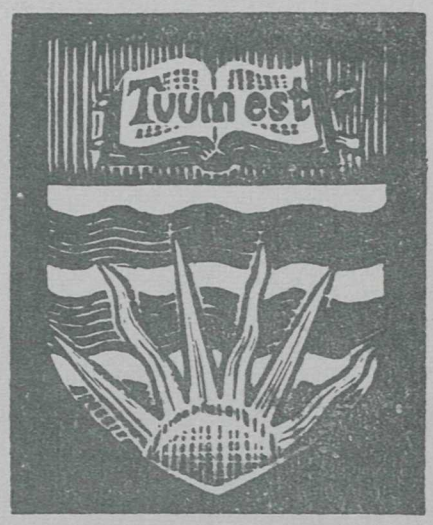
STORAGE ITEM
WOODWARD

Wd2-

U.B.C. LIBRARY

THE LIBRARY



THE UNIVERSITY OF
BRITISH COLUMBIA

B. C. MEDICAL CENTRE LIBRARY

THE VANCOUVER MEDICAL ASSOCIATION

BULLETIN

Published Monthly under the Auspices of the Vancouver Medical Association in the interests of the Medical Profession.

Offices: 203 Medical-Dental Building, Georgia Street, Vancouver, B.C.

EDITORIAL BOARD:

DR. J. H. MACDERMOT

DR. G. A. DAVIDSON DR. D. E. H. CLEVELAND

All communications to be addressed to the Editor at the above address.

Vol. XXIV OCTOBER, 1947 No. 1

OFFICERS, 1947-48

DR. G. A. DAVIDSON — *President*

DR. GORDON C. JOHNSTON — *Vice-President*

DR. H. A. DESBRISAY — *Past President*

DR. GORDON BURKE — *Hon. Treasurer*

DR. W. J. DORRANCE — *Hon. Secretary*

Additional Members of Executive: DR. ROY HUGGARD, DR. HENRY SCOTT

TRUSTEES

DR. A. M. AGNEW DR. G. H. CLEMENT DR. A. C. FROST

Auditors: MESSRS. PLOMMER, WHITING & CO.

SECTIONS

Clinical Section

DR. REG. WILSON ..... Chairman DR. E. B. TROWBRIDGE ... Secretary

Eye, Ear, Nose and Throat Section

DR. GORDON LARGE ..... Chairman DR. G. H. FRANCIS ..... Secretary

Paediatric Section

DR. J. H. B. GRANT ..... Chairman DR. E. S. JAMES ..... Secretary

Orthopaedic and Traumatic Surgery Section

DR. J. R. NADEN ..... Chairman DR. CLARENCE RYAN ..... Secretary

Neurology and Psychiatry

DR. J. C. THOMAS ..... Chairman DR. A. E. DAVIDSON ..... Secretary

STANDING COMMITTEES

Library:

DR. J. E. WALKER, Chairman; DR. W. J. DORRANCE, DR. D. E. H. CLEVELAND, DR. F. S HOBBS, DR. R .P. KINMAN, DR. S. E. C. TURVEY.

Publications:

DR. J. H. MACDERMOT—Chairman; DR. D. E. H. CLEVELAND, DR. H. A. DESBRISAY, DR. J. H. B. GRANT, DR. D. A. STEELE.

V. O. N. Advisory Board:

DR. ISABEL DAY, DR. H. H. CAPLE, DR. E. J. CURTIS.

Summer School:

DR. A. B. MANSON, Chairman; DR. E. A. CAMPBELL, DR. J. A. GANSHORN, DR. G. LARGE, DR. D. S. MUNRO, DR. D. A. STEELE.

Credentials:

DR. H. A. DESBRISAY, DR. H. H. PITTS, DR. FRANK TURNBULL.

Representative to B. C. Medical Association: DR. H. A. DESBRISAY.

Sickness and Benevolent Fund: THE PRESIDENT—THE TRUSTEES.

WHOOPING COUGH
DIPHTHERIA
TETANUS

PERTUSSIS VACCINE (For Prevention of Whooping Cough)

A modification in the concentration of pertussis vaccine has recently been made by the Connaught Medical Research Laboratories, so that the vaccine formerly containing 15,000 million killed organisms (*H. pertussis* from strains in Phase 1) per cc. now contains approximately 22,500 million killed organisms per cc., permitting the administration of three doses of 1 cc. at monthly intervals, and a reinforcing dose of 1 cc. after an interval of at least three months.

DIPHTHERIA TOXOID AND PERTUSSIS VACCINE (Combined)

Diphtheria toxoid has been combined with the new concentration of whooping cough vaccine. The new combined product is also administered in three doses of 1 cc., with a reinforcing dose of 1 cc.

DIPHTHERIA TOXOID, PERTUSSIS VACCINE AND TETANUS TOXOID (Combined)

For protection against tetanus as well, a triple antigen has been introduced by the Laboratories. This product contains diphtheria and tetanus toxoids combined with the new concentration of whooping cough vaccine and is administered in three doses of 1 cc., followed by a reinforcing dose of 1 cc.

ADVANTAGES

Two important advantages have been made possible by this change:—

A dose of 1 cc. replaces the dose of 2 cc. as formerly employed.

The reinforcing dose is included in each package.

HOW SUPPLIED

For the inoculation of one child—Package containing Four 1-cc. Ampoules.
For a group of nine children—Package containing Six 6-cc. Ampoules.

CONNAUGHT MEDICAL RESEARCH LABORATORIES
University of Toronto Toronto 4, Canada

DEPOT FOR BRITISH COLUMBIA
MACDONALD'S PRESCRIPTIONS LIMITED
MEDICAL-DENTAL BUILDING, VANCOUVER, B.C.

VANCOUVER MEDICAL ASSOCIATION

Founded 1898; Incorporated 1906.

* * *

PROGRAMME FOR THE FIFTIETH ANNUAL SESSION

October 21 CLINICAL MEETING—Vancouver General Hospital.

November 4 GENERAL MEETING—"Symposium on Peripheral Vascular Disease."
Dr. Rocke Robertson and associates.

November 18 CLINICAL MEETING—St. Paul's Hospital.

December 2 GENERAL MEETING—"Symposium on Pre-frontal Leucotomy."
Dr. Frank Turnbull
Dr. Allan Davidson
Dr. R. Whitman.

December 9 CLINICAL MEETING—Shaughnessy Hospital.

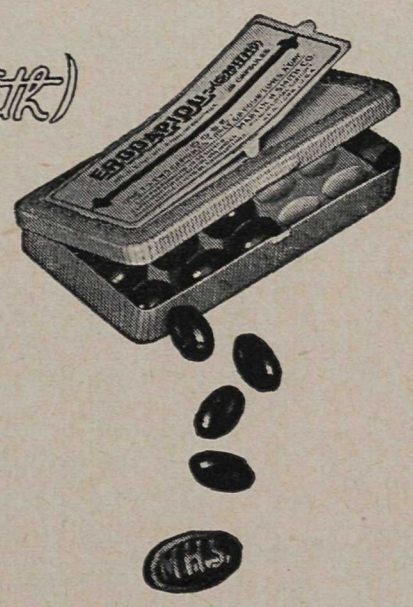
MEDICAL SUPERINTENDENT WANTED

Royal Jubilee Hospital, Victoria, B. C., 480 beds, invites applications for position of Medical Superintendent. State administrative training and experience. Preference given to man under 40. Starting salary $7,000.00 per annum. Address full particulars to Secretary, Royal Jubilee Hospital, before January 10th, 1948.

Ergoapiol-(Smith)

Breaks the vicious circle of perverted menstrual function in cases of amenorrhea, tardy periods (non-physiological) and dysmenorrhea. Affords remarkable symptomatic relief by stimulating the innervation of the uterus and stabilizing the tone of its musculature. Controls the utero-ovarian circulation and thereby encourages a normal menstrual cycle.

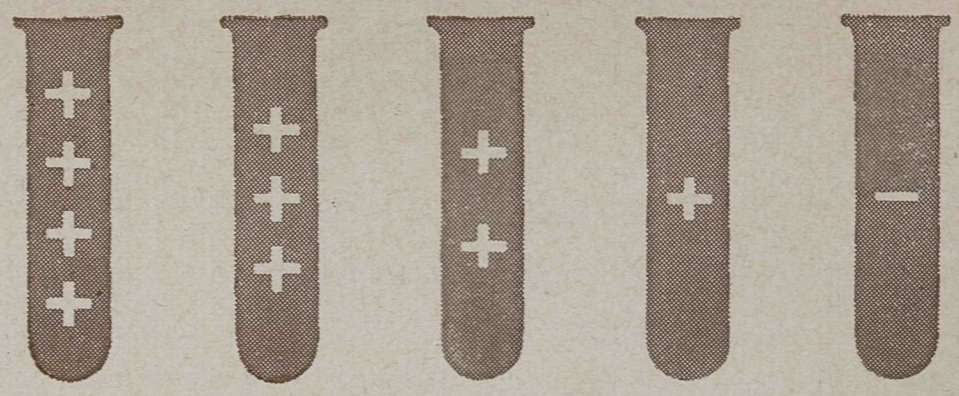
MARTIN H. SMITH COMPANY
150 LAFAYETTE STREET, NEW YORK, N. Y.



Full formula and descriptive literature on request

Dosage: 1 to 2 capsules 3 or 4 times daily. Supplied in packages of 20.

Ethical protective mark MHS embossed on inside of each capsule, *visible only* when capsule is cut in half at seam.



Penicillin-treated syphilis

In the treatment of 1,400 men with early syphilis[1] (from June 1944 to Feb. 1, 1945) with 2,400,000 units of penicillin in aqueous solution, satisfactory progress was obtained in:

94.3 percent of 600 cases of seronegative primary syphilis
89.9 percent of 564 cases of seropositive primary spyhilis
83.0 percent of 236 cases of secondary syphilis

In addition to favorable clinical response, the chief advantages of treating syphilis with penicillin are: (1) marked freedom from toxicity; (2) convenience with which it may be given and (3) the short period of time required for the administration of a full course in adequate amounts.

Crystalline Penicillin G Sodium SQUIBB

VIALS (*with Buffer*) for aqueous solution

The presence of a buffer (4 to 5% sodium citrate) makes Crystalline Penicillin G Sodium SQUIBB *considerably more stable in solution than* unbuffered solutions of crystalline penicillin G sodium. Buffered solutions maintain essentially all their initial potency for as long as *7 days* under refrigeration. *In diaphragm-capped vials of 100,000, 200,000 and 500,000 units.*

OIL AND WAX

Penicillin G Sodium SQUIBB in Oil and Wax provides prolonged-action penicillin in double-cell cartridges. One cell contains 300,000 units of penicillin in refined peanut oil and 4.8% bleached beeswax. The other cell contains sterile aspirating test solution to guard against accidental intravenous injection. *300,000 units in 1 cc. double-cell cartridges in B-D* disposable syringes, or for use with B-D* permanent syringe. Also in 10 c.c vials, 300,000 units per cc.*

*T. M. Reg. Becton Dickinson & Co.

1. Sternberg, T. H., and Leifer, W.: J.A.M.A. 133:1 (Jan. 4) 1947.

SQUIBB

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858.

For Literature write

E. R. SQUIBB & SONS OF CANADA LIMITED

36 - 48 CALEDONIA ROAD • TORONTO

12-47A

VANCOUVER HEALTH DEPARTMENT

CASES OF COMMUNICABLE DISEASE REPORTED IN THE CITY

STATISTICS—AUGUST, 1947

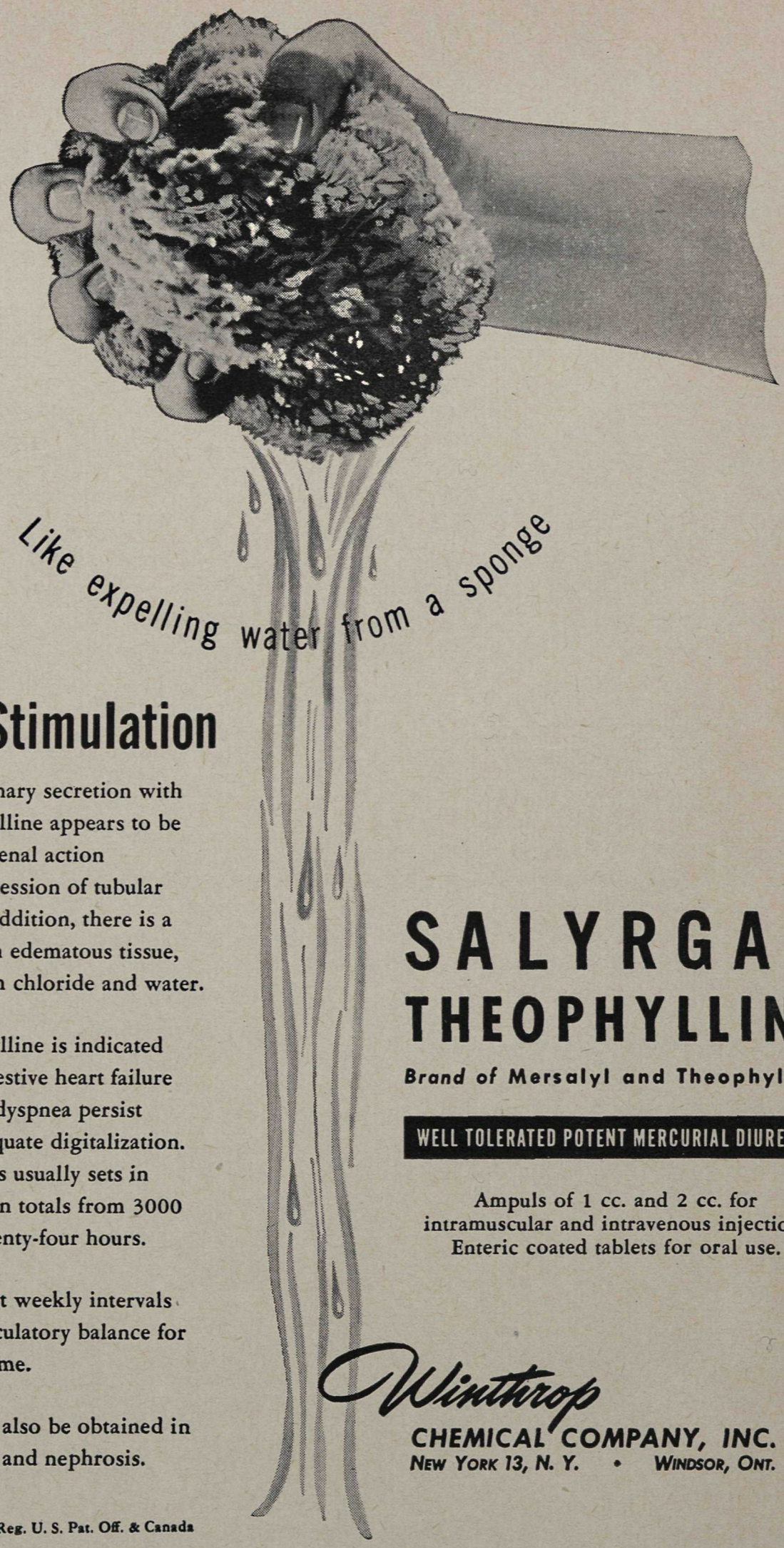
Total Population—Estimated	339,350
Chinese Population—Estimated	5,980
Hindu Population—Estimated	118

	Number	Rate Per 1000 Population
Total deaths	265	9.2
Chinese deaths	12	23.6
Deaths, residents only	243	8.4
BIRTH REGISTRATIONS:		
Male	418	
Female	362	
	780	27.1

INFANT MORTALITY:	August, 1947	August, 1946
Deaths under 1 year of age	9	17
Death rate per 1000 live births	11.5	21.2
Stillbirths (not included above)	5	3

CASES OF COMMUNICABLE DISEASE REPORTED IN THE CITY

	August, 1947		September, 1947	
	Cases	Deaths	Cases	Deaths
Scarlet Fever	2	0	0	0
Diphtheria	2	0	0	0
Diphtheria Carrier	0	0	0	0
Chicken Pox	8	0	17	0
Measles	2	0	1	0
Rubella	0	0	0	0
Mumps	5	0	10	0
Whooping Cough	0	0	7	0
Typhoid Fever	0	0	0	0
Typhoid Fever Carrier	0	0	0	0
Undulant Fever	0	0	2	0
Poliomyelitis	45	1	26	2
Tuberculosis	62	18	52	11
Erysipelas	2	0	1	0
Meningococcus (Meningitis)	0	0	0	0
Infectious Jaundice	1	0	0	0
Salmonellosis	3	0	4	0
Salmonellosis (Carrier)	0	0	0	0
Dysentery	2	0	1	0
Dysentery (Carrier)	0	0	0	0
Tetanus	0	0	0	0
Syphilis	95	1	0	2
Gonorrhoea	196	0	0	0
Cancer (Reportable):				
Resident	92	0	78	0
Non-resident	30	0	15	0



Urinary Stimulation

Stimulation of urinary secretion with Salyrgan-Theophylline appears to be due chiefly to its renal action consisting of depression of tubular reabsorption. In addition, there is a direct influence on edematous tissue, mobilizing sodium chloride and water.

Salyrgan-Theophylline is indicated primarily in congestive heart failure when edema and dyspnea persist after rest and adequate digitalization. Gratifying diuresis usually sets in promptly and often totals from 3000 to 4000 cc. in twenty-four hours.

Injections at about weekly intervals help to insure circulatory balance for long periods of time.

Good results may also be obtained in chronic nephritis and nephrosis.

SALYRGAN, trademark Reg. U. S. Pat. Off. & Canada

SALYRGAN THEOPHYLLINE

***Brand of* Mersalyl and Theophylline**

WELL TOLERATED POTENT MERCURIAL DIURETIC

Ampuls of 1 cc. and 2 cc. for intramuscular and intravenous injection.
Enteric coated tablets for oral use.

Winthrop
CHEMICAL COMPANY, INC.
NEW YORK 13, N. Y. • WINDSOR, ONT.

The Editor's Page

In the near future all B. C. medical men will receive a notice from Shaughnessy Hospital, which is of very great importance to all medical men engaged in general practice. The notice explains itself, and we should like to say that in our opinion this is an outstanding contribution to the general practitioner of medicine. It is to be hoped that this offer will meet with a very large response from the profession.

This is, we believe, exactly the right approach to the problem that one so often hears discussed, the problem of the general practitioner, and the coincident problem presented by the trend towards specialism rather than general practice. Constantly one hears discussion of the two main aspects of this situation—the first being the shortage of general practitioners or family doctors, to whom the public may apply for diagnosis and treatment—and the second being the growing tendency of medical graduates to undertake specialism *ab ovo,* and to bypass general practice.

When one sees an ever-increasing trend in a certain direction, it is idle either to ignore it, or merely to deplore it. To dwell nostalgically upon "the good old days" is also futile and a waste of emotion. To begin with, they weren't altogether good old days. They were the best old days one could have under the circumstances, but the present days are much better. Diagnosis is more accurate, treatment fuller and better, and the results incomparably improved. And we shall go on having specialists, and more of them—and this is all to the good, and to the advantage, not only of the patient, which is after all the main thing, but of doctors themselves. Medical practice has become so complicated and so highly specialized, that the best work in the most difficult cases, can only be obtained by special application. Browning's line, "Where e'en though better follow, good must pass" expresses, no doubt, the feeling that many of us have, that it is a sad thing that a very good period of medicine, the day of the family doctor, with all that he meant to his patients, is apparently passing—but it is the inevitable law of life, nevertheless. And, if we use it aright, the new period of more exact knowledge, of a higher degree of technical skill, will more than compensate for the loss, if there must be a loss, of the William McLures of medicine, who made up in self-sacrifice and even heroism, what they lacked in scientific knowledge.

There are two desiderata, however, that present themselves, and that must be met. The first is the need of more general practitioners—of an adequate supply of general practitioners. The public needs them—and from an economic standpoint, they are a necessity. Specialists are necessarily expensive, and the average person cannot afford as many as he will need, if he is to depend entirely on specialists. Nor can any scheme of health insurance be built around specialists. So we must meet this problem, and solve it.

The second is the training of good, well equipped, well rounded specialists, who will be doctors first, with all that means, and specialists afterwards. We are probably old-fashioned, and are no doubt inviting a diagnosis of senile decay, but we still feel that the best approach to specialism is through general practice. If this were the rule, the problem of genearl practitioner shortage would be largely solved. This is, of course, rather an over-simplification of the problem, but we think it deserves consideration. And general practice, with its width of outlook, and its training in human relations, is quite irreplaceable as a training for later specialization. It would make, we feel sure, for better specialists.

In any case, we are faced with a situation, and it will take much study, a lot of patience, and great wisdom, to clear it all up. In the meanwhile, the first step is to make general practice more attractive, and to make general practitioners better, and more highly trained men. General practice is, in a way, a specialty in its own right,

and need not take a back seat to any other specialty. In the American Medical Association, they have a section of their own—and the Canadian Medical Association might well follow suit, in establishing such a section.

We should back up this new plan with all our hearts and energies, and make the fullest use of this course. It will add immensely to our resources, will be of the greatest help to us personally, and will add immeasurably to our usefulness to the community we serve.

LIBRARY NOTES

RECENT ACCESSIONS TO LIBRARY—

Acetanilid, A Critical Bibliographic Review, 1946, by Martin Gross, M.D. (Gift of the Author.)

Medical Clinics of North America, Symposium on Specific Methods of Treatment, Boston Number, September, 1947.

Personality and the Behaviour Disorders, 2 vols., 1944, by J. McVicker Hunt.

A Bibliography of Infantile Paralysis, 1789-1944, Morris Fishbein, Editor.

Surgical Clinics of North America, Massachusetts General Hospital Number, October, 1947.

* * *

Supplements to Acta Medica Scandinavica

No. 186 On the reabsorption of chlorides in the kidney of rabbit.

No. 187 Sherrington's "Endeavour of Jean Fernel" and "Man on his Nature"—Comments by

No. 188 Diabetes mellitus in Sweden—Statistical data on the number of diabetics, their state of health, working capacity, diet and treatment.

No. 189 A Study on Gastric Sediment.

No. 190 A Study on oxygen toxicity at atmospheric pressure—with reference to the pathogenesis of pulmonary damage and clinical oxygen therapy.

No. 191 The splenic circulation with special reference to the function of the spleen sinus wall.

No. 192 Arterial hypertension: (1) Variability of blood pressure, (2) Neurosurgical treatment, indications and results.

UROLOGY AWARD

The American Urological Association offers an annual award of $1000.00 (first prize of $500.00, second prize $300.00 and third prize $200.00) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to residents in urology in recognized hospitals.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Hotel Statler, Boston, Massachusetts, May 17-20, 1948.

For full particulars write the Secretary, Dr. Thomas D. Moore, 899 Madison Avenue, Memphis, Tennessee. Essays must be in his hands before March 1, 1948.

The Committee on Medical Economics

Chairman..... DR. H. H. MILBURN
Vice-Chairman..... DR. G. F. STRONG
Secretary..... DR. F. L. WHITEHEAD

FORMATION OF EXECUTIVE COMMITTEE AND REFERENCE COMMITTEE:

1. At the meeting of the Committee on Medical Economics on September 16th, 1947, it was decided to form an Executive Committee of five and a Reference Committee of three members.

(a) *The Executive Committee* has been formed and held its first meeting on October 16th, 1947. This committee is composed of:

Dr. G. F. Strong, Chairman; Dr. G. A. McLaughlin; Dr. W. J. Dorrance; Dr. Bruce Cannon; Dr. Frank Turnbull; Dr. H. H. Milburn, ex-officio; Dr Lavell H. Leeson, ex-officio; Dr. E. J. Lyon, ex-officio; Dr. F. L. Whitehead, Secretary.

It is anticipated that this Committee will be able to deal with correspondence and queries more expeditiously than has been possible under the large main committee.

(b) *The Reference Committee* has been set up to deal with complaints and matters of dispute between doctors and the approved schemes.

At the meeting of the Executive Committee it was decided that the Reference Committee's primary function is to deal with disputed accounts, and that it is not concerned with matters of broad policy.

2. SPECIALISTS' FEES—ENTITLEMENTS:

At a recent meeting of the Executive of the Committee on Medical Economics it was re-affirmed that a specialist in any particular branch of medicine is entitled to specialist's fees only in his own field of practice. He is not entitled to, and should not ask for specialist's fees when treating patients in a field of practice other than his own particular specialty.

3. CONSULTATION PRIOR TO ELECTIVE SURGERY:

The M-S-A has the right, under its contract, to ask any doctor to have a consultation before elective surgery is undertaken. In any case of doubt, or in the case which is a semi-emergency, the doctor will get a sympathetic hearing of the problem and, in most cases, an immediate decision, if they will contact the Medical Director of the M-S-A by telephone and present the facts.

5. SPECIALISTS' SCALE OF FEES:

The Specialists' Scale of Fees has been approved in all sections with the exception of orthopædics and there are a few additions and alterations yet to be made. A special committee has been appointed to review the fees of the orthopædic section and it is hoped that this will be done expeditiously.

6. B. C. ELECTRIC RAILWAY CO. LTD. OFFICE EMPLOYEES' MEDICAL AID SOCIETY:

This organization has improved its contract considerably in recent months; some of the exclusions have been removed, e.g., hernia, and they now pay from the first dollar instead of only for accounts of $25.00 or more. The documentation has been simplified by the adoption of forms similar to those used by M-S-A. The Executive Committee re-affirmed its approval of the organization.

7. CIRCULAR LETTER OF INFORMATION—REGARDING APPROVED SCHEMES:

It has been brought to the attention of the committee that quite a number of the younger men now in practice in British Columbia are not aware of just what the approved schemes are, and the terms of the contracts in each case. It was agreed that a letter be prepared, giving the names of the approved organizations, the highlights of the contracts in each case, and any other pertinent information available. These letters are to be sent to each doctor in practice in British Columbia.

This letter will take some little time to prepare but it is anticipated that it should be in the hands of the doctors in about a month's time.

8. SCHEMES WHICH HAVE BEEN "APPROVED" BY THE PROFESSION:

(a) "Approval" is only given to schemes which fulfill certain requirements. When a scheme is "Approved" the doctors of British Columbia, under present conditions of agreement, agree to accept a 25 per cent discount on the minimum Scale of Fees in force, and remuneration is paid directly to the doctor.

(b) DISCOUNT OF APPROVED SCHEMES:

At the Committee meeting on September 16th, 1947, it was resolved that: "we are in favour of the abolition of the 25 per cent discount on M-S-A and other approved schemes." This information has been passed to the Board of Directors of M-S-A, with the request that they study the cost involved and report. Preliminary reports suggest that a considerable increase in the fees paid by employee members will be necessary to abolish the discount, and particularly if the new 1947 fees for general practitioners and for specialists are to be paid in full.

(c) SCALE OF FEES IN FORCE:

The 1947 Schedule of Fees for General Practitioners has not yet been adopted by M-S-A or by other approved schemes.

(d) LIST OF APPROVED SCHEMES:

The following schemes in the Province of British Columbia are approved by the College of Physicians and Surgeons:

Medical Services Association
B. C. Electric Railway Co. Ltd. Office Employees' Medical Aid Society
Telephone Employees' Medical Services Association of British Columbia
The B. C. Provincial Government Employees' Benefit Society
B. C. & Vancouver School Teachers' Federation Medical Services Association
Cunningham Western Drugs Limited Sick Benefit Association

The Blue Cross (Associated Hospitals) is approved by the profession, but does not enter into the field of payment for doctor's services.

9. INSURANCE COMPANIES AND BENEFIT ASSOCIATIONS NOT APPROVED BY THE COLLEGE:

A number of doctors have enquired recently about the manner of dealing with patients insured with associations *not* approved by the profession. The following advice is given which appears to cover the situation as it exists at the present time:

(a) Emphasize that the *patient is responsible to the doctor* for the bill incurred for services rendered by the doctor concerned.

(b) The Insurance Company or Benefit Association is a *third party only*.

(c) Any money offered by the Insurance Company or Benefit Association is an assistance to the patient in paying his bill.

(d) Some associations issue cheques to the doctor personally, some to the patient. In either case statements under (b) and (c) still hold good.

10. REQUEST FOR SUGGESTIONS AND CRITICISMS ON ECOSOMIC MATTERS:

All doctors in British Columbia are requested to forward any comments, suggestions or criticisms they may have regarding prepaid medical schemes, either approved or unapproved, to the Executive Secretary of the British Columbia Medical Association, who is also Secretary of the Committee on Medical Economics. In particular we would like to have any matters dealing with advertising by unapproved schemes.

Vancouver Medical Association

President	Dr. H. A. DesBrisay
Vice-President	Dr. G. A. Davidson
Honorary Treasurer	Dr. Gordon Burke
Honorary Secretary	Dr. Gordon C. Johnston
Editor	Dr. J. H. MacDermot

THE HISTORY OF THE VANCOUVER MEDICAL ASSOCIATION

DR. G. A. KIDD

The City Hospitals (continued)

In February, 1894, came the long awaited resolution by the Health Committee: "That a Women's ward be provided for." Forthwith there began the erection of a second wing on the hospital grounds. Like the first, it was really a detached building linked to the central frame one by a covered passage way. Like the other wing, too, it was constructed of a dark red brick, and, as may be seen from examining it, was entirely different in architectural construction from the orthodox hospital building of today.

At last the city had its long discussed women's ward. We are not certain of the exact date on which it was opened to receive patients, but it was probably as late as 1897. In January of 1898 the Medical Board resolved that admission of female patients to the newly-opened building should be limited to those of medicine and surgery. No midwifery cases would be allowed. The Board insisted that the inclusion of these would be extremely dangerous and unwise. It would seem that the hazard of childbed fever, so prevalent within the period of time covered by the memories of many of the staff, made them cautious. No maternity cases were admitted to the City Hospital while it was located on Beatty Street.

At a meeting held in May of that same year, the Board discussed the best ways of utilizing space in the new building. It was resolved,—

1. That ward rooms for private cases should be reserved exclusively for women.
2. That so far as possible the building should not be used for chronic or incurable cases.
3. That a strong room should be placed in the basement to be used for D.T.'s and other uncontrollable cases.

Throughout the 'nineties the nursing staff continued to grow in numbers. It still had its living quarters in the hospital buildings where in 1898 it was thought to be of sufficient importance to record that a bathtub had been installed for its use. It was in March of that year that there took place an event of the first importance in its relation to the Nursing Profession in Vancouver. At that time the Medical Board of the Hospital received a communication from Dr. McGuigan, Chairman of the Board of Health, relative to the feasibility of establishing a training school for nurses in connection with the institution. The suggestion was received with favour by the Board and acted upon at once. A training school was established forthwith. In the August minutes of the

Health Committee there appears an item to the effect that "Miss Pert, Acting Matron, be permitted to engage temporarily a probationer nurse, at a salary of ten dollars a month." This appears to have been the beginning of the system of pupil nurses in Vancouver.

Since at that time no maternity cases were being admitted to the hospital, the nurses had to look elsewhere for that part of their training. In December of 1898 Dr. McEwen, the Resident Medical Officer, received a letter from the City Clerk that: "Permission is granted to send pupil nurses to the women's ward at New Westminster, for obstetrical training; in exchange for nurses from there." This arrangement did not last long. It was discontinued when Nurses Roycroft and Burgess opened their own private maternity hospital in Vancouver, and took in City Hospital nurses for training.

With the completion of the second wing, the hospital now had a bed capacity of between forty and fifty. This seems few enough for a city whose population had that year—1898—reached 24,000 persons. But the institution was now sufficiently large to warrant more modern equipment. A new operating room was erected at a cost of $149.00. It was also detached from the other buildings comprising the hospital, but was connected with each by a covered passage way. A fee of five dollars was at first charged for the use of the operating theatre, to include the anæsthetics and the first dressings. This was soon increased to ten dollars. As mentioned previously, it was required that when an operation was booked for a certain day, the whole hospital staff be notified, so that they might attend.

In 1900 an X-ray machine was installed at a cost of $300.00. It was put in by a Mr. H. Hutchison, a Vancouver man who had some knowledge of Rœntgen apparatus. The first picture to be taken was that of the hand of Matron Clendenning. It is still in the possession of the institution. The Resident Medical Officer, Dr. McEwen, was the radiologist, the first in Vancouver. An extract from the *Daily World,* dated April, 1902, states that: "A sarcoma of the jaw is being treated by Dr. Poole, by X-rays. If it succeeds it will mark a new era in medical practice in Vancouver." The first X-ray machine to be placed in the private office of a medical practitioner in the city, was installed by Dr. Riggs about this same date.

Not until September, 1906, when the hospital was located in Fairview, was a new X-ray machine required. It was at first placed in the care of the Pharmacist, Mr. A. S. Faucett, for operation and care. The following year, however, all X-ray work was taken over by Dr. H. H. McIntosh, the newly-appointed Hospital Superintendent. In 1909, Dr. McIntosh resigned from the latter position and gave all his time as radiologist of the institution.

Something in which at this time the Hospital Staff and the city as a whole, took considerable pride, was the ambulance. This had been purchased in 1898 and was under the control of the hospital. It was placed in charge of the Palace Livery Stable, owned by a certain Mr. Sparrow. Here it was housed, and with horses standing by, was at all times ready for immediate use. It might not be called out except by permission of Dr. McEwen. The fee charged was three dollars a trip. By 1902 the old yellow ambulance had become rather out of date. A patient complained that he suffered more during his trip to the hospital than he did during the subsequent operation.

In April of this year the local newspapers announced with pride that a new ambulance was coming; that it would arrive in the early summer, and that it was a beauty! It was being built in Illinois, had pneumatic rubber mattresses, plate glass windows with blinds which might be drawn, three silver conductor lamps inside, full coach gear, Swedish springs, a leather driver's seat which would accommodate three persons, an 11-inch gong on the dashboard, carriage lamps, large rubber tires, was painted green striped with gold, and had "Vancouver General Hospital" in large letters on the sides.

The new ambulance arrived in due time, but the Board of Health Committee was loath to accept the responsibility of managanig it. After standing for two months in the livery stable it was finally put into use, the old ambulance being handed over to the

City Council for use in transporting infectious cases. In spite of its modern equipment and high polish, the new vehicle was for a time rather a joke with the citizens of Vancouver. A local paper contained the following item, dated October, 1902. "Taking forty minutes to go five blocks from the hospital to the corner of Granville and Hastings Streets, the ambulance galloped up at fifteen miles an hour, after a man had collapsed on the street. Half a dozen citizens pulled their watches to time it. A city policeman said, 'I hope there are no newspaper reporters around.' When the man was loaded into the ambulance a horse fell down. It got up and the other horse fell down. Then both horses were down and refused to stir. Even when unhitched they still refused to move. No coaxing nor whipping could budge them. Finally half a dozen young men pulled the ambulance to the hospital."

Again quoting from a daily paper of February, 1903: "Complaints of the slowness of the ambulance service continue to come in. A call was put in to the Palace stables by the C.P.R. The ambulance took forty-five minutes to arrive. The driver walked the horses and was in no definite hurry. He said: 'This is no hurryup ambulance. We have no patent harness and do not keep racehorses.' " In 1910 the hospital ambulance was handed over to the City Council.

Meanwhile, in the opening years of the new century there occurred two events which were to have an important bearing on the destiny of the city's hospital. The first was the incorporation of the institution under the name, The Vancouver General Hospital, and the placing of its management under a Board of Directors. The second was the decision to build a completely new hospital.

In each of these undertakings the Vancouver Medical Association played an important part. At its meeting in November, 1901, the following resolution was adopted by the 23 members present: "That the management of the City Hospital be invested in a Board of Governors independent of the Board of Health and the City Council, and that a committee of the Association be appointed to consider what powers should be invested in that Board." We shall see later what part the Society played in the selection of a new site.

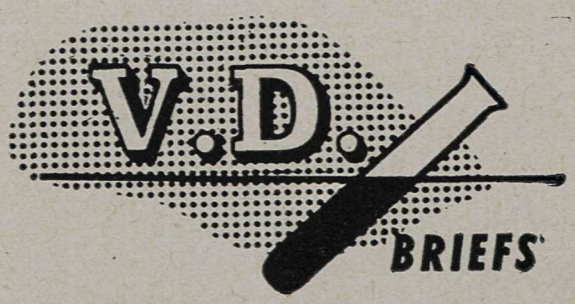
In May of 1902 the Provincial Government passed a bill authorizing the building of a new City Hall in Vancouver, and its incorporation under the name of The Vancouver General Hospital, provided that a by-law approving the same be favourable voted on by the people of the city. The voters endorsed the plan and a Board of Directors was appointed *pro tem* by the Government. This Board took over control of all City Hospital property in December, 1902.

The need for increased hospital accommodation was made imperative by the rapid rise of the city's population which by 1900 had reached 30,000. The first recommendation for such an increase came from Mayor Townley, who in February of 1901 addressed the City Council on the subject. He suggested that additional hospital space be supplied by augmenting the present buildings by others to be built on the Beatty Street grounds. The Medical Board considered the proposal, but their expressed opinion was that the old site was not sufficiently large to permit of further expansion, and recommended that an entirely new hospital be built on the Cambie Street recreation grounds, an area which has recently been taken over by the B. C. Electric Railway as a motorbus terminal. Again the Vancouver Medical Association had very decided views on the question, and at its meeting of November in 1901 referred to above, it insisted most vigorously that neither location was large enough, and that an entirely new site be chosen in the Fairview district. At the time this area seemed to be a long way from the centre of the city. It was still a wilderness, covered by stumps. A lively controversy was for a time carried on in the newspapers relative to the merits and demerits of the three proposed sites, but in the end the Council accepted the proposal of the Medical Society, and within a month it purchased from the C.P.R. a block of 5½ acres where the hospital now stands.

In September of 1903 tenders were called to excavate in preparation for the erection of North East and North West wings of the new institution. The former wing was ready for occupation late in 1905. It was known as the Mount Stephen Wing, in recognition of a generous donation to the hospital by Lord Mount Stephen, at that time President of the C.P.R. Company. The North West wing, which was opened the following May, was known as the Princess Christian wing.

By late December, 1905, with the exception of a few chronic cases, the patients from Beatty Street buildings (forty-two in all), had been transferred to the new hospital. The older buildings were for a time used as an annex to the Fairview institution, to house infectious cases, leaving some excess accommodation which was made use of by the Children's Aid Society. By 1907 a series of small huts which had been erected on the hospital grounds provided sufficient accommodation to house all infectious cases, and the Beatty Street buildings were handed over to the city. For the succeeding four years they housed what was later to become the University of British Columbia, at that time known as the McGill University College of B. C. The three main buildings are still standing. The frame one has been moved to a location farther south on Beatty Street, which it now faces. As mentioned before it is now used as headquarters for the labour organizations of the city. The brick buildings are used by the Social Service Department.

The City Hospital in Fairview, henceforth to be known as The Vancouver General Hospital, began modestly as a building which consisted of two wings, which housed six wards. They are still known as A, B, C, D, E and F. By October of 1906 there were 101 beds available for use. Before building had begun it was necessary to clear the site of stumps and standing timber. A deep ravine in which ran a small stream, cut through the grounds where the Private Wards Pavilion now stands. Reference is made to complaints about droves of pigs which wallowed in the mud of this ravine, at a time when the hospital was in operation. They came from piggeries which belonged to persons who lived outside the city limits, the southern boundary of which at the time ran along Sixteenth Avenue.



CARDIOVASCULAR SYPHILIS — REQUESTS FOR DRUGS

It is the policy of the Division of V.D. Control to refer all requests for drugs for cardiovascular syphilis to our specialist in cardiology. In order that appropriate treatment may be outlined, the following information should be supplied to the department when drugs ar erequested:

History of symptoms, physical examination, X-ray plates and screenings of the heart and great vessels, electrocardiograms, urinalysis and the type and amount of treatment already given.

If such examinations are not available in the locality where the patient resides, arrangements may be made for this examination to be done by the Vancouver Clinic. Enquiries should be addressed to the Director, Division of V.D. Control, 2700 Laurel Street, Vancouver, B. C.

British Columbia Medical Association

(Canadian Medical Association, Britsih Columbia Division)

President	Dr. Lavell H. Leeson
President-elect	Dr. Frank Bryant
Vice-President	Dr. W. Laishley
Honorary Secretary-Treasurer	Dr. J. C. Thomas
Immediate Past President	Dr. Ethlyn Trapp

1947 ANNUAL MEETING OF THE BRITISH COLUMBIA MEDICAL ASSOCIATION

Another annual meeting has come and gone. In retrospect it appears to have been a worthy successor to the many meetings of high standard in the past. About 450 doctors in all attended the various clinical sessions and social functions.

The visiting speakers were a well-balanced clinical team headed by our genial friend Dr. Fred McGuinness of Winnipeg, President of the C.M.A. His "circus" consisted of Doctors Mathewson, Trueman and Blair, each of which dealt in a masterly manner with their specialty, the complete "circus" being guided by Dr. A. D. Kelly, Assistant Secretary of the Canadian Medical Association, who was on hand in Dr. T. C. Routley's unavoidable absence in Europe.

In addition we had the privilege of hearing one of the younger up-and-coming pathologists of Canada, Dr. G. Lyman Duff of Montreal; and the former head of the Department of Otolaryngology of the University of Manitoba, Dr. E. J. Washington.

Although not on the prepared programme, Dr. William Boyd kindly consented to conduct a Clinical Pathological Conference at the Vancouver General Hospital, which was highly successful and probably held the record for the week so far as attendance is concerned.

The public meeting on "Cancer" was a huge success, under the able chairmanship of Dr. C. W. Prowd. Dr. Blair, of the Canadian Cancer Institute, was the principal speaker. Platform guests included prominent persons in the field of cancer control. Nearly a thousand people crowded the ballroom and apparently really enjoyed the proceedings. The meeting went with a swing, getting off to a good start right on the dot at 8 p.m. and finishing on schedule.

On the executive side a large amount of work was accomplished. The Joint Committee on Medical Economics met all day on Tuesday the 16th, revising the specialist schedule of fees, and also went on record as in favour of the abolition of the 25% discount for M-S-A and other approved schemes. The annual meeting of the College was held on Wednesday night and was well attended. A real highlight was the annual meeting of The British Columbia Medical Association on Thursday. The chief matter under discussion was our stand in relation to the establishment of a medical school in British Columbia. After full discussion the stand of the physicians as already published in the press was re-affirmed, and the report and action already taken by the Committee on Medical Education was endorsed.

The official luncheon and the annual dinner, both ladies' and men's, were highly successful. Over 200 doctors attended the luncheon and 215 attended the dinner. The ladies' tea at Shaughnessy Golf Club attracted a large number and nearly 100 ladies attended their dinner. Professor F. H. Soward, Professor of History and Director of International Study of the University of British Columbia, was guest speaker at the Annual Dinner. His learned address on "The International Outlook" was much appreciated and probably more markedly so because it was not dealing with scientific medical problems.

A word should be said about the various suggestions for next year which one heard from a number of sources. First, that it would be perhaps agreeable to try to hold a combined banquet for a change, and secondly that the exhibitors should not be in the main lecture hall.

The Committee on Programme is to be congratulated on a well-run and highly successful Annual Meeting.

ADDRESS BY RETIRING PRESIDENT

DR. ETHLYN TRAPP

Now that I have turned over the reins of office to my successor, may I keep you here just a little longer while I make a few valedictory remarks. Our last annual meeting was held at Banff in the spring of the year. It was a hurried meeting, following that of the College of Physicians and Surgeons, and neither Dr. Meneely, the retiring President, nor I myself had an opportunity for more than the briefest of remarks.

Our membership has been growing rapidly until now there are 1407 doctors in the Province. Through the years the affairs of both the College of Physicians and Surgeons, and of the British Columbia Medical Association have been assuming an ever increasing importance, so that your officers have come to feel that each body should have a complete evening for its annual meeting. It would also seem suitable that the retiring president have opportunity to summarise the events of the year, and I frankly welcome this opportunity.

First, I must tell you how deeply I have appreciated the honour of being your president, and since I haven't the art to find the words equal to my feeling on this occasion, I am going to use those of the late MacNeile Dixon in introducing his Gifford lectures and recently quoted on a similar occasion to this, by Dr. Smithers of London: "If it be said, and it is no more than the truth to say, that I owe my position here to the friendship of my colleagues, I would wish this to be added, that I take more pleasure in the regard of my friends than in any honour that could be done me."

Recently I have been going over some of the early medical history of the province compiled by the Committee on Archives, now under the Chairmanship of Dr. Kidd. It makes very interesting reading and I take pleasure in bringing it to your attention. There is among other articles, a short monograph by the late Dr. A. S. Monro, which is particularly entertaining, dealing as it does with political as well as medical history and ranging from the time of the landing of Captain Cook at Nootka in 1778 to the years following the First Great War.

One might say that the B. C. Medical Association was born in 1850 when Dr. James Helmcken, a surgeon to the Hudson Bay Company, arrived at Esquimalt and there met Dr. Alfred Benson, who had a short time before come from England—where two or more doctors are gathered together, there exists the nucleus of a medical society. It must have been an exciting reunion for these first two medical practitioners in B. C., for they had worked together in London and graduated at the same time from Guys.

Though more doctors continued to arrive each year, the first medical meeting recorded was in 1885. This was held at Victoria and was attended by Doctors from New Westminster, Vancouver, Nanaimo, Cowichan, as well as Victoria. It was called for the purpose of bringing some sort of order into the then chaotic condition of medical practice in the province, and from this beginning a British Columbia Medical Society was organized within the year. One must remember that this was just at the end of the Gold Rush period when people had arrived in droves from San Francisco and other places south and east, all bound for the new gold fields on the Fraser, and there were of course among them the usual medical quacks and fly-by-nights. It is recorded that in 1858 alone, over 35,000 people arrived in British Columbia, practically all passing through Victoria, causing, as one can well imagine, a fantastic upheaval in this small town of only a few hundred inhabitants.

The following years many more doctors came to the province, among them names still well known; in reading over this early history, one is impressed by the important part played by these early physicians in community affairs; for instance, Dr. Helmcken was elected speaker of the first Vancouver Island House of Assembly and took a conspicuous part in the stirring political events of the day, leading as they did to the annexation of Vancouver Island to B. C., and later to Confederation with the Dominion. Dr. Helmcken's work was by no means neglected for his political activities: it was said of him that he was the leading physician from San Francisco to the North Pole and from Asia to the Red River. Later, he, with other members of the Legislative Council, notably Dr. Israel Powell, formulated the terms for Confederation with the Dominion.

It is also noteworthy that the Government of Sir John A. Macdonald offered the first three B. C. Senatorships to three doctors: Helmcken, Powell and Carrall, names perpetuated in our Vancouver streets. Dr. Helmcken's house, a few steps from the Parliament Buildings, has been taken over by the Provincial Government as a historical monument. If you have not already been there it is a must for your next visit to Victoria.

It was not until 1900 that the first scientific meeting of the British Columbia Medical Association was held. It took place at the Parliament Buildings and the late Dr. R. E. McKechnie, then of Nanaimo, was the first president. At that time Vancouver was just fourteen years of age and had only three or four medical practitioners, men who had found their way here in connection with C.P.R. construction work. Previously medical service had been supplied from New Westminster.

From now on, except for a period during and just after the first world war, regular annual meetings are recorded, though the fortunes of the Association have been subject to great fluctuations. Dr. Cousland recently compiled a history of the Victoria Medical Association and Dr. Kidd is now writing a series of articles on the medical history of Vancouver. These are appearing in the Bulletin so I shall pass over the period from 1900 to 1938, when we became the British Columbia Division of the Canadian Medical Association. Since then we have functioned as an integral part of that great body while still maintaining our own Provincial autonomy. We stand in much the same relationship to our parent body as do the Provinces to the Federal Government except that, as Dr. Wallace Wilson pointed out in his valedictory address, we do not depend on a British North America Act to define authority, but are held together by the united support of the Divisions. This support is happily maintained because of complete freedom and frankness of discussion in Executive and Council, on which bodies all the Provinces are represented. Under this united regime the C.M.A. has grown rapidly in stature, and membership has increased each year. At the time of the last annual meeting in June of this year the membership was 8,482, a figure never previously attained.

In our own Provincial affairs this has been an important year for the Association and much has been accomplished. The reports of standing committees have been published; those of you who have read these reports and listened to the discussions will have some conception of the tremendous amount of work that lies behind them and will be pleased that Dr. MacDermot, the editor of the Bulletin, has paid tribute to the Chairmen and members of these Committees for their unselfish service, and I would sincerely echo that tribute. From these reports it will be evident to you that the real work of the Association is carried on through its Committees. One of the most important of these is the Committee on Medical Economics. This year, the formation of a joint committee of the College of Physicians and Surgeons and the British Columbia Medical Association paved the way for effective action in the field of economics, with the result that fee schedules have been revised and prepaid medical care plans from across Canada have been studied. Dr. Milburn and his committee are to be congratulated on an important accomplishment. Dr. Strong, as chairman of the Canadian Medical Association Committee on Economics, has worked in close collaboration with the Provincial Committee. A four-day conference on plans for prepaid medical care, held in Winnipeg last June at the time of the Canadian Medical Association meeting, did much to clarify the uses as well as the limitations of such schemes in relation to community health. Dr. Milburn again

merits our thanks for taking over another important Committee, that on Medical Education, and in giving him this credit one does not forget the previous spade work so ably done by Dr. K. D. Panton.

It is gratifying to have the Committee on Cancer in the able hands of Dr. Don Williams, especially at a time of great potential activity, when the development of nuclear energy has initiated a whole new era of research and opened up untold possibilities both for research and treatment.

You will all agree that the Programme Committee has done an outstanding job. The scientific sessions are excellent. We are fortunate in having Dr. McGuinness with us as one of our scientific speakers, as well as in his official capacity as President of the Canadian Medical Association. We note with regret the absence of Dr. Routley and miss him very much indeed, in spite of the fact that his duties are being so ably carried on by Dr. Kelly. I cannot remember an annual meeting without the presence of Dr. Routley; his absence, however, is indicative of the esteem in which our Association is held by the Government of Canada, for, as you know, Dr. Routley is representing them on the Interim Commission of the World Health Organization, just come to the end of a fortnight's meeting in Paris. In addition he is one of the delegates from our association to the World Medical Association now meeting in Paris.

I shall not take your time by going over each Committee in turn but I should like at this point to express my sincere gratitude to all their Chairmen and members. It seems to me that this has been an outstanding Committee year and in spite of the fact that through much of it there was no Executive Secretary to call on for assistance. Now after a gap of nearly six months Dr. Whitehead has come to fill the post and we cordially welcome him.

You will know from the report of the Council of the College of Physicians and Surgeons that a Benevolent Fund has been set up and that monies to the amount of $16,020.00 have been handed to the three trustees, Dr. W. E. Ainley, Dr. D. F. Busteed and Dr. A. J. MacLachlan, for investment, and disbursement as required.

As the retiring president I have one suggestion to leave for your consideration. It is this: That an Advisory Council be set up composed of past presidents. This, I am told, is done by other professional groups, and insures that experience gained by presidents while in office remains at the disposal of the Association.

This need not be a very active body and would have no executive power—it could, however, be very useful—for instance, in helping to solve problems that require a lot of research of one kind or another, some will, no doubt, have come up in previous years and been forgotten. It would also tend to maintain the interest of these retiring officers in the Association—an obvious mutual advantage.

Before going further, may I express my personal regret as well as that of the Board of Directors at Dr. Lyon's resignation as First Vice-President. We had been looking forward to having him as President of the Association. However, he is serving us well as President of the College of Physicians and Surgeons and one can readily understand his hesitation at taking on two such onerous posts.

As you all know, the B. C. Medical Association has under its jurisdiction the scientific and educational affairs of the profession in contradiction to the College of Physicians and Surgeons whose duties are legal and financial. One of the important ways of carrying out our own particular duties is by trips throughout the Province. In the course of the year it is customary for your President and Executive Secretary, with a team of scientific speakers, to attend the annual meeting of each district society—some of these being held in the autumn and some in the spring. A year ago, meetings were held in Cranbrook, Trail and Penticton. At these meetings we were privileged to have with us Dr. Archer, consultant on Economics of the C.M.A., as well as the scientific speakers. Dr. Dave Johnson was sent by the D.V.A. and Dr. Caverhill, at that time our Executive Secretary, was in attendance. Victoria and Upper Island meetings were also attended and late this spring we made our way north to Prince George and thence to Prince Rupert.

I do not believe that the importance of these district meetings can be overestimated, discussions were free and frank, yet always friendly. We in Vancouver were accused of being smug—perhaps we are, and perhaps we can be criticized for not giving as much consideration as we might to the problems of men practising in smaller towns, and especially in the isolated districts of the Province. This aspect of our Association affairs should, I believe, be taken under consideration by the incoming Board of Directors.

In this connection, a panel of speakers has already been made available under the committee on programme and finance, and we hope it will be widely used. It is one service that the Association is in a position to give, but the service should be requested and it is desirable that speaker and subject be chosen by the district society. Speaking personally, these trips through the Province will be some of the most treasured memories of my year as your President. Everywhere we were greeted with such warmth and enthusiasm, and friendships made will, I hope, continue through the years. One came away with a great respect for the skill and resourcefulness of those medical men who have chosen to work away from the larger centres, but might I suggest that they themselves take a more active part in their own meetings. It is only fair that the exchange of experience should be mutual and the meetings would be much more valuable for all concerned by virtue of that exchange. In order to maintain and strengthen the status of the General Practitioners, a Committee within the Canadian Medical Association has been formed under the Chairmanship of Dr. Wallace Wilson. The possibilities of clinical research for the general practitioner and the certification of the General Practitioner as such are under consideration. Dr. Wilson is known well enough in these parts for us to be sure that anything he undertakes will be carried to a useful conclusion.

Too much emphasis cannot be put on the importance of membership in our parent body. In British Columbia, it is entirely voluntary and we have felt it to be desirable to keep it so. Dr. Saxton has done a splendid job as head of the Membership Committee, but still a number of Doctors do not belong. Unity is of particular importance in these changing times, especially with respect to the supplying of health services. As physicians, the main responsibility for community health is ours and we must play our part in this reconstruction of medical practice which is developing so rapidly and without the realization of many of us. The C.M.A. has been studying the matter for some years and it has come to be the most urgent of the problems confronting the profession today. The appointment of Dr. Archer as Medical Economics Consultant has helped to correlate the activities of the Provincial Economic Committees, so that, in spite of the fact that health is a provincial prerogative, we are gradually acquiring an over-all picture for the Dominion. The following basic requirements for the improvement of health services have been adopted by the Central Committee:

1. A full programme of preventive medicine.
2. Provision of an adequate number of hospital beds.
3. Provision of medical and allied services for remote areas.
4. Provision of diagnostic services (laboratory and x-ray).
5. Full coverage for the Welfare group.
6. Improved standards of living.
7. Education: (a) of the public, (b) of the medical profession.

These basic requirements are acceptable to all. The question is how to fulfil them. The complexity of this problem of the people's health has become so great that one is apt to become discouraged at the very thought of it. Dr. James MacIntosh of Glasgow says, "It is understood nowadays by doctors and laymen alike that this problem, the Nation's health, goes far beyond the consulting room. It is the problem of the houses we should live in, the food we should eat, the hours we should work, the habits we should learn at school. To have a healthy community, we must get all these things right, and that gives us a social objective, linked with economic and political questions of the deepest complexity. As in all other aspects of planning for the future, we find that the health aspect is inseparable from the others."

The conferences on economics at the last Canadian Medical Association meeting fully demonstrated that organized medicine is more than anxious for the establishment of a sound and adequate medical service for the people of Canada, but that is not enough; we are living in a democracy, the people themselves must also want it, therefore they must be educated as to what the requirements for such a service are. As physicians, we, of necessity, must have a large part to play in this educational effort. In England, the coming of government controlled medicine found a profession absolutely unprepared, and the same thing has happened in nearly every country in the world where government schemes have been introduced. This has resulted in unfortunate conditions, both for the public and the profession. In Canada, we still have time, but not so much, and it is rapidly running out—the question is, shall we have the perseverance and the wisdom to impart this knowledge to our people? Before we can do this we must study the question for ourselves. We must first have a vision before we can impart it to others and in the words of the Old Testament proverb, "Where there is no vision the people perish." That vision must be both broad and intimate, it must embrace this one world of which we almost overnight found ourselves to be citizens, it must also be part of the daily round in our own particular community. In order to achieve this, both the doctors and the lay public must take the trouble to really inform themselves about health services and their implications. A rather frightening attitude of indifference on the part of many reminds me of what Norman Cowin, the radio playwright, had to say, when he received the Willkie One World Award. He was speaking of the man who would not interest himself in public affairs, even those of his own community, let alone of his nation or the world at large. This man, he said, is not even a fence sitter—at least the fence-sitter knows there is such a thing as a fence—he just floats in air like the prop in an Indian rope trick. Panics, depressions, and wars come to him like weather. He suddenly peers out of his window and says, "Look, it's warring."

Through the ages, the medical profession, above all others, has been able to transcend international boundaries and to our credit we are continuing to do so in this desperately unhappy post-war world. Peace, although ushered in as it was by the release of nuclear energy, seemed to promise so much. After two years of this so-called peace, we realize what a misnomer it is for the state of the world today. Perhaps another term could be found so that we need not continue to take in vain that beautiful word, with its associations of tranquility. How far away we are from that peace we have looked forward to. In 1771, a Frenchman, in a letter to Frederick the Great, remarked, "My instinctive desire is for the accomplishment of this hope of peace, but it remains to be seen whether, all things considered, it is a benefit for the sad human race to prevent it from self-destruction." Although that was said nearly two hundred years ago, today nuclear energy makes that possibility an even more frightening one, because we are standing in terror before a discovery whose peaceful development could promise untold benefits to mankind.

The United Nations Organization embodies within itself our only hope of survival. It is a truism to say that we must be one world or none, and yet the obstacles to this unity seem to become more insurmountable month by month. Perhaps medicine is the easiest sphere in which to attain international understanding, at least we haven't human selfishness to overcome in the same degree as in the economic sphere; the more of health and well-being a nation has, the better it is for the rest of the world, and conversely, disease in one country is a potential danger to all others. With these considerations in mind, the British Medical Association, just after the setting up of the World Health Organizations, under the United Nations, sent invitations to the national medical associations of the world, asking them to take part in an international medical conference. This took place just a year ago, out of it emerged the World Medical Association, whose first plenary session is now being held in Paris.

The Canadian Medical Association is represented at this meeting by Dr. Wallace Wilson, Dr. Leon Guerin-Lajoie, both past presidents of the Association, as well as Dr. T. C. Routley, our general secretary, and Dr. Donald Cameron, Deputy Minister of

Nationl Health for Canada, thus the Canadian Medical Association has filled with distinction the four seats to which it is entitled.

The objects for a World Medical Association were drawn up at the first meeting in London—you will find them enumerated elsewhere. The final all-embracing one is this: "To assist all peoples of the world to attain the highest possible standard of health." This is also the avowed object of the World Health Organization, so working together and within the United Nations the possibilities of accomplishment are tremendous. It must be a source of deep satisfaction to us all that thus have the physicians of the world lighted the proverbial small candle rather than curse the darkness, and in so doing signified their willingness to share in another attempt to shape man's destiny according to a pattern of universal tolerance and mercy, fulfilling the vision of the good physician and becoming, in the words of our own Canadian Medical Association code of ethics, "Planners of New Worlds, Counsellors of the people of a new day."

F. W. TROUSDALE, M.D.

Obiit November, 1947

In the recent death of Dr. Fred Trousdale, the medical profession of Vancouver lost one of its best men. Dr. Trousdale had practised medicine in Vancouver for a long time, and had a large circle of friends. Quiet and unassuming, he devoted himself to his work, and had a very large practice. He was fortunate that, beyond one or two minor spells of illness, he was able to carry on continuously, and in fact, was busy up to the day of his death.

Fred was a Mason, and a very keen one—and exemplified in his life the principles of Freemasonry, which set a very high standard for a man to follow. He had at various times occupied all the offices which pertain to the craft, and he had the confidence and affection of all the brethren. He will be greatly missed by all who knew him.

DISTRICT MEETINGS

SOUTHERN INTERIOR MEDICAL SOCIETY

The annual meeting of the Southern Interior Medical Society was held in Revelstoke on Friday, October 10th. Twenty-six doctors attended the clinical section in the afternoon, and about sixty people enjoyed a very sumptuous dinner in the evening.

Interesting and instructive addresses were given by Dr. Rocke Robertson, on "Acute Obstruction in the Small Intestine," and Dr. A. W. Bagnall, on "Rheumatoid Arthritis." At the business meeting of the Society, the following officers were elected:

President: Dr. H. Campbell-Brown, Vernon; Vice-President: Dr. W. A. Drummond, Salmon Arm; Secretary-Treasurer: Dr. Wm. Finlayson, Vernon; Representative to B.C. M.A.: Dr. H. Campbell-Brown; Representative on Committee of Economics: Dr. W. H. White, Penticton.

The 1948 annual meeting of the Society will be held in Vernon, B. C.

After the banquet, Dr. Lavell H. Leeson, President of the British Columbia Medical Association; Dr. E. J. Lyon, President of the College of Physicians and Surgeons; and Dr. F. L. Whitehead, Executive Secretary, presented short papers on current events in organized medicine in the Province.

As an added attraction Dr. G. L. Watson, recently appointed Medical Director of M-S-A, and Dr. D. W. Johnstone of D.V.A., attended the meeting representing their respective organizations, and took part in the proceedings briefly.

The committee in charge, Dr. A. Llewlyn Jones and Dr. H. E. Hamer, are to be congratulated on the excellence of their arrangements for the meeting.

UPPER ISLAND MEDICAL ASSOCIATION

A regular meeting of the Upper Island Medical Association was held at Crayharven Inn, Parksville, on the evening of Wednesday, October 15th. A very pleasant dinner was indulged in followed by the regular business meeting, under the chairmanship of the President of the Association, Dr. H. A. L. Mooney, with the able assistance of Dr. E. R. Hicks, the Secretary.

After the regular business meeting, short addresses were given by: Dr. Lavell H. Leeson, President of The British Columbia Medical Association; Dr. J. C. Thomas, Honorary Secretary-Treasurer of The British Columbia Medical Association, and Dr. F. L. Whitehead, Executive Secretary of the College of Physicians and Surgeons.

Dr. W. W. Simpson gave a very interesting discourse on the recent concept regarding the mechanism of diabetes, which was followed by a surgical paper on "Injuries of the Hand," by Dr. G. H. Grant of Victoria.

About thirty doctors attended this meeting, which was well organized and very successful.

EAST KOOTENAY MEDICAL ASSOCIATION

The Annual Meeting of the East Kootenay Medical Association was held in Cranbrook on Tuesday, October 21st.

A clinical programme of high merit was given in the Nurses' Home of St. Eugene Hospital in the afternoon, at which Dr. J. C. Thomas spoke on epilepsy. Dr. Ross Robertson discussed recurrent dislocations of the shoulder and Dr. R. A. Palmer gave a paper on acute renal suppression.

An enjoyable dinner was held at the Cranbrook Hotel in the evening, and this was followed by the regular business meeting at which the following officers were elected:

President, Dr. M. McRitchie, Fernie; Vice-President, Dr. J. Hazard, Kimberley; Secretary-Treasurer, Dr. C. W. Brockington, Cranbrook; Representative to the B.C.M. A.: Dr. F. W. Green, Cranbrook.

It was decided that the Annual Meeting next year will be held in Kimberley, B. C.

WEST KOOTENAY MEDICAL ASSOCIATION

The Annual Meeting of the West Kootenay Medical Association was held in Nelson on Wednesday, October 22nd.

The same team of clinical speakers who visited Cranbrook the previous day, addressed the meeting in the afternoon. There was lively discussion after each address.

Dinner was served in the hospital, after which the regular business meeting was held when the following officers were elected for the ensuing year:

Honorary President, Dr. W. A. Coghlin, Trail; President, Dr. Wm. Leonard, Trail; Vice-President, Dr. R. B. Brummitt, Nelson; Secretary-Treasurer, Dr. W. Laishley, Nelson; Representative to the B.C.M.A.: Dr. Wm. Leonard, Trail.

At both of the above meetings Dr. Lavell H. Leeson, President of The British Columbia Medical Association, and Dr. F. L. Whitehead, Executive Secretary of the College of Physicians and Surgeons, gave short addresses.

Dr. J. L. Watson, Medical Director of M-S-A, and Dr. D. W. Johnstone, representing the D.V.A., were present at the meetings and both spoke briefly and answered a number of queries.

AMERICAN MEDICAL ASSOCIATION DIRECTORY

Preparations are now being made to publish the new, Eighteenth Edition of the AMERICAN MEDICAL DIRECTORY! The last edition of the Directory was issued late in 1942. Since that time, it has been impossible to publish a new edition because of wartime restrictions and the shortage of paper and labor.

About November 15, a directory card will be mailed to every physician in the United States, its dependencies, and Canada, requesting information to be used in compiling the new directory. Physicians receiving an information card should fill it out and return it promptly whether or not any change has occurred in any of the points on which information is requested. It is urged that those physicians also fill out the right half of the card, which information will be used exclusively for statistical purposes. Even if a physician has sent in similar information recently, mail the card promptly to insure the accurate listing of his name and address. There is no charge for publishing the data nor are physicians obligated in any way.

The Directory is one of the most important contributions of the American Medical Association to the work of the medical profession in the United States. In it, as in no other published directory, one may find dependable data concerning physicians, hospitals, medical organizations and activities. It provides full information on medical schools, specialization in the fields of medical practice, memberships in special medical societies, tabulation of medical journals and libraries, and, indeed, practically every important fact concerning the medical profession in which anyone might possibly be interested.

Therefore, should any physician fail to receive one of these Directory Information cards by December 1, he should write at once to the Directory Department requesting a duplicate card be mailed.

PRE-OPERATIVE CARE
ONE PHASE OF A TOTAL SURGICAL PLAN

K. R. TRUEMAN, M.D., M.Sc.(Minn.)

Winnipeg, Manitoba
Division of Surgery, Winnipeg Clinic, Winnipeg, Manitoba

The surgeon of today is in a stronger position than his predecessors whose fine technical skill he has inherited. This is so since there is now available knowledge and information which has resulted from the extraordinary advances made in recent years in clinical and laboratory research. As a result, the surgeon is learning that, in order to achieve success in the care of serious conditions, he must apply more and more comprehensive measures. It is accepted that certain surgical diseases, once they are well established, affect in various ways the whole organism. Thus infection, nutritional disturbances, increased metabolism and tissue damage may produce marked physiological and bio-chemical disturbances. The fuller understanding of these secondary effects and the means to correct them forms the basis of safe, modern surgery. The surgeon must remain alert to their possibility and to the increased risk to the patient when they are not corrected. In order to meet these fuller problems, the surgeon must adopt a total surgical plan. (Fig. 1.) Just as a nation involved in modern or total warfare must mobilize all its material and human resources, so the surgeon must make use of all the means at his disposal. No longer can emphasis be placed chiefly upon technical skill to eradicate disease and provide a successful issue while it is hoped that the patient possesses the necessary vital reserves to match the inroads of his illness and the burden of the operation. Over-concentration on the operative or mechanical phase almost to the neglect or exclusion of other important phases has been the cause of many failures or at the best, incomplete recoveries.

Every case deserves the most careful general consideration. There should be no shortcuts in the history taking or physical examination or the performance of routine blood and urine analysis. It is advocated that all patients undergoing surgery of some moment receive an x-ray examination of the chest. On the public wards of our teaching hospitals in Winnipeg we freely seek and receive consultation on our patients from the medical departments in the matter of the status of their cardiac, pulmonary, and renal function. In our own group practice among private patients the same principle is followed. It is based upon the understanding that time and knowledge are limited and proper surgical ability does not always mean equal medical acumen. The result provides a more complete picture of the patient's general position and a greater familiarity with his weaknesses and provides protection for him in the ordeal he is to undergo.

In this discussion, which deals with the preparation of the patient for surgery, some of the major therapeutic measures available to reduce morbidity and mortality in a great variety of pathological states will be considered. Specifically, I wish to refer to the problem of dehydration, malnutrition, avitaminosis and anæmia.

I. DEHYDRATION. This condition may exist in patients who have been unable to take fluids for a few hours as well as in those who have suffered a marked loss of weight over a considerable time because of illness. It becomes a distinct certainty where, in addition to failure to take food and fluid, there are abnormal losses by vomiting, diarrhœa, a fæcal fistula or excessive sweating. The clinical picture is well known. In the absence of renal disease the urine will be scanty and concentrated. Estimation of the blood or constituents of the plasma may be misleading in moderate to severe dehydration because of falsely high readings due to concentration. It has been demonstrated by Maddock and Coller on the basis of human experiment that when an individual is dehydrated clinically he is lacking fluid equivalent to six per cent of his body weight. (Fig. 2.)

When the intake of fluids orally is partly or wholly impossible, intravenous administration is usually employed. For those patients depending upon this manner for their fluids, a minimum of 3000 cc. daily is required. This permits a normal loss of 1000 to 1500 cc. by kidney excretion which is necessary for the elimination of waste products, while another 1000 to 2000 cc. are lost ordinarily for decompressing the gastro-intestinal tract or external fistulæ, the replacement of these amounts as accurately as possible is indicated. Thus a continuous gastric suction will remove 1000 cc. or more of secretion in 24 hours. Estimation of the amounts lost may be determined by a careful collection of such fluids or by the daily accurate weighing of the patient as advocated by Wangensteen.

One of the chief problems in intravenous fluid therapy involves the quantity of sodium chloride to be given. There has been a distinct tendency for the routine use of saline in all parenteral administration of fluid without regard to whether sodium chloride is needed or not. There are serious drawbacks to such a practice. Thus it is known that the body's requirements for sale are not more than 7 gms. daily. Salt given in excess of this amount cannot be excreted by the kidneys, and there follows a diminution in renal function and a retention of waste products as evidenced by the reduced urine output and an elevated blood urea nitrogen. More subtle may be the œdema in the tissues, including the lungs, due to chloride retention, which will delay wound healing and cause obstruction at gastro-intestinal anastomoses. Therefore, apart from providing salt for normal requirements and what may be lost through suction, etc., great care must be employed to avoid the too free use of chloride over lengthy periods in the pre-operative phases. Rather it is better to revise the salt requirements downward than to give in excess.

In order to overcome dehydration and yet have satisfactory renal secretion, a solution of 5 per cent glucose in distilled water can be used over and above what is given as saline. The glucose not only provides some osmotic effect, but it is a source of nutrition. However, as the body can metabolize only 10-12 grams per hour, it must be given slowly or glycosuria and diuresis develop, thereby reducing the number of calories available, and the undue loss of water may have an ill effect upon the already dehydrated patient. Examples of this are seen daily in urinalysis showing sugar following intravenous administration. In addition, the slow administration offsets the very definite hazard of overloading a weakened cardio-vascular system.

II. MALNUTRITION. In recent years the problem of malnutrition and its correction in the surgical patient has been brought increasingly to the attention of the surgeon. It involves chiefly a deficiency of proteins in tissues due to a relative or absolute reduction of food intake over a relatively long time.

Proteins of the diet are reduced in digestion by pancreatic trypsin and other enzymes, and are generally absorbed as amino acids. In this form they are available for the synthesis of body protein, for gylcogen, for storage or combustion, by deaminization in the liver, and finally for synthesis into other essential nitrogenous compounds. When the subject is fasting, the body's supply of glycogen and fat is converted to supply energy. As they are consumed, protein is converted into glycogen to meet the body's needs. This conversion or deaminization is a liver function and one in which the liver is sacrificed as well as other tissues, yielding as it does a large part of its amino acids. Where measures are being employed to treat protein deficiency, an important principle to remember is that sufficient additional calories in the form of glucose, or fat where food is taken, must accompany protein therapy to meet energy requirements. Otherwise part or all of the protein administered will be converted to glycogen for energy, and very little will be available for the manufacture of cellular protoplasm or the constituents of body fluids.

In malnutrition or protein deficiency, the following effects take place.

1. *Wasting*. Because of lack of proteins (and lack of calories), gross or subclinical wasting occurs. This is revealed by progressive weight loss in spite of adequate hydra-

tion. Muscular tissue exhibits this, but the liver yields 40 per cent of its protein as compared to an 8 per cent loss by muscular tissue.

2. *Oedema.* Should this occur without obvious cardiac or renal disease, the question of dietary origin must be raised. The œdema of starvation may be considered as due to hypoproteinemia because of the relation of osmotic pressure to hydrostatic pressure. The œdema in wounds and gastro-intestinal stomata may be due to protein deficiency as well as to excess of chlorides.

3. *Anaemia.* As hæmoglobin is composed of the iron containing pigment, hæmo, and a histone protein, globin, adequate supplies of protein are necessary for proper blood formation.

It has been shown by Whipple that hæmoglobin may be deprived of its globin in protein depleted states.

4. *Antibody Formation.* The work of Cannon and others reveals that proteins are necessary for antibody formation and it is the serum globulins which contain the antibodies. Although the total requirements for antibody production must be small, nevertheless, the competition in the poorly nourished subject is intense. Therefore protein deficiency may be a factor in reduced antibody formation.

5. *Susceptibility to Liver Damage.* It is known that the liver gives up large amounts of its protein in fasting states and it has been conclusively shown that proteins are necessary to protect the liver from damage. Hence the liver becomes increasingly susceptible in protein deficiency.

6. *General Effects.* These may be subtle and general. One of the most important of these in anorexia, which further influences an inadequate protein intake. Other effects include mental irritability and lassitude and unwillingness to undertake muscular activity as may be noted in the convalescent phase of any illness.

7. *Failure of Wound Healing.* The problem of delay in healing of decubitus ulcer, burns, and wounds and disruption of wounds is closely related to protein deficiency. No doubt such a deficiency adds to the œdema at the sites of stomata and incisions and is partly responsible for failure of healing. Excess chlorides and a deficiency of Vitamin C are further important factors in healing.

8. *Hypoproteinemia.* Plasma proteins have assumed increasing importance in clinical practice partly because of their accessibility and ease of estimation. However, in diagnosis the reduction of the value of the plasma proteins is a late manifestation of general protein deficiency since their relationship to body proteins is not constant under all conditions. Plasma proteins in early deficiency are maintained at the expense of other tissues. Conversely, in the recovery phase the plasma proteins return towwards normal on a high intake before tissue requirements are met.

Diagnosis of Protein Deficiency—Diagnosis of this condition obviously in most scientifically done by accurate nitrogen balance estimations. This is, however, tedious and time-consuming, and is best left to the field of investigation. Clinically, the diagnosis is based upon observation and prediction. The situations in which protein may be lacking are known, and so in a given case the deficiency can be predicted at least qualitatively. The estimation of weight and tissue loss is an integral part of clinical sense and is a valuable guide to therapy. When means are available, the repeated estimation of the various plasma protein factors is important especially when dehydration is being corrected, since the readings will be falsely high due to concentration and will vary downwards as fluids are restored. Attention should be directed to the value particularly of albumen.

The Occurrence of Protein Deficient States—In gastro-intestinal disorders such as carcinoma of the stomach or stenosing peptic ulcers in which anorexia and vomiting may be present, there is almost invariably some degree of protein deficiency.

In thyrotoxicosis there is gross wasting which is associated with liver damage and requires diets of 5-6000 calories, with a high protein element for control. It is well to

mention the work of Co Tui in the treatment of peptic ulcer with high protein diet. The rationale of this method does not depend upon control of gastric acidity, but it is of value because patients with chronic ulcer often have a long history of a protein deficient diet. The Sippy diet is low in protein, and in some other diets meat is prohibited. This, together with loss of appetite, vomiting, and perhaps hæmorrhage, should easily deplete the body proteins. Thus it is quite reasonable that the high protein Meulengracht diet should be successful in the therapy of ulcers associated with bleeding. Certainly high protein diets have an important place in ulcer treatment.

In diseases associated with rapid passage through the intestinal tract, as in ulcerative or amebic colitis, there is often impaired digestion and absorption of protein. In addition, there is protein loss from the ulcerating lesions of the mucosa. It is felt that the greatest contribution to the medical care of sufferers from these diseases is the availability of a satisfactory diet to maintain tissue protein reserves. In febrile atrophy associated with a severe fracture, burns, and other open lesions, the so-called "toxic destruction" of protein occurs. In such conditions tissue protein is rapidly consumed, and this loss is estimated as high as 1 per cent of body protein per day.

Protein Nutrition of Hospital Patients—As our interest in this problem developed, an inquiry was made into the dietary standards of the Winnipeg General Hospital. Theoretically, the ward diet was a satisfactory one. In the ordinary ward diet, an attempt is made to provide 70 grams of protein per day to the patient. It was a matter of concern, however, to observe the very large amounts of food left on the trays by patients, especially of meat, milk, bread and butter. On inquiry, many reasonable explanations were forthcoming, but no satisfactory solution. In patients preparing for surgery or convalescing from operation or serious medical illnesses, even if the whole of the diet were taken it did not provide the extra grams of protein required not only to maintain tissue but to repair the ravages of trauma, fever and fasting. The provision of a high protein diet containing 100 grams or more of protein was more useful when the patient would take it. Certain factors do prevent a proportion of patients from handling their diet. A more readily assimilated form of nourishment was needed to supplement ordinary oral diets. For years jejunostomy diets, high in calories and protein, had been used as drip feedings in special cases. More recently, we have used the Casec drink but find it seems to satisfy the patient's appetite so that his regular diet is only partially consumed. The reason for this, it is felt, is that Casec drink contains a very large proportion of fat (104 grams in one quart) which would cause it to remain in the stomach for a long time. We make use, therefore, of a formula suggested by Doctor Jessie McGeachy of Winnipeg. (Fig. 3.) This formula contains less fat but ample protein. The patients tolerate it well, and it does not appear to affect the appetite unduly. It is suggested, however, that a glass be given soon after a meal in order to allow the stomach to empty, and at bedtime. For ulcer patients it can be used for interval feedings.

Such a preparation supplemented with further protein, fat, and glucose to which are added vitamins and salt, can be used for tube feedings. The use of continuous drip feedings by a gastric catheter fitted with a Murphy drip, is of great value in feeding ill patients whose anorexia prevents the ordinary use of food. Post-operatively, it may be employed where it is unwise to introduce even moderate amounts of material into the stomach, and its administration can be controlled to meet the patient's tolerance.

Finally, certain cases undergoing preparation for surgery will not tolerate oral diets of any kind. Some of these patients may be suffering from extreme protein deficiency. To correct this state with large quantities of plasma or blood is expensive and requires many donors. Thus 500 cc. of plasma representing two donors contains only 30 grams of protein, or what is found in three glasses of milk. Amino acids are now available for intravenous administration. Some of these preparations contain 50-60 grams of amino acids in a litre of distilled water, and at least one (Amigen) contains 50 grams of dextrose. This addition makes therapy easier, since a high caloric intake is assured to spare

amino acids for protein synthesis. Two or three litres of this amino acid-carbohydrate combination may be used daily provided it is given slowly. In this manner, sufficient amino acids to meet the average maintenance requirement of one gram of protein per kilogram of body weight per day are provided, plus an additional amount to care for existing protein deficiencies, while fluids are maintained. Sufficient sodium chloride is not included in the amino acid preparation to equal body needs. Therefore, it must be provided by separate administration in whatever quantities are indicated.

Where the preparation is lengthy and requires two to three weeks, and if the condition is critical, the addition of whole blood to provide red blood cells once or twice a week is advisable. Much time and consideration must be given the preparation in the serious case where surgery can be delayed. Patience and forbearance will be rewarded by a smoother post-operative course if a vigorous nutritional programme is pursued.

Avitaminosis — This condition will exist in malnutrition or in cases treated for lengthy periods parenterally. When present, it is usually a multiple vitamin deficiency. It has also been shown recently that vitamin requirements are increased in the presence of fever, trauma and elevated metabolism. The function of the liver is seriously impaired if thiamine chloride (B_1) is not available. This possibility can be averted by administering the vitamin along with other B factors orally or parenterally. Ten to fifteen milligrams of thiamine chloride daily is indicated. Vitamin C, which is so important in wound healing and in maintaining capillary impermeability, should be provided in doses of over 300 milligrams. Vitamin K for prothrombin formation should never be overlooked in gastro-intestinal and biliary tract surgery. It has perhaps not been a common experience, but we have had several cases of colostomy closure followed by severe bleeding. Prothrombin estimation indicated avitaminosis K, because we had failed to remember the vitamin is absorbed from the diet in the colon, which in these instances had been defunctionalized for long periods.

Anaemia—This state may occur as the result of prolonged fasting due to disease or loss of blood due to trauma or a major operation. In malnutrition, if time permits, the anæmic state will be corrected as the deficiencies are met with proper diet supplemented by iron. If surgery is contemplated, the condition will be more speedily treated if 500 cc. of whole blood is administered every 2-3 days, until the blood is at a suitable level. With a hæmoglobin below 75-80 per cent, a serious operative procedure should not be undertaken unless the anæmia cannot be corrected or the operation cannot be delayed. It is now, or should be, generally accepted that increasing success in major operations depends upon the prevention of shock during and after the operation. Nowhere in modern medicine can the principle of teamwork be evidencd as well as in the operating theatre where a modern anæsthtist is present. His training, as well as his new methods of anæsthesia, permit him to remove much responsibility from the surgeon. The possibility of shock is usually met by the administration of fluids which begins with the anæsthetic. The changes in the patient's condition, because they are anticipated, are rarely permitted to continue without early means taken to correct them. Blood should always be available, and if a blood bank is maintained, it should be used freely if the patient's condition warrants it. In the performance of extensive resections in gastro-intestinal or biliary tract disease, or dissections elsewhere, at least one or two pints of whole blood should be in the theatre and the transfusion should continue after the operation if the patient's condition appears unsatisfactory. It has been shown that very substantial losses of blood may occur without recognition during even moderate procedures, and a definite anæmic state is present on the return of the patient to the ward.

The use of blood as a supportive measure has become a "must" in major surgery. Its use has protected may during lengthy and risky undertakings. The incidence of shock has been practically eliminated by the freer use of blood or plasma during and after major surgical procedures. There can be little doubt that the experience of military surgeons will demand that blood be available for their civilian patients, and that measures will be sought in even the smaller rural hospitals to provide for such needs. It might be

almost reasonable to argue that the major operations should not be performed where facilities for providing transfusions are not found.

In conclusion, the great advances in surgery over the past twenty-five years and the progress into newer fields is attributable to a very large degree to better preparation of the seriously ill patient, based upon a more complete understanding of the nutritional, bio-chemical, and physiological upsets which attend major surgical lesions. Fortunately, the means are becoming increasingly available to correct them.

Figure 1

A TOTAL SURGICAL PLAN

1. Investigation Phase.
2. Pre-operative Phase.
3. Operative Phase.
4. Immediate Post-operative Phase.
5. Rehabilitation Phase.
6. Follow-up Phase.

Figure 2

Body Weight	*6 Per Cent*
10 Kg., or 22 lbs.	600 cc.
20 Kg., or 44 lbs.	1200 cc.
60 Kg., or 132 lbs.	3600 cc.
80 Kg., or 176 lbs.	4800 cc.

Figure 3

EGG MILK WHIP

Ingredients	*Analysis* P.	F.	Cho.
40 oz. milk	40	48	60
60 gms. skim milk	20	2	30
2 eggs	12	12	
60 gms. sugar			60
salt			
vanillla			
36 gms. cocoa	4	10	12

Totals: P. - 76 gms. F. - 72 gms. CHO - 162 gms. Totals calories 1600

Figure 4

HIGH-PROTEIN, HI-CALORIE TUBE FEEDING

Contents	*Amt.*	*Prot.*	*Fat*	*Cho.*
Skim Milk Powder	100 gm.	35		50
Casec	60 gm.	51		
Eggs	4	24	24	
Brewer's Yeast	20 gm.	10		7
Orange Juice	3 oz.			18
Karo	8 oz.			240
NaCl	5 gm.			
Evaporated Milk	14 oz.	28		36
Creamilk	40 oz.	40		40
(Cals. 3774)	2 quarts	188	162	391

Vancouver General Hospital Section

SIGNIFICANT CHOLECYSTOGRAPHIC FINDINGS IN DISEASE OF THE BILLIARY TRACT

R. W. BOYD, M.D.
Department of Radiology
Vancouver General Hospital, Vancouver, B. C.

Unlike animals or birds, man consistently has a gall bladder but the explanation of its function in the normal and diseased state is as inconsistent as the extreme developmental variations in animals. Radiological information regarding the gall bladder is no exception and the following is a discussion of two of the least understood aspects of cholecystography.

"What is one to infer from a cholecystographic report that a gall bladder 'fills poorly, incompletely, shows delayed or increased emptying time'?" Cholecystography involves the use of a substance which is eliminated in the bile via the duct and the gall bladder. The substance is concentrated in the gall bladder until the organ becomes of such density that it may be clearly visualized on an X-ray film. Following a meticulous technique the examination may be most accurate. A dense filling followed by a prompt emptying, non-filling or visualization of calculi, presents strong evidence of a normal or diseased biliary tract.

The gall bladder examination developed by Graham and Cole in 1924 was the outcome of the knowledge that phenolphthalein dyes were secreted by the liver, with the eventual development of the well-known drug tetraiodophenolphthalein. Recently a new product, diodophenyl-proprionic acid has been replacing the phenolphthalein drug. The former has not the drastic purgative or nauseating side effect of phenolphthalein. The new dye is administered in a tablet form. It results in fewer and milder reactions and it is rapidly and completely absorbed. It does not leave confusing radiopaque shadows in the gastro-intestinal content.

It is unnecessary to prepare freshly made solution to administer the diodo-proprionic acid. The gall bladder shadows are said to be of better diagnostic contrast. The new drug is marketed under the trade names of Biliselectan, Phenoidal, Priodax and Dikol and is rapidly replacing the other preparation. Diodo-phenyl-proprionic acid cannot be given intravenously, as it causes excitement, respiratory stimulation and convulsions.

The significance of "pale" gall bladder shadows and "delayed emptying," is only understood by a knowledge of each step leading to shadow production and disappearance during rœntgen gall bladder studies.

1. Sufficient dye must be given. It must be freshly suspended in the case of iodophenolphthalein. Vomiting may occur and is often unreported. Much of the drug may remain in the glass. Double and triple doses have been found necessary with tetraiodophenalphthalein in order to be certain of adequate absorption.

2. The absorption from the gastro-intestinal tract may be influenced by many factors. For example the high acidity associated with peptic ulceration lowers the pH of the intestinal content, changing the soluble tetraiodophelphthalein into the non-absorbable insoluble compound. This would predispose to a faint filling or a non-filling. Diodoproprionic acid is said to be unaffected by high gastric acidity. Pernicious anemia, carcinoma of the stomach or pyloric stenosis may inhibit absorption.

3. The liver must be capable of transferring the iodine molecule from the blood to the bile. Cholecystography originally developed from a liver function test and parenchy-

matous liver disease, replacement or toxic destruction of the liver cells, or impaired portal circulation will diminish the amount of iodine entering the hepatic duct.

4. The hepatic duct must be patent.

5. The cystic duct must allow the bile to flow freely in either direction.

6. The gall bladder mucosa must be sufficiently healthy to absorb water in order to concentrate the iodine in the gall bladder bile. About 2.5 mg. of iodine per gm. of bile is required to produce a faint gall bladder shadow in the average adult. Nine mg. per gram will produce a dense shadow. A gall bladder containing 50 c.c. of bile, to be faintly visualized, would have to contain about 4 per cent of the iodine in the average dose taken by mouth. The process of concentration may be studied by rœntgen methods. The faint shadow may be seen one to two hours following the intravenous injection of the dye and the density may be quite marked after six hours.

7. The gall bladder must remain at rest and retain its bile for long intervals without emptying or dilution.

8. The radiographic factors are most important. A gall bladder having a certain shape, volume and iodine concentration will present a varying shadow density depending upon its surroundings. In a thin patient it will be recorded as "dense" while in a stout individual it would be reported as "pale" or "poor filling."

A true faint shadow indicates some integrity of the mucous membrane. A pale filling also represents only a degree or a grade of function and one cannot be certain that disease exists without repeated examination.

9. Gall bladder emptying requires preliminary stimulation. The hormone, cholecystokinin, initiates an integrated propelling mechanism, correlating the action of the gall bladder muscle and the sphincter of Oddi. Reduction of the gall bladder to at least a miniature shadow or its complete disappearance within three hours, the greatest degree of shrinkage being in the first hour, is generally accepted as normal.

An accelerated emptying time, as demonstrated by a rapid and pronounced disappearance of a dense shadow, associated with gall bladder tenderness and contractions observed fluoroscopically, are considered indicative of cholesterosis or "strawberry" gall bladder by Levene[1]. There is no doubt that patients have been subjected to cholecystectomy merely because they presented right upper abdominal complaint and rœntgen evidence of delayed emptying of the gall bladder, although the general examination revealed no demonstrable cause for their symptoms. Delayed emptying of the gall bladder is frequently reported as the so-called poorly functioning gall bladder without stones. In many instances symptoms were unrelieved and histologically such gall bladders have proven to be normal. To attach such significance to the x-ray examination infers a lack of completely established concepts concerning the normal physiology of the biliary tract.

"Is not the Rœntgen appraisal of so-called normal motor activity of the gall bladder made under the most abnormal circumstances?" Consider one's own mental and physiological reaction, if after fasting for fifteen to twenty hours, one is ordered to swallow five egg yolks mixed with half a pint of cream. This is routine procedure in cholecystography from which we are to expect a normal response. It would seem that this procedure, while of great scientific interest, is not indicative of the gall bladder function conforming with routine dietary habits of the individual.

Dann and Koritschoner[2] have attempted a study of the gall bladder under normal eating habits and their preliminary report is at least thought provoking. Their method of study is as follows:—

1. From the out-patient's clinic individuals of different ages, sex and nationality are selected, with no history, past or present, of abdominal complaint.

2. On the day preceding the rœntgen examination the patient is instructed to abstain from all fatty foods at lunch.

3. At four p.m. a dose of the tetraiodophenolphthalein is given. (Priodax is to be used in future studies.) No food is taken until eight o'clock the next morning following the x-ray examination.

4. The patient takes his usual breakfast and one hour later, films are again made.

5. Further x-ray studies are made one hour after each subsequent routine meal until the dye disappears. In the meantime the patient pursues his daily routine.

The findings in twenty-one patients were inconclusive but certain trends seem apparent. There was a wide range of normal emptying rate within twenty-four hours. Only one case required forty-eight hours to empty although her meals contained ample fats. A sixty-year-old man showed complete emptying after a breakfast containing no fat. Two cases presented no appreciable contraction after breakfasts consisting of considerable fat but emptying occurred after subsequent meals variable in fats. These facts (remembering that the experiment has been carried out on healthy persons with no abdominal complaint), indicate the necessity for correlating such findings with those obtained with the use of the conventional fat meal and the determining of the emptying characteristic in people accustomed to eating large quantities of fats. It is hoped that the effects of such investigations will "take the problem of the delayed emptying of the gall bladder out of the realm of empirical speculation and place it on a scientific basis."

"Is cholecystography contraindicated in jaundice patients? Does it invariably result in non-visualization? Will it cause a reaction or damage to the liver?"

There is fairly conclusive evidence to substantiate the belief that cholecystography does not profoundly affect the patient with obstructive or extra-hepatic jaundice. There could be a theoretical contraindication to cholecystography in toxic or infectious jaundice, but even after damage to dog's liver by chloroform anæsthesia, the drug could be used in amounts equal to four times the human dose. A bromsulfalein retention over 40 per cent is said to indicate sufficient liver damage to prevent gall bladder visualization. It has been shown experimentally that jaundice does not increase the toxicity of the dye, and only isolated cases have been noted where jaundic occurred following the administration of iodophenolphthalein.

McWhirter[3] in 1935 reported a death which could be attributed to the drug. In a patient with slight jaundice a good shadow was obtained. The patient died ten days later from sub-acute yellow atrophy.

The latest and most complete analysis of cholecystography in jaundice patients is the fifty unselected cases reported by Huber[4] in 1944. These examinations were conducted by the oral method. There were no intravenous injections. No deleterious effects due to the procedure were noted. Practically all the cases had one or more determinations of the icterus index.

The largest group of fifteen cases was that of common duct stone. Eleven showed no shadow of the gall bladder. Faint gall bladder shadows were seen in four.

There were three cases of cholecystitis without cholelithiasis of which two had faint shadows, the other one no shadow. The second largest group (eleven cases) had no final diagnosis. A very faint shadow was obtained in only one case and the other ten cases had no shadow. The only other large group (ten cases) was that of toxic and infectious hepatitis including the so-called "catarrhal jaundice." Good shadows were obtained in seven, faint shadows in three. The smaller group consisted of cancer of the pancreas, common duct and liver, cirrhosis of the liver and one case of duodenal ulcer associated with jaundice. Of this group only three cases showed a faint filling.

A study of these cases suggests that the cholecystographic examination may be of some help in differentiating the toxic and infectious type of jaundice from obstructive jaundice. From a practical point of view, radiography in jaundice patients resolves itself into an attempt to distinguish between surgical and medical cases. This was possible to a large extent in thirty-six of Huber's cases in which the jaundice was decreasing. Since a patent common duct is here predicted, the same diagnostic criteria are used as in cases without jaundice. With increasing jaundice (remaining fourteen cases), diagnostic

information is usually not obtained, since apparently no difference exists in the degree of impairment of dye excretion whether due to back pressure or parenchymatus liver disease. It may be concluded from Huber's study that cholecystography is of little or no differential value when jaundice is increasing, and when jaundice is decreasing the examination may be well deferred.

REFERENCES

1. Levene, G., Lowman, R. M., and Wissing, E. G.: Rœntgen Diagnosis of the Strawberry Gall Bladder. Radiology. 34: 391, 1940.
2. Dann, D. S., and Koritschoner, R.: A Clinical Study of Normal and Pathologic Motor Activity of the Gall Bladder. Radiology. 47: 495, 1946.
3. McWhirter, R.: Cholecystography, Its Present Clinical Value. Brit. Jour. of Surgery. 23: 155, 1935.
4. Huber, F.: Cholecystography and Jaundice. Am. J. of Rœntgenol and Rad. Therapy. 51: 12, 1944.

A PRELIMINARY REPORT ON THE USE OF 6-PROPYLTHIOURACIL

W. N. BELL, M.D.

Vancouver General Hospital

Presented May 27, 1947

Since the introduction of thiouracil in the treatment of thyrotoxicosis, great endeavors have been made to find a derivative which would lower the significant toxicity attached to this drug. One such derivative which has been introduced is 6-propylthiouracil. It rates its antithyroid action is approximately ten times that of thiouracil, and although it is more toxic than the latter on a weight basis it is less toxic in quantities having a comparable therapeutic effect.

The purpose of this report is to present five cases of thyrotoxicosis treated by propylthiouracil.

Case 1. Female aged 23 with diffuse thyrotoxicosis. She was treated with Lugol's solution from May, 1946, to September, 1946, quite successfully. In September she began to have increased dyspnœa on exertion, perspiration, loss of weight and an increased appetite. At this time her B.M.R. was plus 16, her pulse 78 and weight 114 pounds. She was carried along for six weeks on phenobarbital. She then appeared more toxic, her B.M.R. being plus 47, pulse 100 and weight 115. On October 21, 1946, she was put on propylthiouracil 25 mgm. t.i.d. In three months her B.M.R. had dropped to plus 5, her pulse was 74 and she had gained 12 pounds. The propylthiouracil was reduced to 25 mgm. daily and three months later her B.M.R. had gone up to plus 34 so the propylthiouracil was increased to 25 mgm. t.i.d. A month later her B.M.R. was plus 11, pulse 88, and she weighed 129 pounds. She felt subjectively much better. There has been no change in the white blood cell count and she has presented no other evidence of toxicity.

Case 2. Female, aged 67, with diffuse thyrotoxicosis. On August 20, 1946, her B.M.R. was plus 82, pulse 80 and weight 102 pounds. She was treated with Lugol's solution, minims 10 t.i.d. with some subjective improvement. On March 13, 1947, her B.M.R. was still 34, pulse 100, and she had lost 5 pounds. She was put on propylthiouracil, 25 mgm. t.i.d., and a month later her B.M.R. was 0, her pulse had dropped to 74, and she had gained 5 pounds, with much subjective improvement. There has been no change in the white blood cell count and no other evidence of toxicity.

Case 3. Female, aged 24, with diffuse thyrotoxicosis. On November 18, 1946, her B.M.R. was plus 30, pulse 84, and weight 103 pounds. On December 6, 1946, she was given propylthiouracil, 25 mgm. t.i.d. A month later her B.M.R. was minus 2 and she had gained 4 pounds. She was given Lugol's solution, minims 10, t.i.d., along with the propylthiouracil. Ten days later she underwent sub-total thyroidectomy and the

surgeon was pleasantly surprised at the relative avascularity of the gland compared with the friable, vascular organ which had been his experience with thiouracil. This patient's post-operative course was uneventful and 2 months later she felt well and weighed 105 pounds. At no time was there any significant change in the white blood cell count nor other evidence of toxicity.

CASE 4. Female, aged 49, with a toxic adenoma. She had been treated more or less continuously with iodine for a year prior to February, 1946. At this time she was given a two weeks' course of thiouracil plus iodine. The thiouracil had to be discontinued because of either leukopenia or a skin rash. On February 8, 1947, her B.M.R. was plus 36, pulse 90 and weight 133 pounds. On February 11, she was given 100 mgm. of methylthiouracil over a 24-hour period, and then was switched to propylthiouravil, 25 mgm. q.i.d. Two weeks later her B.M.R. had fallen to plus 17, her pulse to 72, and she had maintained her weight. She was then given propylthiouracil, 25 mgm. t.i.d. plus Lugol's solution, minims 5 t.i.d. Two weeks later her B.M.R. was still plus 17. The Lugol's solution was discontinued and the propylthiouracil was increased to 25 mgm. q.i.d. A week later her B.M.R. was plus 8, pulse 80 and she weighed 135 pounds. The propylthiouracil was discontinued and Lugol's, minims 10 t.i.d. was begun. On March 19, she underwent thyroidectomy. The adenoma occupied one whole lobe and was removed. In addition, a small portion of the remaining normal-appearing lobe was also removed. Her convalescence was complicated by a short spell of auricular fibrillation occurring 24 hours post-operatively which responded to digoxin. She was discharged from hospital on April 2, considerably improved. At no time was there any appreciable leukopenia nor other evidence of toxicity.

CASE 5. Female, aged 28, with diffuse thyrotoxicosis. In November, 1946, her B.M.R. was plus 91, and she was 7 months pregnant. She was given 0.1 gm. thiouracil t.i.d. In a month her B.M.R. had fallen to plus 64 but her W.B.C. had fallen from 6,000 to 4,150 with 10 per cent polymorphs. She was given pyridoxine, 200 mgm. intravenously daily, plus liver plus whole blood. There is no record of further W.B.C. estimations, but she was discharged on December 23, 1946, after having been delivered of a healthy male child. She was re-admitted to the Surgical Department on February 6, 1946, when her B.M.R. was plus 47, W.B.C. 2,500, P. 21, L. 75. She continued on thiouracil, 0.1 gm. t.i.d., plus pyridoxine, 200 mgm. intravenously daily, and three weeks later her B.M.R. was plus 41 and her W.B.C. 4,700, P. 38. On February 27, she was given Lugol's, minims 40, and the next day thyroidectomy was attempted. Because of her general condition, only ligation of the superior thyroid arteries was done. Post-operatively, she was given thiouracil, 0.2 gm. q.i.d. plus sodium iodide intravenously. On March 11, her B.M.R. was plus 32 and her W.B.C. had remained about 5,000. On March 19, the W.B.C. was 2,250, the thiouracil was discontinued and the pyridoxine was increased to 400 mgm. intravenously daily. She was also gicen penicillin, 66,000 units intramuscularly q.3.h. The W.B.C. dropped to 950, P. 2, L. 97, but by March 25 it had gone up to 4,100, P. 8, L. 84. On April, 1947, it was 11,100, P. 56, L. 39, and her B.M.R. was plus 53. On May 2, the B.M.R. was plus 100, and the W.B.C. 4,750 with P. 75. The B.M.R. remained plus 60 to plus 80 and the W.B.C. 4,000 to 5,000 with 60-80 per cent polys. On July 27, on Lugol's, minims 5 t.i.d., the B.M.R. dropped in three weeks from plus 65 to plus 52, and her weight went from 112 to 118 pounds. The pyridoxine and liver were discontinued at the end of July. On August 19, the B.M.R. was plus 52, the W.B.C. 3,250, P. 63, and weight 118 pounds. She was put on propylthiouracil, 25 mgm. q.i.d. On September 13, her B.M.R. was plus 54, the W.B.C. 4,150, P. 44, and she had gained 9 pounds. The propylthiouracil was reduced to 25 mgm. daily and also Lugol's, minims 10 t.i.d. was added. A week later her B.M.R. was plus 37, the W.B.C. 4,600, P. 54, and weight 129 pounds. Sub-total thyroidectomy was done on September 21. Post-operatively her condition was good, except that she developed tetany which was controlled by calcium and viosterol. Following this she gained weight slowly and felt subjectively much improved. Her W.B.C. remained about 11,000 with 60 to 70 per cent polys.

HAEMORRHAGE AS A CAUSE OF OBSTETRIC DEATHS

S. G. BALDWIN, M.D.
Vancouver, B. C.

Presented: Staff Clinical Meeting, May 27, 1947

I have been allotted 15 minutes to deal with Obstetric Hæmorrhages which will not permit me to do anything more than touch briefly on the most important points.

It is gratifying to be able to say that the number of puerperal deaths on this continent is steadily declining. Probably the expansion of maternal welfare services has played an important part in this reduction and undoubtedly continued education of the physicians doing obstetrics is an important factor. The studies carried out by medical groups with the close co-operation of vital statisticians have had a profound effect upon the national death rate. While this steady decline in the number of obstetrical deaths is taking place the percentage of reduction is lowest in the number of deaths due to hæmorrhage and shock. This would appear difficult to understand in view of the life-saving measures on hand with prompt blood transfusions, plasma, etc., except that even greater means have been found to combat the other killers—infection and toxæmias. Therefore hæmorrhage still remains the most frequent and important cause of puerperal deaths. It is true that during pregnancy there is an increase in blood volume and that a parturient woman is often able to survive the loss of a large amount of blood, but it is exactly this impression that is responsible for failure to carry out proper prophylaxis or made adequate preparations for blood replacement. Hæmorrhage cannot always be prevented but the results of blood loss are largely controllable.

In the first place we must consider the causes of hæmorrhage during pregnancy and labor. In the first three months of pregnancy bleeding occurs in a fairly large percentage of all pregnancies and is mainly due to abortions whether threatened, complete or incomplete. Other causes are ectopic pregnancies, hydatidiform moles, polypi or rarely erosions, carcinoma of the cervix. Bleeding in the last trimester is almost certainly to be caused by placenta prævia or a premature separation of the placenta. Post-partum hæmorrhages may be caused by any procedure which interferes with proper contraction of the uterus. Probably the most common cause is mismanagement of the third stage with resulting retention of the placenta, but the condition which causes the most violent and sudden hæmorrhage is that of loss of tone of the uterine muscle which is a condition of secondary inertia due usually to uterine exhaustion. This condition may be predisposed to by many causes such as prolonged labors with difficult instrumental deliveries, over-distension of the uterus from twins, hydramnios, etc., and is certainly influenced by over-sedation with drugs, deep anæsthesia and debilitated conditions of the mother. This condition is very serious and unless promptly recognized and treated will rapidly cause death. It is not always easy to recognize as the bleeding may at first be entirely intrauterine, and the relaxed uterus may be filled with blood until it is almost the size it was before labor began, and while filling there may be very little blood from the vagina. The physician must be on the alert to recognize that bleeding is taking place. Other causes of post-partum hæmorrhages are lacerations, cervical tears, fibroids, inversions, etc. It must also be mentioned that cæsarean sections may be associated with unexpected and serious hæmorrhages—particularly the classical operation—and these are difficult to control. The usual history is for the patient to return to the ward bleeding and in shock, to continue bleeding in spite of attempts to check it, till death results in a few hours.

So much for the usual causes of hæmorrhage; now to deal briefly with the treatment. The first essential to remember in all cases is that every ounce of blood is important during and immediately after labour and none must be wasted. Delay in initiating treatment and in replacing lost blood is probably the outstanding cause of maternal deaths. Every physician knows that lost blood must be replaced by blood or a satisfactory substitute but often undue confidence is placed in almost anything else and

valuable time is lost. Large blood losses cannot be replaced by saline, but only large amounts of blood will save life. If blood banks are not available, plasma which is next best should always be on hand in even the smallest hospitals.

I shall not deal with abortion hæmorrhages except to say that bleeding is usually repeated before it becomes serious. Treatment and watching over several hours during which bleeding continues should not be allowed. This, followed as it often is by slow or incomplete removal of retained tissues, may be followed by free bleeding and the woman reaches a serious state.

In ectopic pregnancies delay in operating is the outstanding cause of deaths and this delay is usually due to difficulty in diagnosis. Operation should be done without delay in spite of the apparently poor condition of the patient to stand a laparotomy. A transfusion, of course, should be started immediately. It has been estimated that 50 per cent of ectopic deaths could be prevented if women consulted a physician and entered hospital at the onset of symptoms. Immediate operation, transfusion with whole blood and other supportive measures give excellent results.

Placenta prævia and accidental hæmorrhage both have a serious prognosis for the mother and an extremely high fœtal mortality. A standing rule should be that every woman who bleeds in the last few months should be sent to hospital without examination or any attempts to stop the bleeding at home. It is rare that the first hæmorrhage is fatal. On admission her blood should be typed and Rh tested and no vaginal examination should be done except in a delivery room where immediate steps can be taken to control any bleeding. In mild cases, if in doubt, x-rays will probably show the position of the placenta. Until recently cæsarean section was reserved for central placenta prævia and severe partial types, but now the operation is done by probably most obstetricians regardless of type without even a previous vaginal examination. The days of vaginal packing, Braxton Hicks extraction and bags have gone by, but one must remember that in mild cases with a lateral placenta conservative treatment with rupture of the membranes, abdominal binder, and possibly scalp traction, usually is quite satisfactory and may be preferred if the baby is dead. With accidental hæmorrhage there is still no uniformity of opinion regarding the treatment. In mild cases with the patient not in labour, cæsarian section would appear to be the best solution, but in severe cases carries a high mortality rate, and the result may be better if the shock is treated by blood and morphia. As her condition begins to improve pains will often begin, and a successful termination can be reached by rupturing the membranes and applying a binder—delivery usually taking place in 12 hours. In severe cases where the uterine muscle is damaged and will not contract a hysterectomy is occasionally necessary.

Post Partum Haemorrhage

After the birth of the baby any imperfection of the mechanism of contraction and retraction of the uterine muscle causes the blood vessels to remain open and permits the free escape of blood. Any amount over 20 ounces constitutes excessive bleeding but if thre has been loss of blood before birth a small loss post partum may cause death. There are three varieties of post-partum hæmorrhage.

(1) Imperfect retraction, (2) Laceration, (3) Inversion of the uterus, and of these the first variety, imperfect retraction, has three causes: (1) Retention of the placenta. (2) Loss of tone of the uterine muscle. (3) Fibroids. Retention of the placenta is most commonly due to its being partially adherent, and its chief cause is mismanagement of the third stage. If bleeding occurs before the placenta is delivered the usual methods of expression should be tried out, but if not successful the placenta should be manually removed without delay. If you delay until the woman's pulses rate has gone up and there are signs of shock manual removal is a major obstetrical procedure and is highly dangerous. Give blood transfusions before and after the manual removal and be prepared to pack the uterine cavity as bleeding sometimes continues. If there is no bleeding there is no actual hurry in removing the placenta but the time of waiting seems to be becoming more brief with most obstetricians. If no line of cleavage can be found it is

not right to try to tear off the placenta as it may be adherent and the only remedy is a hysterectomy. The danger in manual removal is not in the removal itself but in allowing too much blood loss before it is done.

Lack of tone of the uterus is the cause of those cases of furious hæmorrhage which may be rapidly fatal. It is so sudden and serious that there is no time to obtain help and every one doing obstetrics should have a clear and definite line of treatment which he will follow without delay. Hæmorrhages of lesser severity can usually be controlled by massaging and grasping the fundus and injecting pituitrin and ergometrin. With any delay in contracting, ergotrate should immediately be given intravenously. If the bleeding is severe the uterus should be emptied immediately and attempts made to check the bleeding by direct pressure. The uterus should be gathered up and pressed firmly into the lower abdomen and massaged to excite contraction. If it does not contract or if the fundus cannot be found owing to extreme flaccidity no time should be lost in inserting the right hand into the uterine cavity and attempting to stimulate contraction between it and the left hand on the abdominal wall. If it is still not contracting, bi-manual compression which presses the anterior and posterior walls of the uterus together and checks hæmorrhage by direct pressure on the bleeding surface should be done. This bi-manual pressure can be kept up until the uterus regains its tone. It is well to remember that a profuse hæmorrhage can often be quickly checked by the injection of pituitrin directly into the fundus through the abdominal wall. One hand in the uterus raises it to the abdominal wall and the needle is inserted through the abdominal midline, usually within ½ minute the uterus is contracted. It happens occasionally that the usual methods are not sufficient to continue bleeding and that blood even seeps through a tightly placed intrauterine pack. In these cases, which are fortunately rare, hysterectomy is indicated. It is a life-saving procedure and not too radical. Many a physician has regretted waiting too long before making this decision.

Other conditions which may cause serious loss of blood are fibroids in the uterine wall, laceration of the cervix and perineum and inversion of the uterus. In the case of fibroids the muscle fails to contract and packing of the uterus or even hysterectomy may be necessary. In dealing with cervical tears, it is usually necessary to grasp the cervix and pull it down so that the bleeding point can be seen before suturing. From perineal wounds and episiotomies oozing of blood may lead to considerable loss. Amounts up to 500 c.c. have been lost in this manner, which is quite unnecessary as such bleeding can usually be controlled by simple firm pressure. The difficulty with hæmorrhages from inversion of the uterus is to recognize that an inversion has taken place. Any prolonged bleeding after delivery should make the physician suspicious.

Finally, no matter what methods are used to control obstetric hæmorrhages, the physician must be impressed with replacing the blood lost as soon as possible. There is no branch of medicine in which the benefit of blood transfusions is more evident than in obstetrics, and while whole blood is undoubtedly best the results with plasma are also striking, and no obstetric hospital is properly equipped unless plasma is available for immediate use. If a patient's pulse remains rapid after delivery, give blood plasma and be on the safe side. Sometimes, particularly after a severe hæmorrhage, much to the attendant's distress he finds it impossible to give a transfusion as the peripheral veins have been collapsed. When it is evident that the venous route is impossible bone marrow infusions into the sternum may be done with great advantage. A sterilized set is kept in the case room of this hospital for this purpose. Considerable study of this method and experimentation in its use has been done here chiefly under the direction of Dr. Murray Blair and I would like to refer you to his article on the procedure in the Canadian Medical Journal, February, 1945.

In conclusion, while endorsing the free use of blood transfusions, one must always keep in mind the possibility of serious reactions. There is no doubt that innumerable lives have been lost from transfusion reactions and it is essential that the blood given must be of the same type and Rh groups as the patient receiving it. The Red Cross

requires approximately 1¼ hours to have a transfusion ready to give but this time could be shortened if all women about to have babies would have their blood determination and Rh factors slated routinely when they are admitted to hospital. Unless this examination has been done don't give blood in an emergency—give plasma.

STATISTICAL REVIEW OF MATERNITY MORTALITY CONDITIONS OF INFANTS
1936 — 1946

F. S. HOBBS, M.D.
Vancouver General Hospital

My part in the discussion tonight is to present the statistics of maternal mortality for the Vancouver General Hospital, and for the sake of some comparison I have included some of the figures for Grace Hospital. By doing this I felt that a truer picture of the maternal mortality might be given, as Grace Hospital has a larger proportion of normal cases than are admitted to the Vancouver General. The statistics presented tonight cover the period 1936-1946 inclusive.

When I was first asked to present this paper I thought it would be a comparatively easy matter to get out the charts of the maternal deaths and to summarize them. However, when I asked Mr. Fish to get me the charts of the maternal deaths over this period, his first question was—"What is a maternal death?" Until this time I had thought the answer was comparatively easy, but to sit down and actually define a maternal death isn't quite as simple as it would first appear. We agreed on the definition that a maternal death is one which is caused by conditions arising from the existence of pregnancy. I would like to suggest that, in the future, deaths in relation to obstetrics could probably be more accurately defined as either obstetrical deaths, where the death was definitely due to an obstetrical complication such as post-partum hæmorrhage, or maternal death for other than obstetrical reasons, e.g. a diabetic patient who becomes pregnant, has a difficult time controlling the diabetic condition during pregnancy, and dies in diabetic coma following delivery. Again, a patient with far advanced carcinomatosis who is pregnant, delivers a living baby and then dies shortly after delivery. Is this a maternal death? Numerous other examples of a similar nature could be given. So when I began going over the charts there were several cases that I questioned as being true maternal deaths. However, the cases which Dr. MacDonagh and I, after reviewing the charts, decided were definite maternal deaths will now be presented. We found there had been fifty maternal deaths in the ten-year period. We then attempted to classify these deaths under one of the four headings:

1. Shock and hæmorrhage.
2. Toxæmia.
3. Infection.
4. Other causes.

This again proved to be more difficult than I originally had expected. In a great many cases there was not one definite cause but two or three, e.g. a severely toxic patient, delivered by Cæsarean Section, who died twenty-four hours post-partum, apparently of shock; and at autopsy the abdomen was full of blood. Should this patient be classed under toxæmia or as a death due to shock and hæmorrhage? There were numerous other examples of a multiplicity of causes of death, but we did our best to pick out the most important cause and classify the case accordingly, realizing at the time that other men reviewing the cases would probably put them into different classifications.

I wish to stress at this point how woefully inadequate were a great many of the records. In case after case there would be no operation report though an operation had ben done, and frequently no autopsy report was found even though an autopsy had been performed. It was often only from the nurses's notes that any information about the case could be obtained. If our records are to be of any value they must be kept in better condition than they have been in the past ten years.

TABLE I

Report on Cases and Deaths, 1936 to 1946

	Grace Hospital Cases	Vancouver General Hospital Cases
1936	405	1,742
1937	455	1,999
1938	504	2,191
1939	440	2,343
1940	664	2,490
1941	747	2,786
1942	902	3,469
1943	1,159	3,673
1944	1,237	3,632
1945	1,133	3,826
1946	1,665	4,601
	9,311	32,752

This shows the number of deliveries in both the Vancouver General Hospital and Grace Hospital for the ten year period. As you can see, the number of deliveries in both hospitals is increasing rapidly, from 1702 at the Vancouver General Hospital in 1936 to 4601 in 1946; and for Grace Hospital from 405 to 1665. At both hospitals the curve is still on the rise. For the first three months of 1947 there have been 1307 cases at the Vancouver General Hospital and 518 at Grace. In 1941 I presented a paper before this staff on the statistics from the maternity building for the years 1933-1941 inclusive. At that time we felt the maternity building was working at nearly one hundred percent of its capacity, and that the curve of deliveries would soon flatten out. That was in 1941 when we had 2756 cases, and in 1946 we had 4601. However, I do think that the curve of deliveries will soon cease to rise, as a good many patients are now refused admission to both the Vancouver General Hospital and Grace, and have to find accommodation in some other hospital or have the baby at home. It is a backward step to begin doing home deliveries again, but until more hospital beds are available it is a physical impossibility to have all patients delivered in hospital. Approximately ninety-five percent of all deliveries in British Columbia last year were in hospitals, for the whole of the United States last year the figure was seventy-five per cent.

TABLE II

MATERNAL DEATHS

	Grace Hospital	Vancouver General Hospital
1936	0	6
1937	1	2
1938	0	5
1939	0	1
1940	0	4
1941	1	2
1942	0	8

1943	1	5
1944	0	4
1945	0	9
1946	1	4
	4	50

The total number of deaths in the Vancouver General Hospital series of 32,752 deliveries was fifty, and for 9,311 deliveries at Grace Hospital was four. As you can see from the graph, there is a marked fluctuation nearly every second year. I can find no logical explanation for this observation. The best year was 1939 with only one death, in the Vancouver General Hospital, and the worst was 1945 with nine. So far we have made a bad start in 1947 with three deaths, all in toxic patients. The interesting line on the graph is the percentage of deaths to deliveries. One would have expected, with better pre-natal care, sulfonamides and penicillin, as well as more generous use of blood and plasma, that the curve of percentage of deaths would have shown a considerable drop in the past ten years. So far this is not apparent, but we will hope that ten years from now, if the statistics are again reviewed, that the improvement will be more encouraging than it is at the present. The figures from both the Vancouver General Hospital and Grace Hospital compare very favourably with other figures of maternal mortality that I was able to find in the literature. Davis, from Chicago, reporting on a series of 47,945 obstetrical patients, reported eighty-one deaths, or a rate of 0.17%. The rate for the Vancouver General Hospital is 0.15% and Grace Hospital 0.04%. For the two hospitals the rate is 0.12% for 42,063 deliveries.

TABLE III

CAUSE OF DEATH

	Infection	Toxæmia	Hæmorrhage	Other Causes
1936	2	1	0	2
1937	2	0	1	0
1938	2	1	1	1
1939	0	0	1	0
1940	2	0	1	2
1941	1	0	1	1
1942	1	0	2	6
1943	2	0	2	1
1944	1	0	1	1
1945	3	3	2	1
1946	0	1	0	1
	16	6	12	16

We find that the fifty deaths from the Vancouver General Hospital are divided as follows:

Infection	Toxæmia	Shock and Hæmorrhage	Other Causes
16 (32%)	6 (12%)	12 (24%)	16 (32%)

In Davis' series the figures are

38%	25%	26%	11%

The group of "other causes" were divided as follows:

Carcinoma with metastases—2 (1 Ca of ovary, one Ca of cervix).

Glioblastoma—1.

Cardiac—3.

Anæsthetic—4 (2 aspiration, 1 spinal, 1 atelectasis).

Embolism—4.

Diabetic—1.

Status epilepticus—1.

There pere thirty-five primiparæ and fifteen multiparæ. The average age was thirty, the youngest being seventeen and the oldest forty-four. In Davies' series the ages ranged from nineteen to forty-three, the average being 29.4, which is very close to our figure.

Of the fifty maternal deaths there were thirteen patients delivered by Cæsarean section and thirty-seven delivered vaginally. There were two hundred and two Cæsarean sections done in the Vancouver General Hospital in 1936 with no deaths. I believe we are becoming more conservative about using Cæsarean section, reserving it for cases with definite indications. This is especially true in treating toxic patients, as fewer sections are now being done in the presence of toxæmia than there were ten years ago. So far in 1947, as I mentioned previously, we have had three toxic patients die, two of these having had Cæsarean sections.

This brings us to the question of how we can still further reduce the maternal mortality. I would like to suggest the following ways:

1. Education—by teaching medical students and internes the difficulties and dangers in obstetrics. Also by instruction of men in the specialty and those in general practice by regular conferences and discussions of obstetrical problems. This has been started in our department by a weekly conference on Saturday morning.
2. Formation of a committee, possibly of one doctor from each hospital, to act as a board to review all the maternal deaths in the city and attempt to classify them as preventable or not preventable. This is done in a number of the larger cities in the States, and is believed to help in lowering the maternal mortality. If a doctor knows that he might be called upon to explain his actions in delivering a difficult case I think it might make him hesitate and possibly seek better trained assistance for the patient and thereby possibly prevent serious trouble.

When I began working on this paper, I had hoped to show a marked reduction in our maternal mortality. As you can see, this is so far not the case. However, I have hopes that it will gradually be lowered and that ten years from now there will be a very appreciable difference from the figures presented tonight.

THE MEDICAL EMERGENCIES OF INFANCY

A. F. HARDYMENT, M.D.

We are to consider tonight those conditions which arise in individuals under the age of two years which can be classed as emergent and which are not treated by surgical methods. It would seem proper to divide this age group into two periods: (1) the neonatal (the first four weeks of life) and (2) the age following this through infancy until the age of two years is reached.

It could be supposed that the number of conditions fulfilling the requirements outlined in the opening paragraph would be few, but this is not so. I propose to list, in each period, the emergencies which may arise and then discuss each one briefly.

In the *neonatal period*:

1. Erythroblastosis foetalis.
2. Anoxia of the newborn.
3. Hæmorrhagic disease of the newborn.
4. Infections of the newborn.
5. Prematurity.
3. Haemorrhagic disease of the newborn.
6. Tetany of the newborn.

7. Adrenal haemorrhage, or acute adrenal insufficiency.

In *infancy*:

1. Infantile tetany.
2. Diabetic coma.
3. Suprarenal haemorrhage with infection.
4. Severe diarrhoea and vomiting with intoxication.
5. Acute laryngotracheobronchitis.
6. Asthma in the acute attack.
7. Convulsions from any cause.
8. Acute primary congestion of the lungs.
9. Meningitis.
10. Diphtheria.
11. Haemophilia with haemorrhage.
12. Poisoning.

As far as recognition and treatment is concerned, each of the conditions listed can properly be considered as an emergency. There may be other conditions which have been overlooked but not intentionally.

If I am to cover the ground in the brief time allotted you will forgive me if I use the device of making, in connection with each condition, two or three bald statements of opinion without supporting evidence. I hope to emphasize the important aspect in each case.

1. *Erythroblastosis Foetalis.*

If anaemia is severe in the erythroblastotic infant, the use of Rh negative compatible blood by transfusion is the present concept of correct therapy. If jaundice is severe it would seem reasonable to support the liver by giving 2 c.c. of crude liver extract intramuscularly twice a week. It is not proven that transfusion, replacement in type or otherwise, has altered the prognosis in regard to incidence or severity of sequelæ.

2. *Anoxia of the Newborn.*

The autopsy findings in fatal cases of anoxia of the newborn are generalized venous congestion of œdema, dark fluid blood, petechial hæmorrhages into all organs, sometimes frank haemorrhage into various organs. If one remembers that the thymus gland at birth has been recorded as weighing from 5 to 30 grams in apparently normal infants, one may doubt very much the diagnosis of "thymic death" in an infant presenting this pathological picture coincidentally with a thymus that weighs a little more than average.

3. *Haemorrhagic Disease of the Newborn.*

There would seem to be no conclusive evidence for the argument that it is not necessarily good obstetrical practice to give Vitamin K routinely to mothers at the onset of labour. Yet there are babies born in this hospital without the benefit of this procedure. Evidence has been produced in other centres that the haemorrhage due to birth-trauma has been lessened by the use of Vitamin K as a routine.

4. *Infections of the Newborn.*

The prompt recognition of umbilical sepsis in the newborn is imperative. Early administration of chemotherapy or antibiotics is effective, late administration is not. Remember that the newborn infant is nature's perfect culture tube and the treatment of any sepsis of skin, of genito-urinary tract, of gastro-intestinal tract is urgent.

5. *Prematurity.*

I include this state only because I consider the early establishment of a modern premature service in our Hospital to be an emergency and the paediatric supervision of the same to be urgent.

6. *Tetany of the Newborn.*

The occurrence of muscle twitchings and convulsions may not mean intracranial haemorrhage, it may mean tetany. The blood calcium is regularly reduced. The etiology of the condition is not clear. It apparently does not occur in breast-fed babies. It responds readily to calcium by mouth.

7. *Adrenal Haemorrhage or Acute Adrenal Insufficiency.*

This occurs in the newborn as a result of trauma, as in breech presentations, the extreme friability and vascularity of the glands and hypoprothrombinaemia. The infant is suddenly cyanotic, cold and clammy to the touch, but with high fever. The recognition of this condition existing apart from sepsis is a new development[1]. Treatment is adrenal cortical extract 5-20 cc. intravenously in glucose saline. I have yet to recognize such a case and have probably missed them heretofore.

CONDITIONS OF THE INFANTS

1. *Infantile Tetany.*

I would mention here only that type of infantile tetany that occurs in the form of laryngospasm. If unrelieved death may occur. The infant with a high-pitched inspiratory crow, without infection, is suspect. Calcium gluconate can be given intravenously, it should not be used intramuscularly. If the infant can swallow, calcium chloride by mouth is all that is necessary, giving 40-60 grains as initial dose in 10% solution, followed by 15 grains q. 4 h.

2. *Diabetic Coma.*

This can occur at any age, it is most severe and sudden and most often not diagnosed under the age of two years. The best aid in diagnosis is a healthy suspicion of its presence.

3. *Suprarenal Haemorrhage.*

This occurs coincidentally with severe sepsis, as with meningococcemia. The chance for survival is very poor even when the condition is recognized and treatment attempted.

4. *Severe Diarrhoea and Vomiting with Intoxication.*

The single greatest stride in the management of this common emergency is, in my opinion, the careful assessment and daily recording of amounts of fluid, electrolyte, glucose and protein required and given. Dodd and Rapaport outline such a plan[2]. We now all recognize the danger of the administration of too much electrolyte.

5. *Acute Laryngotracheobronchitis.*

Tracheotomy must be done early before the infant is exhausted. Too often fear of such an apparently heroic measure causes delay until too late.

6. *Asthma; the Acute Attack.*

The differential dignosis between this and the preceding condition discussed is often extremely difficult when the first attack of asthma occurs in an infant just under the age of two. Infection in the respiratory system is very often the precipitating factor in the attack. The attack is often atypical. If adrenalin does not give prompt relief, then suspect that you are wrong in your diagnosis.

7. *Convulsions—from any cause.*

Control the convulsion by sedation, by anaesthesia if necessary. Look for the cause afterwards. Prolonged convulsions are harmful.

8. *Acute Primary Congestion of the Lungs.*

The infant who is apparently well in the morning can be shocked and very ill by mid-afternoon. Clinical findings in the chest are often not found. The pneumonia becomes apparent a considerable time later. Oxygen is life-saving and is needed promptly. Steam inhalations are definitely harmful.

9. *Meningitis.*

If an infant is acutely ill, with or without meningeal signs, and the diagnosis is not positive, do a lumbar puncture. Don't start penicillin and sulfonamides and do a lumbar puncture three days later to find a cloudy fluid with organisms disorganized and impossible to recognize.

10. *Diphtheria.*

Carry antitoxin in your bag—even in this modern, enlightened community. I have seen two infants die of diphtheria in a large Canadian city, gasping, choking and black in the face, after they had been treated for a "sore throat" for several days. Recently,

I missed three cases in one family—mild, I'm thankful to say—because my suspicions were not alive. Now there is antitoxin in my bag.

11. *Haemophilia with Haemorrhage.*

Haemophilia is fortunately rare. Uncontrollable haemorrhage from a wound needs prompt transfusion. For this disease, as for haemorrhagic disease of the newborn, we need fresh blood—not blood from a blood-bank.

12. *Poisoning.*

As soon as an infant becomes a successful walker and climber, he becomes an explorer. Parents must be constantly warned by their medical adviser that even medicine cabinets and kitchen cupboards are not safe repositories for potentially dangerous substances.

I feel that I must apologize to you for this sketchy presentation. Any one of these conditions can be made the subject of a worthwhile discussion. If I have left with you the impression that there are medical emergencies occurring in infancy, and the thought that special care is needed in their management, I have done what I wished to do.

References

1. Jaudon, J. C., Journal of Pediatrics, 29; 696; 1946.
2. Dodd, K., and Rapoport, S., Journal of Pediatrics, 29; 758; 1946.

MASTOIDITIS AND GRADENIGO'S SYNDROME

LESLIE SAUNDERS, M.D.
Vancouver General Hospital

Presented: May 27, 1947

This history concerns a girl aged 15 who was first seen by Dr. Leeson on the 3rd of February, 1947. She complained of discharging, painful ears of about one week's duration. The drum of the right ear was red and bulging in its posterior half. After Bonain's drops had ben instilled a right myringotomy was done. Subsequent treatment included sulfadiazine gr. XV every four hours, which was stopped three days later because of general symptoms of intolerance.

Oer condition deteriorated and on the 7th of February she was admitted to the General with a temperature of 102.6 degrees and a pulse rate of 80. A thick creamy pus was exuding from the right external auditory meatus and moderate tenderness existed over the entire right mastoid region. A blood count revealed the following features:

R.B.C.—4,250,000.

W.B.C.—15,000 of these 54% polys. and 33% lymph.

Hb.—89%.

X-rays showed obliteration of the normal feather structure of the mastoid area consistent with a diagnosis of mastoiditis. Treatment ordered was 300,000 units of Penicillin in beeswax daily. For a few days subsequently she improved and the mastoid pain disappeared but an x-ray taken on the 18th of February showed increased involvement so it was decided that the patient should undergo an operation. On the 20th of February right mastoidectomy was performed by Dr. Leeson. The following features were apparent:

1. Subdural abscess—½ inch in diameter.
2. Lateral sinus thrombosis.

The sinus plate was eroded and the sinus filled with thick fibrinous granulations. The sinus was left unopened and the clot was not evacuated. After packing with iodoform gauze between skull and dura and over the sinus the wound was sutured, leaving rubber tubing and the gauze at the upper end of the wound. Subsequent drainage was good but twelve days later, March 5th, she developed grossly choked discs, slight weakness of the external rectus, nystagmus, slight lower facial weakness and intense headache. She was seen by Dr. Turnbull, who felt that a brain abscess had developed and thought that the skull should be opened. This he did on the 8th of March and exposed the temporo-parietal lobe of the brain. A needle was inserted into the temporal lobe anteriorly and posteriorly without encountering any abscess. Two days later the spinal fluid revealed absence of W.B.C., a pressure of 300 mm., and 280 R.B.C. per cm.

The patient's condition was distressing. Her headaches were most intense and persistent and she became hysterical at times. On March 17th a diagnosis was made of apicitis and two days later Drs. Leeson and Tanton opened up the right mastoid intra-aurally. The apex was inaccessible without removing the cochlea.

The patient, however, subsequently improved; her headache and nystagmus disappeared; the ear became drier and vision improved.

When re-examined on the 26th day of May she had no complaints. She looked well, was bright and alert. The right eye showed a choked disc and indefinite margins. Vision 20/20. The left eye—the nasal border of the disc was ill defined. Vision 20/20. There was no diplopia and convergence was normal. The right auditory canal showed atresia.

Conclusion: The patient had the following conditions:

1. Acute Right Mastoiditis.
2. Lateral Sinus Thrombosis.
3. Subdural Abscess.
4. Circumbscribed Serous Meningitis in the middle cranial Fossa (Gradenigo's Syndrome).

The sixth nerve lies in a groove at the apex of the petrous portion of the temporal bone and a small inflammatory exudate at this point may interfere with the function of the nerve.

Clasically in Gradenigo's Syndrome (1904) the patient is young with mastoiditis. There is severe pain over the tempora-parietal area caused by irritation of the Gasserian ganglion at the tip of the petrous pyramid. The motor part of the fifth nerve is occasionally involved with spasm or paralysis of the muscles of mastication. Then diplopia suddenly develops.

On lumbar puncture the C.S.F. is under increased pressure but otherwise normal. Within two months following surgical interference and sometimes in its absence the pain and diplopia vanish.

ACUTE CHOLECYSTITIS

DR. GORDON C. JOHNSTON

Vancouver General Hospital

Presented: Staff Clinical Meeting, March 24, 1947.

Sometime ago I was given the task of reviewing the cases of acute cholecystitis treated in this hospital for a period of one year. After a brief survey of the medical histories it was immediately apparent that a statistical study was impossible. The records were so grossly defective and so few cases were operated upon that a true picture of the condition could not be obtained.

A review of the contemporary literature was then undertaken in order to learn some pertinent facts regarding the pathogenesis of the disease, the specific indications for operation, when operation should be done, and the results that could be expected. No satisfactory answers to these questions could be found. The conflicting opinions which have been prevalent for over half a century, on this continent and in Europe, still persist among the authorities of today. By most it is accepted that the etiological factor is a stone blocking the outlet of a previously diseased gall bladder. No definite signs are laid down as indications for operation. The time to operate is generally signified by such ill-defined terms as "Early," "Delayed," "Immediate" and "Late," which hold different significance for different writers. Large series of cases from different clinics report results which are diametrically opposed.

So after studying the inadequacies of our own records and after reading the conflicting literary efforts designed to clarify the problem one has the temerity to present and draw conclusions from five personal cases of acute cholecystitis operated upon in this hospital.

CASE ONE

M. W., female, age 63, was admitted to hospital June 20, 1940, operated upon June 20, 1940, and discharged on July 8, 1940. No previous history. Severe upper abdominal pain for 48 hours.

Signs: Marked right upper abdominal tenderness and rigidity with rebound tenderness. Temperature 102. W.B.C. 29,400.

Operation: Small subcostal incision. Gall bladder was isolated by colon and omentum. Omentum peeled off black necrotic fundus. Thin brownish fluid leaking from gall bladder fundus. Gall bladder contained thin dark bile under pressure and a few small pigment stones. No stones obstructed cystic duct. Gall bladder was drained. Bile appeared in drainage in 24 hours.

Biopsy: Acute necrotic cholecystitis.

CASE TWO

G. K., male, age 65, was admitted to hospital March 26, 1946, operated upon March 26, 1946, and discharged April 4, 1946. No previous history. Severe right upper abdominal pain for 72 hours.

Signs: Exquisite tenderness and rigidity in right upper quadrant with marked rebound tenderness. Temperature 101. W.B.C. 11,600.

Operation: Subcostal incision. Omentum stuck to black hard fundus of gall bladder. Gall bladder contained bloody black bile and clots under pressure and 50 cholesterol stones. No stones obstructed cystic duct. Gall bladder was drained. Bile appeared from drainage tube within 24 hours.

CASE THREE

W. O., male, age 84, was admitted to hospital April 5, 1946, operated upon April 5, 1946, and discharged on April 21, 1946. No previous history. Severe right upper abdiminal pain for 60 hours.

Signs: Exquisite tenderness and rigidity in right upper quadrant with rebound tenderness. Temperature 99.8. W.B.C. 17,900.

Operation: Subcostal incision. Fundus of gall bladder black, soft and friable and walled off by transverse colon. Gall bladder contained thin black bile under pressure and three mixed pigment and cholesterol stones. No stones obstructed the cystic duct. Gall bladder was drained. Bile appeared from the drainage tube within 24 hours.

Biopsy: Acute necrotic cholecystitis.

CASE FOUR

A. W., male, age 64, was admitted to hospital June 5, 1946, operated upon June 5, 1946, and discharged June 18, 1946. No previous history. Severe upper abdomonial pain for 26 hours.

Signs: Marked tenderness and rigidity in right upper quadrant with rebound tenderness. Temperature 99.2. W.B.C. 15,000.

Operation: Subcostal incision. Gall bladder greatly enlarged, thick walled, cyanotic, adherent to duodenum and under great pressure. It contained thin dark bile and a few mixed cholesterol and pigment stones. So stones obstructed cystic duct. Gall bladder was decompressed and removed.

CASE FIVE

M. S., female, age 75, was admitted to hospital December 11, 1946, operated upon December 11, 1946, and discharged January 28, 1947. Presented no previous history. Severe upper abdominal pain for 48 hours.

Signs: Marked right upper abdominal tenderness, mild rigidity and marked rebound tenderness. Temperature 99.4. W.B.C. 21,000.

Operation: Small subcostal incision. Gall bladder covered by a thickened omentum, covered by a fibrinous exudate. The fundal wall was soft, friable and cyanotic. Gall bladder contained a milky fluid under pressure and the mucosal areas covered with fibrino-purulent exudate. Gall bladder contained one mixed pigment and cholesterol stone. No stones obstructed cystic duct. Gall bladder was drained. Bile appeared within 24 hours.

Complications: Wound infections; two intraperitoneal abscesses that drained into bowel; persistent fistula till February 1, 1947.

Average number of Hospital Days—21.

Average age of patient—70 years.

Average duration of symptoms before operation—50 hours.

Average temperature—100 and varied between a low of 99.2 and a high of 102.

Average W.B.C. was 19,000 with a low of 11,600 to a high of 29,000.

Results—no recurrences, no deaths. One patient had two intraperitoneal abscesses which drained spontaneously into the bowel.

It should be noted that no patient gave a previous history of gall bladder disease, nor was any evidence of chronic inflammation noted at operation. Stones were present in most cases but usually they were few in number and in all cases were devoid of calcium.

One should emphasize also, that in no case was a stone found impacted in Hartman's pouch or in the cystic duct. Those present were lying freely and harmlessly in the body of the gall bladder. This observation, made at operation, was confirmed by the free drainage of bile within twenty-four hours post-operatively in those cases having a cholecystostomy.

It is apparent that the prevalent concept of the etiology of this condition does not apply to these cases. The generally accepted explanation of the phenomenon is that a chronically infected organ becomes suddenly obstructed by a stone in or about the cystic duct and, following this, an empyæma develops, or that this stone interferes with the arterial, venous or lymphatic circulation leading to gangrene. In the patients under discussion no stone blocked the duct area. Stones were present in about 70 per cent of

all cases but they were not neccessarily the initiating factor. Nor does this explain the etiology in the 30 per cent having acute cholecystitis and no stones. After all, stones are a common inhabitant of the gall bladder. Crump found that 33 per cent of patients coming to autopsy had gall stones.

The pathogenesis in these cases can best be explained by an acute arterial hyperæmia of a previously healthy gall bladder wall, the offending bacteria, toxins or chemicals originating in the general circulation rather than in the gall bladder mucosa. The sequence of events would then be occlusion of the cystic duct by swelling and a rapid progressive distension of the viscus by a thin inflammatory exudate leading ultimately to pressure necrosis of the fundus.

The experimental work of Rehfuss and Nelson lends support to this view. In 2,162 routine gall bladders removed at operation, the antigen found in the wall was the same as that found in the nose, sinuses, infected teeth, and in the bowel—namely the staphylococcus aureus, the colon-typhoid group, and the non-hæmolytic streptococcus. Using the last they were able by intravenous injections to produce cholecystitis in rabbits in 65 per cent of cases. Further, Eliason and Stevens found negative cultures in 50 per cent of their acute cases and came to the conslusion that the process is at first toxic or chemical and is only later invaded by organisms.

Whether or not this is so it is all-important to know if a given patient should be operated upon or treated expectantly. One would be very bold to make a dogmatic statement based on so few cases when world opinion on the subject is so confused. However these cases seem to indicate that acute cholecystitis is a progressive disease which will inevitably lead to necrosis and perforation. The indications for operation are peritoneal signs consisting of rigidity and rebound tenderness. If the former is absent, owing to inflammatory walling off of the lesion or a deeply buried gall bladder, then rebound tenderness, the most sensitive sign of peritoneal irritation, is sufficient. These signs, indicative of peritoneal insult, are evidence that the process in the gall bladder wall has reached the serosa and is already far advanced. Expectant treatment is definitely contraindicated and often deluding, because the general condition of the patient may appear to improve while the gall bladder, now isolated by omentum and bowel, is perforating. Perforation occurs most frequently on the sixth or seventh day of the disease but it may occur within 24 hours. When it does the mortality jumps from about 3 per cent to as high as 45 per cent and the morbidity is likewise increased.

Statistics tend to show that the best results are obtained by cholecystectomy. This is probably true and certainly the organ can be removed with comparative ease at this state. It is difficult, however, to bring one's self to separate protective adhesions in the presence of exudate and gangrene. In young patients and in early cases this is probably the best procedure, but in older people and in very ill patients with complications, cholecystectomy is the operation of choice and appears to give very satisfactory results.

Finally it would appear that acute cholecystitis is a primary condition of the gall bladder wall; that the toxic agent is probably blood borne; that acute cholecystitis is a progressive disease; and lastly, that if peritoneal signs are present, operation should be undertaken at the earliest possible moment.

BIBLIOGRAPHY

Eliason, E. ., and Stevens, L. W.: Acute Cholecystitis, Surg., Gyn. and Obst., 78: 98, 1944.

Smith, B. C.: Acute Cholecystitis, S. Clin. North America, 25: 285, 1945.

McGuigan, W. J.: Acute Cholecystitis, Am. J. Surg., 68: 219, 1945.

Cottis, G. W.: Treatment of Acute Cholecystitis, New York State J. Med., 45: 1765, 1945.

Blumberg, N., and Zisserman, L.: Acute Suppurative and Gangrenous Cholecystitis, Am. J. Surg., 70: 38, 1945.

Rehfuss, M. E., and Nelson, G. M.: Experimental Cholecystitis, Surg., Gyn. and Obst., 81: 455, 1945.

News and Notes

We regret to record the death of Dr. E. P. Fewster, Vancouver's well-known poet-physician. Born and educated in England, he came to Canada in 1877 and studied medicine at Dunham-Hering Medical College and the University of Chicago. He registered in British Columbia in 1910 and has been an active member of the profession. Sincere sympathy is extended to Mrs. Fewster and family.

Dr. M. A. Menzies is now at the Ottawa Civic Hospital, where he is doing post-graduate work.

Dr. H. L. Ormsby, formerly of Vernon, is now practising in Vancouver.

The members of the profession note with interest the gift of $15,000 towards the proposed Children's Health Centre. This centre when completed will become the focal point of treatment and studies relating to child health in British Columbia. It is being organized by a group of city medical and business men. Dr. D. H. Paterson, well-known pediatrician, will assist in the development of the centre.

Dr. J. R. Wilson is at present doing post-graduate work in neurology and psychiatry at the University of Pennsylvania.

The profession extends sympathy to the family of Dr. Arthur I. Brown, who died recently at Barry, Illinois. Dr. Brown graduated from Trinity College in 1899 and received the F.R.C.S. at Edinburgh in 1913. He registered in British Columbia in 1913, but has been retired for the past few years.

Dr. R. E. Simpson has gone to Kingston General Hospital to do post-graduate work for a few months.

Belated congratulations are extended to Dr. and Mrs. B. B. Moscovich, who were married recently.

Congratulations are also extended to Dr. and Mrs. W. J. Charlton on their recent marriage.

We note with interest that Mrs. H. P. Swan has joined her husband, Dr. H. P. Swan, in Hamburg, Germany, where he is serving as relief gynæcologist in the North British Zone of Occupation. Dr. and Mrs. Swan are well-known residents of Vernon, B. C.

Dr. F. W. Andrew of Summerland has been honored with the presentation of a certificate of Honorary Life Membership in the St. John Ambulance Association.

At a recent meeting of the Defence Medical Association in Ottawa, Dr. L. H. Leeson was elected chairman. Our genial president adds some more to his many duties.

All members of the profession extend deepest sympathy to Dr. F. L. Wilson of Trail, on the recent tragic death of his wife.

Deepest sympathy is also extended to Dr. John Struthers Gunn, whose father, Mr. A. D. Gunn, died recently, and to Dr. Wm. George Gunn, brother of the deceased.

Deepest sympathy is extended to Dr. Joseph Tassin of Duncan on the loss of his father.

Dr. R. S. Woodsworth, recently of Kelowna, is now practising in Langley in association with Dr. A. O. Rose.

We are pleased to note that Dr. L. R. Williams has returned to active practice after a lengthy illness. He is associated with Dr. Lee Smith of Vancouver.

A host of friends extend their sincere wishes to Dr. A. Y. (Scotty) McNair for a speedy recovery.

Congratulations to the following parents: Dr. and Mrs. M. L. Allan, a son; Dr. and Mrs. K. C. Boyce, a son; Dr. and Mrs. H. G. Cooper, a daughter; Dr. and Mrs. W. C. Gibson, a son; Dr. and Mrs. E. S. James, a daughter; Dr. and Mrs. Ben Kanee, a daughter; Dr. and Mrs. H. R. Robertson, a son; Dr. and Mrs. J. A. Sinclair, a daughter.

"There is now sufficient evidence to show that free folic acid is an essential factor for continuation of normoblastic blood formation and that a deficiency causes a reversal to the megaloblastic condition."

Brit. Med. Journal, May 3, 1947, p. 604.

FOLIC ACID

TABLETS B.D.H.

There is an impressive weight of evidence to show that a striking haemopoietic response follows the administration of Folic Acid in cases of macrocytic anaemia with a megaloblastic bone marrow. The haematological changes follow a definite pattern; according to Sturgis (J.A.M.A. 132:963), there is "a prompt rise in reticulocytes in the circulating blood, a standard increase in the red blood cell and haemoglobin and all the well know dramatic clinical manifestations of recovery . . ."

PERNICIOUS ANAEMIA

It has been demonstrated that Folic Acid will neither prevent the development of subacute combined degeneration in this disease, nor relieve it once it has developed. In pernicious anaemia, therefore, Folic Acid B.D.H. is recommended only for persons who are sensitive to liver extract and then only while they are awaiting desensitization.

DOSAGE

The suggested therapeutic dose in macrocytic anaemia other than pernicious anaemia is 5 mgm. to 10 mgm. daily until the blood count is normal after which a maintenance dose may be required.

MODE OF ISSUE

Folic Acid Tablets B.D.H. are issued in tablets of 5 mgm. in bottles of 100 and 500 tablets.

THE BRITISH DRUG HOUSES
(CANADA) LIMITED
TORONTO **CANADA**

92-A47