Atlee, H. B., Springfield, Thomas, 1956, 79.

Dr. Atlee opens this small book with a chapter on Society and the Pregnant Woman. Through the practice of natural childbirth there will be a sense of achievement in the mother who is in a world in which "social conventions still weigh so heavily against the noticeably pregnant woman". This is followed by chapters discussing Natural Childbirth as viewed by the doctor, nurse, hospital and woman.

The physical arrangement of the "first stage room" and adjacent areas is described in considerable detail. Also the idea of "companions of the first stage" is developed.

The appendix contains "a Letter to a Mother" which gives the mother instructions to help her through her pregnancy. This is intended to be distributed by the doctor to the mother under his care.

PREMATURE BABIES - THEIR NURSING CARE AND MANAGEMENT. Geddes, A. K., Philadelphia, Saunders, 1960, 215.

This book is small in size and large in content. There are twenty-six chapters. The form is easy to read and headings provide a quick means of finding the material you may wish to know. There is a detailed description of the normal premature, also of abnormalities, infections and abnormal signs.

There is stress on the why of nursing techniques and the care of the infant which is given by the nurse. One chapter is on Prematurity and Public Health in which the author states the challenge of the premature infant to the field of public health.

THE PUBLIC HEALTH NURSE AND HER PATIENT. Gilbert, Rith, Cambridge, Harvard University, 1951, 348.

The nurse works closely with the family and three aspects of mental health seem to be important to the public health nurse—pooled knowledge re human behaviour; broadening in mental health concept of prevention; nursing can fit in with current mental health programme. The nurse's non-judgmental, non-authoritative attitude in teaching leads to relationship with patient which is basic to her work. This may be a slow process. Observing, listening and responding are skills by which the nurse keeps in contact with her patient. Records are used as a basis for continuing work in a situation. Records are also useful in showing agency trends, statistics, and for supervising nurses and giving a summary of a situation. In conferences and clinics our goal is to capitalize on resources and make them serve the individual smoothly and helpfully. A greater sense of co-operation between the public health agency and the hospital is necessary during the antenatal and postnatal periods. There is a good portion re nursing the sick patient. Examples are used which are taken from the records of nurses and they are excellent illustrations.

FILMS — MATERNAL AND CHILD HEALTH

AGES AND STAGES SERIES

1. THE TERRIBLE TWO'S AND THE TRUSTING THREE'S. Colour. Sound. 22 minutes. 1950.

One of the "Ages and Stages" series, this film is a study of child behaviour at two and three years, showing what to expect from youngsters of these ages and suggesting how parents can deal constructively with the problems they present. The film shows a group of active children in a playground, nursery school and home, first as two year olds and then as threes. In play, we see, they learn control of their bodies, the qualities of different materials and how to give and take with other people. At home, an average mother is seen handling such problems as destructiveness, tantrums, rivalry with younger children and unreasonable fears. Suitable for any groups interested in child behaviour.

2. THE FRUSTRATING FOUR'S AND FASCINATING FIVE'S. Colour. Sound. 20 minutes. 1952.

One of the "Ages and Stages" series, this film is a study of the behaviour of four and five year old children at home and at nursery school. Young Roddy presents typical examples of the actions of a child at these ages, as the film follows his development and that of his classmates—the vacillation between infantile helplessness and vigorous self assertion at four, the development of independence and the beginning of co-operation at five. To parents the film gives advice and encouragement and asserts that, unpredictable as their behaviour may be, it's fun to help in the development of the fours and fives.

3. THE TEENS. Colour. Sound. 27 minutes.

One of the "Ages and Stages" series, which stress the problems of the teenager. It is based on a typical family with a child of 13 years, pointing out the factors prevalent at this stage in growth, together with a fifteen year old boy and girl. The commentator mentions such topics as: independence, maturity, security, etc., at the different stages. A good general use film.

(To be continued)

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