UNIVERSITY OF
BRITISH COLUMBIA
JUL 2 1943
THE LIBRARY

The BULLETIN

of the

VANCOUVER MEDICAL ASSOCIATION

Vol. XIX JULY, 1943 No. 10

With Which Is Incorporated
Transactions of the

Victoria Medical Society

the

Vancouver General Hospital

and

St. Paul's Hospital

In This Issue:

Page

NEWS AND NOTES 271

MEDICINE AND WAR—H. A. DESBRISAY, M.D. 276

TEST FOR CANCER—Report by Dr. F. N. Robertson 286

STAFF WORK IN THE V. G. H.—G. L. Hodgins, M.D. 288

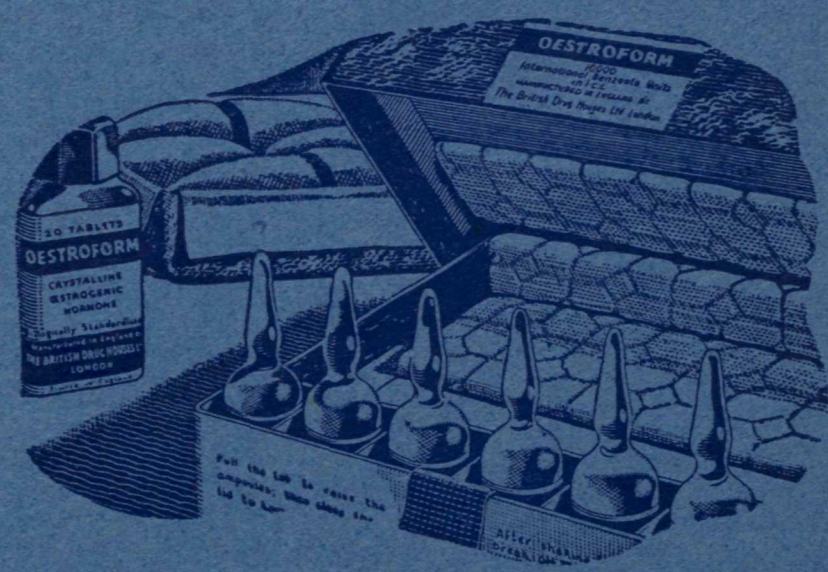
SUBDURAL HAEMATOMA IN INFANCY—J. W. Cluff, M.D. 289

ANNUAL MEETING
BRITISH COLUMBIA MEDICAL ASSOCIATION
SEPT. 8 - 9 - 10, 1943

OESTROFORM

Trade Mark

in follicular hormone deficiency



The results of hypofunction of the ovarian follicle in the female are characteristic; they vary according to the age at which the signs of hypofunction first become manifest.

In early life the syndrome of delayed puberty results in non-appearance of the secondary sex characteristics, in genital infantilism and in primary amenorrhœa.

At a later age, secondary amenorrhœa or oligomenorrhœa, dysmenorrhœa, sterility, or functional nervous disturbances may be encountered.

At the time of the menopause ovarian hypofunction is physiologically normal, being a prelude to the cessation of ovulation and ovarian activity. During the period of adjustment the protean symptomatology of the climacteric may include such associated conditions as endocrine arthritis, pruritus and kraurosis vulvæ.

Such syndromes are indications for the use of Oestroform which, being the natural œstrogenic hormone in standardised form, produces a specific and immediate response.

Stocks of Oestroform are held by leading druggists throughout the Dominion, and full particulars are obtainable from

THE BRITISH DRUG HOUSES (CANADA) LTD.
Toronto **Canada**

Oes/Can/437

THE VANCOUVER MEDICAL ASSOCIATION

BULLETIN

Published Monthly under the Auspices of the Vancouver Medical Asociation 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. XIX. JULY, 1943 No. 10

OFFICERS, 1943-1944

DR. A. E. TRITES, *President*
DR. H. H. PITTS, *Vice-President*
DR. J. R. NEILSON, *Past President*
DR. GORDON BURKE, *Hon. Treasurer*
DR. J. A. MCLEAN, *Hon. Secretary*

Additional Members of Executive: DR. J. R. DAVIES, DR. FRANK TURNBULL

TRUSTEES

DR. F. BRODIE DR. J. A. GILLESPIE DR. W. T. LOCKHART

Auditors: MESSRS. PLOMMER, WHITING & CO.

SECTIONS

Clinical Section

DR. J. W. MILLER.....Chairman DR. KEITH BURWELL.....Secretary

Eye, Ear, Nose and Throat

DR. C. E. DAVIES.....Chairman DR. LEITH WEBSTER.....Secretary

Pædiatric Section

DR. J. H. B. GRANT.....Chairman DR. JOHN PITERS.....Secretary

STANDING COMMITTEES

Library:

DR. F. J. BULLER, DR. D. E. H. CLEVELAND, DR. J. R. DAVIES, DR. A. BAGNALL, DR. J. R. NEILSON, DR. S. E. C. TURVEY

Publications:

DR. J. H. MACDERMOT, DR. D. E. H. CLEVELAND, DR. G. A. DAVIDSON

Summer School:

DR. J. E. HARRISON, DR. G. A. DAVIDSON, DR. R. A. GILCHRIST, DR. HOWARD SPOHN, DR. W. L. GRAHAM, DR. J. C. THOMAS

Credentials:

DR. D. E. H. CLEVELAND, DR. E. A. CAMPBELL, DR. D. D. FREEZE

V. O. N. Advisory Board:

DR. L. W. MACNUTT, DR. G. E. SELDON, DR. ISABEL DAY

Metropolitan Health Board Advisory Committee:

DR. W. D. PATTON, DR. W. D. KENNEDY, DR. G. A. LAMONT

Representative to B. C. Medical Association: DR. J. R. NEILSON
Sickness and Benevolent Fund: THE PRESIDENT—THE TRUSTEES

Reduce the Strain

ON THE CIRCULATORY SYSTEM

MANNITOL HEXANITRATE has a hypotensive effect lasting from four to six hours. By dilating the smaller blood vessels it reduces the strain on the circulatory system and plays an important role in the prophylaxis of frequent anginal attacks and in relief of high blood pressure.

For literature write:
36 Caledonia Rd.; Toronto: Ont.

E·R·SQUIBB & SONS OF CANADA, Ltd.
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

Mannitol Hexanitrate Squibb is supplied in ¼- and ½-grain tablets. The dosage is ¼ to 3 grains daily. In order to delay the development of tolerance, it is suggested that dosage be started with the ¼-grain tablet and kept as low as possible.

Mannitol Hexanitrate with Phenobarbital Squibb — Each tablet contains ½ grain Mannitol Hexanitrate and ¼-grain Phenobarbital. For use in cases where the sedative effect of Phenobarbital is desirable.

VANCOUVER HEALTH DEPARTMENT

STATISTICS—MAY, 1943

Total Population—Estimated	288,541
Japanese Population	Evacuated
Chinese Population—Estimated	5,541
Hindu Population—Estimated	301

	Number	Rate per 1,000 Population
Total deaths	307	12.5
Japanese deaths	1	Population evacuated
Chinese deaths	17	36.1
Deaths—residents only	269	11.0
BIRTH REGISTRATIONS:		
Male, 342; Female, 700	700	28.6

INFANTILE MORTALITY:	May, 1943	May 1942
Deaths under one year of age	22	24
Death rate—per 1,000 births	31.4	44.9
Stillbirths (not included above)	7	18

CASES OF COMMUNICABLE DISEASES REPORTED IN THE CITY

	April, 1943		May, 1943		June 1-15, 1943	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Scarlet Fever	41	0	41	0	16	0
Diphtheria	1	0	0	0	0	0
Diphtheria Carrier	0	0	0	0	0	0
Chicken Pox	67	0	200	0	142	0
Measles	779	0	691	0	126	0
Rubella	11	0	14	0	3	0
Mumps	165	0	138	0	40	0
Whooping Cough	30	0	64	0	18	0
Typhoid Fever	0	0	0	0	0	0
Undulant Fever	0	0	0	0	0	0
Poliomyelitis	0	0	0	0	0	0
Tuberculosis	45	22	36	--	31	--
Erysipelas	3	0	4	0	3	0
Meningococcus Meningitis	2	0	1	0	1	0

V.D. CASES REPORTED TO PROVINCIAL BOARD OF HEALTH
DIVISION OF VENEREAL DISEASE CONTROL

	Burnaby	West Vanc.	Richmond	North Vanc.	Vanc. Clinic	Hospitals & Private Drs.	Totals
Gonorrhœa (March)	1	0	1	1	77	35	115
Syphilis (March)	0	1	0	7	28	50	86

HIGH BLOOD PRESSURE

BETTER RESULTS OBTAINED WITH

BIOGLAN

Another Product of the Bioglan Laboratories, Hertford, England

Stanley N. Bayne, Representative

Phone MA. 4027 **1432 MEDICAL-DENTAL BUILDING** **Vancouver, B. C.**

Descriptive Literature on Request

THE SCIENTIFIC HORMONE TREATMENT

Phone MArine 5411 Res.: MArine 2988

Beatrice Gallop

CANADIAN PHYSIOTHERAPY ASSOCIATION
GRADUATE McGILL UNIVERSITY SCHOOL
OF MASSAGE AND REMEDIAL GYMNASTICS

Electricity, including Short Wave
House Visits

417 Vancouver Block Vancouver, B. C.

IF ARTHRITIS and ECZEMA
ARE ALLERGIC
ETIOLOGICALLY

effective treatment suggests the use of agents to correct mineral deficiency, increase cellular activity, and secure adequate elimination of toxic waste.

LYXANTHINE ASTIER

orally given, supplies calcium, sulphur, iodine, and lysidin bitartrate — an effective solvent. Amelioration of symptoms and general functional improvement may be expected.

Since the best evidence is clinical evidence, write for literature and sample.

L-15

Canadian Distributors
ROUGIER FRERES
350 Le Moyne Street, Montreal

Nunn & Thomson

2559 Cambie Street
Vancouver, B.C.

COLONIC AND PHYSIOTHERAPY CENTRE
Up-to-date Scientific Treatments

COLONIC IRRIGATIONS, SHORTWAVE DIATHERMY, SINNEWAVE GALVINISM, IONIZATION, ULTRA VIOLET RAY, STEAM BATHS AND SHOWERS

Medical and Swedish Massage
Physical Culture Exercises
STAFF OF GRADUATE NURSES

Superintendent
E. M. LEONARD, R.N.
Post Graduate Mayo Bros.

1119 Vancouver Block MArine 3723 Vancouver, B.C.

OLD TUBERCULIN

FOR TUBERCULIN TESTING IN HUMANS

Old Tuberculin is prepared by the Connaught Laboratories from a human strain of tubercle bacillus grown on a protein-free synthetic medium. A control test is unnecessary, since it has been demonstrated that the synthetic medium itself does not elicit a reaction in the skin.

The Old Tuberculin prepared in these Laboratories is standardized by intracutaneous testing in sensitized guinea pigs against the International Old Tuberculin Standard adopted by the Health Organization of the League of Nations.

THE MANTOUX TEST

The intracutaneous (Mantoux) test is the most delicate of the skin tests for tuberculosis and is recommended, using as an *initial* injection a dose of 0.01 mg. of Old Tuberculin.

For those who fail to react to the initial injection of 0.01 mg., the injection of 1.0 mg. is recommended. An individual who fails to react to the injection of 1.0 mg. may be considered tuberculin-negative.

Old Tuberculin is supplied by the Connaught Laboratories in 1 cc. rubber-stoppered vials in the following forms:

OLD TUBERCULIN (1:10,000)
For intracutaneous (Mantoux) tests, using as an initial test an injection of 0.01 mg. in 0.1 cc.

OLD TUBERCULIN (1:100)
For testing only of persons who fail to react to a previous injection of 0.01 mg.

CONCENTRATED OLD TUBERCULIN (1000 mg. per cc.)
For distribution only to sanatoria and specialists havin suitable facilities for making dilutions for intracutaneous testing or for other purposes.

CONNAUGHT LABORATORIES
UNIVERSITY OF TORONTO
Toronto, Canada

DEPOT FOR BRITISH COLUMBIA

MACDONALD'S PRESCRIPTIONS LIMITED

MEDICAL-DENTAL BUILDING, VANCOUVER, B.C.

IMPETIGO

Alulotion

A Clean, Effective Treatment for All Types of Impetigo Contagiosa

Wyeth's ALULOTION (Ammoniated Mercury with Kaolin) which combines the bactericidal action of ammoniated mercury with the drying effect of aluminum hydroxide and kaolin is effective in all types.

Clinical evidence has shown that ALULOTION (Ammoniated Mercury with Kaolin) clears up impetigo contagiosa in less time than older methods.[1]

1. "Impetigo Contagiosa Treated with Ammoniated Mercury-Colloidal Kaolin Lotion," A. G. Pratt, R. E. Imhoff, and H. B. Decker, J. M. Soc. New Jersey, 36:442 (July), 1939.

Supplied in 3 fl. oz. bottles.

John Wyeth & Brother (Canada) Limited
WALKERVILLE, ONTARIO

THE EDITOR'S PAGE

We are grateful to Dr. F. N. Robertson of Vancouver for affording us an opportunity to publish his report to the Medical Staff of the Vancouver General Hospital on the present status of the Robertson Test for cancer. A continued accuracy over the years of its use, of 85%, means that this test has been definitely proven of value, and all of us know of cases where it has been of very great assistance. We are very glad to see that the Hospital (Vancouver General) has decided to continue the test on a charge basis. This is as it should be.

* * * *

The air is full, and cloakroom conversations are charged, with the subject of hospital insurance, hospital expansions, etc. We were all surprised recently to see wide newspaper publicity given to an alleged scheme of hospital insurance, which, according to our newspaper friends, is to come into active operation at an early date. We understand that there are still a good many points to be cleared up—and as the whole matter is still in a very fluid state, and still *sub judice,* so to speak, we shall not attempt to discuss it at this juncture, further than to say it looks decidedly like a long step in the right direction. A few of the more obvious difficulties that will confront such a plan, leap to one's mind—but we hope they will be found surmountable. If the increased hospital accommodation that will certainly be needed, can be found, such a plan will meet a very definite want, and will be of very great benefit to the community.

And that last sentence, with its conditional clause "if the increased hospital accommodation can be found" is really the text of what we wanted to say. Recently we have read in the press of great new roads that are to be built after the war, and of the careful plans that are being worked out towards that end. All to the good: B. C. needs roads, and good ones, Heaven knows: and it is a statesmanlike project. But B. C. needs other things too, just as badly as roads: perhaps even more urgently than we need roads. One of these things is hospital extension. We need a great many more hospital beds in this province—we need better accommodations for nurses—we need psychopathic wards—we need provision made for the Medical School that is bound to come. From a remark dropped by the Hon. Ian McKenzie, Minister of Health for Canada, plans are developing along these lines. We should like to see it stated that many millions of dollars are being earmarked for this, a project that should rank high amongst the post-war reconstruction schemes that are even now being formulated.

And we confess that we should like to see a more coherent and orderly scheme of hospital extension and hospital location for this province of ours. We should like to see a definite policy adopted, which would survey carefully and accurately the needs of the province in all its parts and would lay down definite lines, which could be followed consistently and in logical order. Our present haphazard way of building hospitals, and choosing their sites, does not, in our opinion, meet all needs well—nor does it avoid overlapping and a marked imbalance. Why should we not have in B. C. a Hospitals Commission, as we have Workmen's Compensation Commissions, and Board of Education, and Waterworks Commission, and so on: which would exercise a much-needed judgment and control over the size and location and designs of hospitals, and work to a plan which might look forward to the future, as well as merely meeting immediate needs. Not only would it mean more efficiency, and more adequate adaptation of demand to supply, but it would, we believe, save a great deal of public money. And there are other advantages with which we cannot deal here. Hospitals have always been much too local in their origin and growth—whereas they are an important and essential factor in public health organisation and should be linked up with Public Health administration. Clinics, teaching, training of nurses, social service workers, dietitians, mothers' aids and so on: all these are just as important in one part of the province as another—but they cannot be adequately provided for under our present individualistic, hit-or-miss methods.

Vancouver Medical Association

THE SUMMER SCHOOL

The twenty-first Annual Summer School of the Vancouver Medical Association was held at the Hotel Vancouver on June 22, 23, 24, 25.

The total registration this year set an all-time record at 400. Of this number, 76 were Army Medical Officers, 60 were Air Force Medical Officers, 20 were Naval Medical Officers and 25 were hospital interns. The committee were pleased to be hosts to the above men in the services. Our American neighbors numbered 19 this year, and five men came from Alberta, one from Saskatchewan and one from Manitoba. It would seem that the Summer School has established a worth-while reputation in Western Canada.

The luncheon was very well attended on Tuesday noon. Our guest speaker, Dr. Foster Kennedy, spoke on "De Propaganda Fide." With pleasing phrases and with his Irish humour he stimulated the minds of his audience and established himself at once as a very able and thoughtful speaker.

The programme was well received if the attendance be taken as an index of the interest and appreciation of those present. The committee was fortunate in the choice of speakers, all of whom were experienced teachers and lecturers. To the R.C.A.M.C. we wish to extend our heartiest thanks for so generously providing us with three speakers. Brigadier J. C. Meakins gave a medical clinic on Rheumatic Heart Disease as well as his lectures. His close contact with Army medicine and his recent connection with McGill Medical School were self evident. Lt.-Col. Adamson and Lt.-Col. Fahrni gave practical help to both military and civil practitioners in their lectures and clinic.

Dr. Robertson used all methods of teaching possible without actual cases to make his lecture-demonstrations varied and practical. There was much favourable comment on his talks.

Dr. Cantor came to us with a wealth of recent work for interpretation and clinical application. During his visit he was also speaking to the B. C. Pharmacists, and we were fortunate to share this speaker who was sponsored by J. Wyeth & Bros. for the Pharmacists.

After listening to Dr. Foster Kennedy at the luncheon meeting it was natural that anyone would make a special effort to be present at his lectures. The large attendance at all his lectures and his clinic in Neurology is proof of his teaching ability. A return visit has been suggested by many.

Golf was played as usual Thursday afternoon at Point Grey Golf Club. In spite of threatening weather there was a good turnout of competitors for the prizes. The visitors, especially those from Edmonton, were winners of most of the booty.

Dr. Brien King came from Seattle to participate in the Round Table on Thyroid Disease. Again this form of informal discussion of a broad subject was highly successful.

The twenty-first Summer School is over and no one will suggest that this fine refresher course has not proven its right to franchise. The committee are to be congratulated on having appreciative audiences for interesting speakers. Medical men attend Summer School each year and derive from it ready knowledge and mental stimulation. Under the added stress of wartime conditions this is all the more desirable.

Among the out-of-down Doctors who attended the Summer School were:

Dr. J. A. Alton, Lamont, Alta.
Dr. C. M. Anderson, Spokane
Dr. W. S. Barclay, Sardis
Dr. M. R. Basted, Trail
Dr. D. Berman, Victoria
Dr. E. M. Bevis, Wenatchee
Dr. M. C. Bridgman, Oliver
Dr. R. B. Brummitt, Nelson
Dr. J. M. Burnett, Greenwood
Dr. F. M. Bryant, Victoria
Dr. I. B. Greene, Everson, Wn.
Dr. George Hall, Victoria
Dr. D. P. Hanington, Ladysmith
Dr. R. H. Irish, Tranquille
Dr. R. M. Jameson, Victoria
Dr. N. A. Johanson, Seattle
Dr. T. M. Jones, Victoria
Dr. Homer D. Dudley, Seattle
Dr. D. B. Leitch, Edmonton
Dr. C. Melgard, Seattle
Dr. H. M. Page, Portland
Dr. G. C. Paine, Penticton
Dr. D. G. Perry, Ganges
Dr. G. A. C. Roberts, Chilliwack
Dr. A. O. Rose, Langley
Dr. E. S. Sarvis, Huntingdon
Dr. J. W. Schori, Bellevue
Dr. Ivan V. Shuler, Seattle
Dr. A. C. Sinclair, Victoria
Dr. L. E. Skinner, Tacoma

NEWS AND NOTES

Surg.-Lieut. John W. Frost, R.C.N.V.R., son of Dr. and Mrs. Anson C. Frost, was married recently in London.

* * * *

Surgeon-Commander W. M. Paton is to be congratulated upon his recent promotion. He is now stationed near Victoria.

* * * *

The sympathy of the profession is extended to Dr. Gerald L. Burke in the loss of his wife, who died on June 13th.

* * * *

Surg.-Lieut. D. M. Whitelaw, R.C.N.V.R., and Mrs. Whitelaw are congratulated on the birth of a son.

* * * *

Dr. C. C. Browne of Nanaimo has just returned from a ten-day cruise in his yacht *Ann,* which was accompanied by the Vancouver yacht *Benora.* A very successful fishing trip netted them fifty lake trout.

* * * *

Dr. S. W. Baker of Ladysmith has left for Rochester, where he will do post-graduate study at the Mayo Clinic. He will also visit his relatives in Toronto. During Doctor Baker's absence, Dr. D. P. Hanington, who formerly practised at Ladysmith, will serve as *locum tenens.*

* * * *

Dr. H. H. Christie, Chief Medical Officer of the Department of National War Services, visited Vancouver. Doctor Christie is well known here, he having been a classmate of Drs. A. W. Hunter and C. E. Gillies, and he renewed acquaintances with his contemporaries at McGill in those days. Doctor Christie spoke in the highest terms of the splendid work done by the profession in examining the young men called up under the N.R.M.A.

* * * *

Dr. R. B. Brummitt of Nelson and Dr. M. R. Basted of Trail attended the Summer School in Vancouver.

* * * *

Dr. and Mrs. Frank Turnbull of Vancouver spent their vacation at Kelowna.

* * * *

We regret to announce that Dr. D. M. Black of Kelowna has been forced through illness to temporarily discontinue practice at that point.

* * * *

Dr. C. H. Hankinson of Prince Rupert, Immediate Past President of the British Columbia Medical Association and a member of General Council of the Canadian Medical Association, was unable to attend the meeting in Montreal because of the serious illness of his wife. Dr. Hankinson has the sincere sympathy of the profession in this Province.

* * * *

Congratulations to Lieut.-Col. F. H. Stringer on his promotion and appointment as Officer Commanding, Prince George Military Hospital.

* * * *

We are glad to learn that Major Douglas R. Learoyd has gained his promotion.

* * * *

Capt. E. J. Curtis has been moved to M.D. 3 with headquarters at Kingston. We understand that he is to be promoted to the rank of Major in his new appointment as District Hygiene Officer.

Captains N. J. Ball, formerly of Oliver; R. R. M. Glasgow, formerly of Michel; F. W. Grauer, recently filling a temporary appointment at Shaughnessy Hospital during his convalescence from a recent illness; R. J. Macdonald, until recently Director of the Health Unit at Prince Rupert; R. A. Wilson, Pædiatrician of Vancouver; J. W. Cluff; J. W. Pickering, and H. G. Weaver, the last three being recent internes of the Vancouver General Hospital, have proceeded to No. 22 Training Depot in Eastern Canada.

* * * *

Lieut.-Col. S. G. Baldwin has just returned from Great Britain. Colonel Baldwin left Canada as Officer Commanding No. 12 Field Ambulance. Latterly he has been Officer Commanding a Canadian Casualty Clearing Station. Colonel Baldwin, after three and a half years' service, is now returning to civil practice, and has opened an office in the Medical-Dental Building in Vancouver, where he proposes to confine his practice to Obstetrics and Gynæcology.

* * * *

Colonel Baldwin was able to tell us somewhat of the doings of a large number of our members who are Overseas:

* * * *

Colonel Lavell H. Leeson is A.D.M.S. of the 3rd Canadian Division. It is just possible that he may be among the Canadians at present in the Mediterranean.

* * * *

Colonel J. F. (Jack) Haszard is now Officer Commanding No. 16 General Hospital.

* * * *

Lieut.-Col. Murray McC. Baird is Chief of Medicine of No. 16.

* * * *

Major Russell A. Palmer, Captains E. F. Christopherson, L. W. Bassett, formerly of Victoria, R. D. Coddington, formerly of Ocean Falls, and Henry Scott of Vancouver, are all on the medical side at No. 16 General Hospital.

* * * *

Lieut.-Col. W. Allan Fraser is Chief of Surgery at No. 16, and associated with him are Majors G. W. C. Bissett, formerly of Duncan, and Reg. J. Wride, formerly of Princeton.

* * * *

Major H. H. (Hammy) Boucher is reported to be doing good work as Orthopædic Surgeon with No. 16.

* * * *

Major H. R. L. (Chesty) Davis is very busy in a large Reinforcement area.

* * * *

Major W. Lee Boulter is Senior Medical Officer to large Infantry Reinforcement Depot.

* * * *

Major Roy Huggard is attached as Surgeon Specialist to No. 16 General Hopital. This hospital has now been moved from its former location and has taken over from a Canadian hospital which now serves the Canadian invasion forces.

LIBRARY NOTES

RECENT ACCESSIONS TO LIBRARY—

Surgical Clinics of North America, Symposium on Traumatic Surgery, April, 1943.
Medical Clinics of North America, Symposium on Infectious and Tropical Diseases, May, 1943.
Transactions of the American Ophthalmological Society, 1942.
Transactions of the American Proctologic Society, 1942.
Transactions of the American Association of Genito-Urinary Surgeons, 1942.
New and Non-Official Remedies, 1943.
Handbook of Medical Library Practice, 1942, Janet Doe, Editor.
Acute Injuries of the Head, 1942, by G. F. Rowbotham.

British Columbia Medical Association

1943 ANNUAL MEETING

VANCOUVER

September, 8 - 9 - 10

Three Full Days

LECTURES - CLINICS - DEMONSTRATIONS

Special Features

- PUBLIC HEALTH
- MILITARY MEDICINE
- ECONOMICS
- PUBLIC MEETING
- ANNUAL DINNER
- PREVENTIVE MEDICINE
- HEALTH INSURANCE
- INDUSTRIAL MEDICINE
- ANNUAL MEETINGS
- GOLF

Pleace Make Plans and Reservations Early

* * * *

BRITISH COLUMBIA MEDICAL ASSOCIATION COMMITTEE ON THE STUDY OF ECONOMICS

Chairman: Dr. G. F. Strong

The following is quoted from the Minutes of the Proceedings and Evidence presented to the Special Committee on Social Security now holding sessions in Ottawa. Dr. A. E. Archer, Chairman of General Council, Canadian Medical Association, was introduced by Dr. D. Sclater Lewis of Montreal, now President of the C.M.A., and made the following representation to the Committee:—

6. DOCTORS ON ACTIVE SERVICE

At the present time, 3,100 of our Canadian doctors, or approximately 30% of our total number, are on active military service. How many more will be required by His Majesty's services we are unable to say, but certainly whatever the number is, they will be provided. The great responsibility rests upon those of us who remain at home and upon the country generally, to safeguard the interests of those doctors who considered only the interests of all of us when they enlisted. These doctors have had comparatively little opportunity of expressing their views with respect to this measure (Health Insurance) which will affect them so profoundly when they return home. We should see to it that no action be taken under health insurance measures which would make it difficult for the doctors in the armed services to resume their former practices, or, if recent graduates, to establish practices. The draft measure proposed that all insured persons shall be registered with the physician of their choice. It is foreseen that the setting up of these lists or "panels" during the absence of so mny of our doctors might be distinctly unfair to those who are absent. Either the actual putting into operation of the whole provincial measure should be deferred until the return of the absent medical men, or those clauses in the provincial Act relating to registration and the placing of names

on doctors' lists should remain non-operative, or operative only to the degree which concerns the broad aspects of public health and preventive medicine rather than individual service.

We are aware that the perfecting and implementing in the provinces of a satisfactory plan of health insurance will take considerable time. If, however, such a satisfactory plan can be worked out at this time, should its operation be deferred until the post-war period?

This is a very broad question which has engaged our most serious attention. With more than 30% of our physicians now engaged in military service, it will be obvious that the medical practitioners still in civilian life are carrying an increasingly heavy burden. To ask that depleted number to undertake the institution of a health insurance measure at this time, with its accelerated program, indeed might be asking too much.

On the other hand, it might be observed and indeed has been stated by some, that the enactment of health insurance and its implementation in the provinces during the war period might facilitate the transition to civilian life of the doctors who are now in the armed services. Under any circumstances, however, provision would have to be most carefully made in order that these doctors do not find themselves in a position of having to fight for a place in the economy of the nation.

It has been said that if this scheme were operating we could say to these men who are returning that wherever there was a population there would be an income.

It is our opinion that this whole measure should be carefully studied and that all concerned should be sure that whatever plan be adopted be sound and in the best interests of all concerned. Whatever structure is erected may prove to be the framework for health protection in this country for generations to come. Let us be sure that the foundations are carefully, firmly and wisely laid.

Finally, Mr. Chairman, we wish to say that the Canadian Medical Association desires most earnestly to co-operate with constituted authority in every possible way in sound planning for the future health services of Canada. We shall always welcome an opportunity to consult at any time with this Committee, or any committee of government, engaged in the consideration of this important subject.

* * * *

Dr. Archer answered several questions, one of which is quoted below:—

MR. GERSHAW: Yes. My idea would be that doctors now on active service might easily be fettered in medical practice. It seems to me that if they come back and find most of the arrangements signed up to doctors who are here now they will have more difficulty in establishing a practice just as do recent graduates.

THE WITNESS: Mr. Chairman, it is our thought that it is quite possible that it may be found that the working out of these proposals may be so tedious that it may not be possible to get the Arcts ready to operate until the end of th ewar, or it may be deemed advisable to say that they would not operate until the end of the war; or if it was thought to be advisable to implement them before the end of the war that these clauses which require the registration of patients with a doctor, tying up the patient with individual doctors, be made non-operative until the end of the war, except in so far as it may be necessary to have them operate in order to implement preventive services. You will see that if the practitioners are to be responsible for preventive services they will have to know for whom they are responsible, and to that extent it may be necessary to have people assigned to certain doctors.

THE MEYERS MEMORIAL

The Chairman of the Meyers Memorial Committee wishes to direct attention to the Meyers Memorial award. The announcement published hereunder sets forth the particulars. You are invited to submit a paper on this basis:

The Canadian Medical Association receives the sum of $100.00 a year from the estate of the late Dr. Campbell D. Meyers of Toronto to provide an honorarium known as the Meyers Memorial.

The award is made in accordance with the instructions of the donor, which are:—

(1) That the award shall be made ". . . to such member or guest of the Canadian or of one of the Provincial Medical Associations as shall write and read at the annual meeting of any of the said Associations the best thesis or dissertation . . ."

(2) That the subject shall be ". . . the study and treatment of those functional neuroses which, if untreated, or not treated sufficiently early, might probably terminate in insanity . . ."

". . . It is impossible to classify definitely the type of diseases referred to above. I desire, however, to refer to those Functional Neuroses in which the psychological symptoms form the essential part of the syndrome, and to that type of Neurosis which develops in late adolescent or in adult life in a patient of previous good mental and nervous history, especially strain caused by excessive grief, worry and allied conditions. . . ." "I desire to exclude from this thesis the study of Mental Defectives, paranoia and similar conditions of mental disease due to hereditary or organic states. . . ."

(3) That the award shall be made :. . . by a Committee consisting of the President, a physician and a neurologist. . . ."

Anyone wishing to submit a thesis is advised to confer in advance with the Chairman of the Meyers Memorial Committee (through the office of the Canadian Medical Association) in order to make sure that his thesis will come within the terms of the award.

The thesis must be in the hands of the Chairman of the Meyers Memorial Committee on or before May 31st if it is to be considered for the award of that year and should be forwarded to him at 184 College Street, Toronto. Any thesis received after May 31st will be considered as being submitted for the following year.

CANADIAN MEDICAL ASSOCIATION MEETING HELD IN MONTREAL, JUNE, 1943

The Annual Meeting of the Executive Committee of the Canadian Medical Association was held on June 12th and 13th, and the meeting of General Council was held on the 14th and 15th. Dr. A. H. Spohn attended the meeting of the Executive Committee and also the sessions of General Council. Dr. Spohn was elected member as from British Columbia of the Executive Committee, and Dr. P. A. C. Cousland of Victoria, first vice-president of the British Columbia Medical Association, was elected alternate as from this Province. Dr. Cousland attended meetings of the Executive and also all sessions of General Council, having travelled to Montreal for that purpose, he feeling that the opportunity to attend the sessions of the Executive Committee would be invaluable to him should it be necessary for him to attend the Executive Committee later as alternate and in case of Dr. Spohn's inability.

The next Annual Meeting of the C.M.A. will be held in Toronto. Dr. Harris McPhedran was chosen as President-Elect. Dr. D. Sclater Lewis of Montreal at the ceremonial session was installed as President of the Canadian Medical Association for this year. Dr. T. H. Leggett of Ottawa, who has served for several years as Chairman of General Council, has retired from this office, which he has filled so acceptably. Dr. A. E. Archer of Lamont, Alberta, who has been so active during his presidency on behalf of the profession in Canada, was unanimously chosen as the new chairman of General Council. Dr. F. S. Patch was re-elected to the office of Honorary Treasurer.

Dr. J. A. Gillespie of Vancouver had Senior Membership in the Canadian Medical Association conferred upon him at this annual meeting.

Members from British Columbia who attended General Council included: Dr. F. M. Auld of Nelson, Drs. E. W. Boak and P. A. C. Cousland of Victoria, Dr. A. H. Spohn of Vancouver, Dr. P. L. Straith of Courtenay, Dr. Ethlyn Trapp of Vancouver and Dr. M. W. Thomas.

MEDICINE AND WAR

H. A. DesBrisay, M.D.

Read before the Vancouver Medical Association.

War has always played an important role in the development of medicine.

Even though war interferes with the steady medical research of peace-time, it calls forth such urgent problems that of necessity medicine and surgery advance, side by side with famine and pestilence and destruction.

Upon mobilization, a nation learns to its surprise and dismay that some 40% of its potential fighting men are defective in some way (47% of the first three million men called by the draft in the United States were rejected). Because of the revelation of so many unfit, as well as the problem of caring for the actual casualties of war, war gives great impetus to social reform and preventive medicine. (Following the last war Industrial Medicine developed as never before.) But, war destroys much that medicine has attempted to build. The strong of mind and body are mustered against the foe, leaving the physically and mentally inferior to reproduce, and inherit the land. (Those in the low mental group reproduce themselves nearly four times as rapidly as do those of higher mentality.)

At present over 40% of Canadian recruits (in this area at least) are rejected as unfit, and 30% of the rejected are classed as mentally and nervously defective.

The largest percentage of this neuro-psychiatric group are of central European origin (surely a condemnation of our immigration system which allowed such poor stock into the country).

War affects all medical men, personally and professionally, whether in the services or not.

Social changes and reforms come with war, and the medical profession is being regimented here, much as in England. Medical men are used in the armed forces in the proportion of nearly 5 to each 1000 men (picked, healthy men). Civilians can get along with one general practitioner to every two to three thousand of population, according to the official ruling. It is estimated that one-third of the physicians in this country, as well as in the United States, will be required for the services, and this will embrace two-thirds of those under the age of 45.

This is as it should be, for active warfare, and in preparation for battle. However, we have in Canada some 65,000 Home Defence men (draftees) who do not volunteer for overseas service. These men (many of them lacking "the will to do" and the spirit of volunteers) are merely sitting in Canada, and must be housed, clothed, fed, paid AND supplied with medical services, in the above proportion. Some three hundred medical men are thus removed from civilian practice or needful military service to look after these dead-heads.

After the war many of these conscripts will continue to be problems, and will, no doubt, demand much from a grateful country that coddled them during the war.

However, for actual fighting men, the best medical care should be provided and maintained. Without the constant salvage of sick and wounded, gigantic armies have melted away. Thus, there has always been a medical service of some kind to meet the needs of armies. Hippocrates alludes several times to the medical service in the field. The Romans established a regular medical service before the First Century. Medical attendants to armed forces, however, were for centuries merely tolerated, and were looked upon as anomalies in the military scheme, before the medical service finally became an integral part of the army as a whole.

During the 18th Century the only sick on whom statistics were available were soldiers, sailors and prisoners. Thus the most important movements in preventive medicine, in England and elsewhere, were initiated by naval and military surgeons.

Many of the great names in medicine and science have come from the ranks of military and naval surgeons—James Lind advised limejuice to prevent scurvy. (It took the Admiralty 42 years to accept his advice.)

Darwin and Huxley were naval surgeons. Dover (of Dover's Powders) was surgeon on a pirate ship.

This war is to be one of annihilation or survival. Civilization cannot be preserved without proper conservation of our fighting strength, for in the end it is the human factor that wins or loses wars.

In earlier wars, disease was much more devastating than death-dealing missiles.

The Plague of 429 B.C. accelerated the fall of Athens. Greece was saved from the Persian invasion in 492 B.C. by an epidemic. The Black Death forced the English army to withdraw and sign an armistice (in 1348) after the Battle of Crecy. In almost every European war, when the louse was still triumphant, typhus took enormous toll.

Napoleon's defeat in Russia was largely due to typhus, aided by typhoid and dysentery. It is stated by historians that if Napoleon had contented himself with occupying Poland, and there organizing sanitation, his campaign might have succeeded, and thus changed the whole course of history. But Bonaparte was in a hurry. He pressed on to Moscow, carrying wagon-loads of infected soldiers (perhaps called lead swingers) into that city. He left the desperately ill behind in towns and villages, and these infected the new troops pressing on to Moscow.

In the South African War 65% of deaths were due to disease.

In the First World War less than 10% were due to disease.

Typhoid.—This has long been the scourge of armies. There were approximately 58,000 cases in the South African War and of these 8,000 died. Inoculation against typhoid was not actually adopted until two years after the Boer war—although Sir Almoth Wright had demonstrated its value two years before that war started. In the last war there were 1,190 deaths from typhoid—in a British Army of some eight million. Only 16 Canadians died out of some 400 cases of the disease. In this war so far, it is almost non-existent—3 cases to a million men.

Dysentery.—38,000 cases occurred in the Boer war, with 1,300 deaths.

In World War I dysentery took second place in importance. It was the chief cause of the Gallipoli failure. One hundred and twenty thousand casualties were evacuated from the Peninsula in five months of 1915, most of them due to this disease. The mortality, however, was not much over 5%.

A virulent Shiga type attacked the German army in Poland in 1939.

A medical officer recently returned from Libya tells us that practically everyone out there contracts dysentery (bacillary). House-flies apparently are responsible for the spread of bacillary dysentery.

Nowadays we may expect better control of bacillary dysentery by anti-dysenteric serum and sulphaguanidine. Recently succinyl sulphathiazole has been found to be as effective as sulphaguanidine.

Cerebro-spinal Meningitis.—In the Canadian Expeditionary Force in the last war, the mortality from this disease was 55%—219 deaths in 399 cases. In the Canadian Army overseas, 1939-1942, there have occurred some 40 to 50 cases per year, with a mortality of less than 3%.

Of interest are 26 cases reported from No. 15 Canadian General Hospital.

Eleven of these cases on admission had meningococcic septicæmia, *without* involvement of the nervous system. Only one of these developed meningitis under treatment.

Here it may be noted that the common use now of sulpha drugs in so many febrile conditions may in some instances mask the symptoms, and prevent the recognition of meningococcic septicæmia.

In England, patients with meningococcic infection are treated in the open wards, as the disease is not considered directly contagious. No two cases have ever occurred in the same barracks or quarters.

The practice of swabbing the throats of contacts has been discontinued.

Catarrhal Jaundice.—In the South African war this was common, over 5,600 cases being reported in five months.

In the last war cases were numerous, many being considered of spirochætal origin.

In this war catarrhal jaundice has occurred in epidemic proportions in England, and also in the German army in France and Belgium. At one time in a Canadian hospital

in England, 12% of medical admissions were cases of jaundice. It was thought that these cases were due to a filtrable virus and one worker in London believed that he had proven this. The condition is quite distinct from Weil's Disease. Punch-biopsies in many cases of so-called catarrhal jaundice have shown a hepatitis to be present. The incubation period is long,—up to a month or more. In young individuals the disease is usually of short duration, but in older men the jaundice may persist for weeks or even months. Convalescent serum has been suggested as a form of treatment.

Influenza and Acute Respiratory Disease.—In the last war there were some 46,000 cases of influenza in the Canadian Expeditionary Force, with 776 deaths. In the U.S. Army during 1917-18 influenza and pneumonia accounted for 75% of deaths from disease. So far there have been no signs of an epidemic in this war, even with the crowding of large numbers of people into air-raid shelters. (At one time in London alone, 300,000 people spent their nights in these dormitories, 1,500-2,000 in one shelter in Picadilly. Some, however, were more hygienically housed in shelters than in their own homes.)

In view of the possibility of an influenza epidemic again, the lessons learned in the last conflict should be recalled. It will be remembered that operation for empyema in these cases was at first accompanied by a mortality of from 30 to 90%. Only after the introduction of repeated aspirations and the avoidance of an open pneumothorax was the death rate cut to about 4%.

The use of the term influenza is very loose. Influenza is apparently due to a combination of viruses unspecified and largely unknown, so that there is no hope of diagnosing influenza as a clear-cut entity on our present information.

Tuberculosis.—In the last war 3,000 Canadian soldiers died of tuberculosis; 8,500 were pensioned for this disease. In the first 1½ years of this war, in the Canadian Army overseas, there were only 114 cases—which included 31 cases of Idiopathic Pleurisy with Effusion. Cases where the enlistment film was considered as reported negative in error numbered only 6.

It is to be mentioned that tuberculosis has increased in England. There has been reported in London, from 1938-42, an increase in pulmonary tuberculosis of 43% and a death rate increase of 73%. (Later figures have, however, shown a decline.)

Recently, Wilson of the London School of Hygiene and Tropical Medicine has reported in the *British Medical Journal* that about 5 to 10% of farms in Great Britain still send out milk containing tubercle bacilli (and incidentally, 20-40% B. abortus).

Rheumatic Disease.—It has been one's impression that rheumatic disease is much less frequent in this war than in the last. True, conditions are much different, but it seems evident that the excellent early work done on recruits by the Canadian Dental Corps has been a big factor in keeping the incidence down.

About 10% of cases returned to Canada as medically unfit have arthritis, but they are mainly in the older age group.

Tetanus.—In pre-antitoxin days mortality from battle wounds was as high as 85%.

In the B.E.F. in France in 1914-18, in spite of the use of antitoxin, there were over 2,500 cases of tetanus—more than 1 to each 1,000 wounded—with 23% deaths.

In the present war, with troops inoculated with tetanus toxoid, there has not been one case of tetanus develop in a man properly immunized—even in those coming back from Dunkirk.

In the German-Polish campaign of 1939, 53.5% of the Polish wounded, who developed tetanus, died. The Poles were unprepared, and not protected by inoculation to any extent.

So much faith is placed in tetanus toxoid that in the Canadian Army antitoxin is not given.

Gas Gangrene.—There has been surprisingly little gas gangrene reported during this war. Some of the men returning from Dunkirk did develop the disease. The use of sulphanilamide, and adequate early surgery, is the best safeguard. X-ray treatment may be utilized.

Streptococcic Infections.—These caused 70% of the fatal infection of wounds in the British Army of 1914-18.

American soldiers today carry sulphathiazole powder for their own wounds.

Implantation of sulphanilamide powder into a wound gives a local concentration up to 800 mgm. %. (When used in the peritoneal cavity, maximum blood-levels may be reached in 15 minutes. It is advised that not over 5 gm. be used, as patients have died of toxic hepatitis after implantation of 10 gm. of the drug in the peritoneal cavity.)

Trench Fever.—From 1915 to 1918, 15% of the admissions to hospitals in France were for trench fever. This condition was unknown before the last war, died out soon after the Armistice, has never recurred, and no one knows why.

Trench Nephritis.—There was none in the South African War, but in the last war it occurred in epidemic proportions as a form of acute glomerular nephritis. Strangely enough no East Indian troops in France developed the condition. The cause was never discovered. There has been none in this war. Ordinary acute nephritis has been rare.

Trench Mouth.—As in the last war, trench mouth is very prevalent. Dietary deficiencies no doubt contribute. It seems certain that vitamin deficiencies do play a big part. From No. 5 Canadian General Hospital in England there were reported several cases of malignant stomatitis with extreme prostration—cultures showed pneumococci—but the condition did not respond to sulphapyridine. Repeated small blood transfusions in these cases were considered life-saving.

Scabies.—Scabies is a problem not to be too lightly brushed away. In the last war 30% of medical casualties, it is estimated, were due to scabies and pediculosis—"The Mite of Scabies versus the Might of Armies." Scabies is prevalent in England. It is the source of much worry and labour to field medical units. Best results were obtained with benzyl benzoate emulsion.

Various other less common diseases may occur.

Bubonic Plague.—This has been reported from East Africa. In Nairobi, 547 patients were treated in hospital in the year 1941. Sulphapyridine acted almost as a specific in the bubonic form, when given early and in adequate dosage.

Relapsing Fever was reported as occurring in the Tobruk garrison.

Malaria is common in the Pacific war zone.

Venereal Disease.—From 1914-1918 in the C.E.F. there were over 66,000 cases of venereal disease. Of these, 18,500 were syphilis. At its peak the incidence of venereal disease was 34 per 1,000.

In this war, up to a year ago, it was 28 per 1,000 (4 cases of gonorrhœa to 1 of syphilis). The rate is increasing. One of the great difficulties with which the Medical Service in England has to contend is the fact that there is no legal authority to search out, and deal with, the sources of infection.

In the treatment of gonorrhœa, sulphathiazole is considered the drug of choice. In a recent report of a group of cases treated with the various sulpha drugs in the U.S. Army, it was stated that sulphanilamide cured 44%, sulphapyridine 86%, and sulphathiazole 98%.

The rapid five-day treatment of early syphilis has been tried out in a Canadian hospital in England (using mapharsen—1,200 mgm. in 5 or 6 days) with 81% successful results reported.

An American medical officer reports that venereal disease is virtually unknown in the Red Army and Air Force, because there is no prostitution in Russia. There is no prostitution because there is no unemployment. The women all have work to do. For "Idleness is the handmaiden of lechery and venereal disease."

Dyspepsia.—Here is one of the major problems of the present war. It is cited as the single most prevalent type of disease among military patients. "The army still marches on its stomach, *even though* it travels in mechanized vehicles."

A great increase has occurred in peptic ulcer compared with the last war, but it has also increased enormously in the past twenty years in civil life. (Better facilities for diagnosis have no doubt to be considered.)

Early in this war 60% of dyspepsias in the services in British hospitals were diagnosed as ulcer.—now about 40% or less. Over 20% of all men invalided to Canada are labelled peptic ulcer. In one group reported, 96% of the ulcers were duodenal.

Most cases had the condition before enlistment (90%), and some 70% recurred within two months and the remainder within eight months.

Severe complications are less common than in civilian life.

Approximately 60% of dyspepsias fall into the functional or reflex type—and are listed often as "Dyspepsias of Unknown Origin."

A small number of these are eventually shown to have ulcer.

Ryal regards gastric neurosis as often a preliminary state to ulcer.

Gastric neurosis may be thought of as D.A.S. (Disordered Action of the Stomach). Comparable to the old Disordered Action of the Heart (D.A.H.).

Emotional tensions generated in this war are evidently appearing as psychosomatic disorders.

One contributing factor to gastric neurosis and probably to aggravation of peptic ulcer, may arise from prolonged tension present in men who are mobilized for war, but who have little opportunity to carry off their emotions in combatant activity.

The German army is apparently facing the same problem with dyspeptics. The reported stay in German hospitals (67 days) is even longer than ours.

It has been reported by one German medical officer that during the Polish campaign, German soldiers with peptic ulcer lost their symptoms, only to have them recur when transferred to France as garrison troops. The importance of emotional reactions from frustration and resentment has been suggested as engendering dyspepsia and reactivating ulcer. If this be true, God knows the Canadian Army in England is entitled to a few peptic ulcers.

Are too many men being discharged from the army with duodenal ulcer?

It may be recalled that surgeons and medical men claimed, in civilian practice, that some 75% could be cured. Why then the note of despair about the treatment and cure of ulcer in the services? Surely, from the large number of cases, some could be salvaged by adequate treatment.

In Shaughnessy Hospital there are usually 35 to 50 indoor cases of gastro-intestinal disease, of which about 75% have peptic ulcer, far the largest number being young men from the active army.

The actual cause of peptic ulcer being still unknown, there is much controversy as to the reason for the high incidence.

A combination of factors *must* be responsible—defects in diet, long periods between meals, focal infection, mental strain and worry, familial tendency, excessive smoking, or other toxins.

There is some evidence that hypoglycæmia occurs in patients with peptic ulcer at the time of hunger pain and night pain. It is known that insulin will cause an increase in gastric acids and pepsin. It has been suggested that hypoglycæmia may be produced by disturbances of the hypothalamus, acting on a liver with impaired function, with then a vagal reflex causing hypersecretion in the stomach, leading to ulceration. It is known that vitamin deficiencies can cause liver damage.

It has been shown that superficial erosions develop in the gizzard of chicks fed on a diet deficient in a fat-soluble factor (associated with vitamin K). With further changes produced by cincophen, the erosions develop into ulcers closely resembling those seen in man. The more deficient the diet, the more pronounced the ulcers. It is thought that cincophen acts first on the liver.

A liver disturbance caused by some toxin, bacterial or chemical, such as industrial poisons, alcohol, even sulpha drugs, tobacco, or allergins and vitamin deficiencies, must be borne in mind.

Now, what of tobacco?

There has been a great increase in the use of tobacco between the two wars. It is stated that over 2 mgm. of nicotine are absorbed in the smoking of one cigarette.

(30 to 60 mgm. may produce fatal intoxication.) It has been found that in pronounced smokers the cell content of the gastric joice is increased above normal in almost all cases of gastritis, in 80% of gastric ulcer and in 53% of duodenal ulcer.

(The normal cell count ranges from 25 to 500 per cubic mm. with 10-40% leukocytes. A true gastritis shows an increase of from 1000 to 3000 and up to 8000 with 40-80% leukocytes.)

Nicotine appears to be a specific toxin to at least the vegetative nervous system. By many it is considered as at least an aggravating factor in peptic ulcer. Perhaps nicotine acts indirectly through the liver and the nervous system, especially where a dietary deficiency exists.

Nutrition.—Deficiency diseases, in past centuries, helped to vanquish the Crusaders.

Food was a decisive factor in World War I. Scurvy and beri-beri conquered the British at Kut-el-Amara, in Iraq, in 1915. The defeat of the Italian Army at Caporetto in 1917 has been attributed *partly* to the poor quality of the soldier's diet which had been drastically reduced several months beforehand.

The final collapse of Germany in 1918 resulted in part from malnutrition in the armed forces and civilian population.

During the Spanish Civil War a great incidence of deficiency states occurred after 18 to 20 months' siege. Starvation œdema became serious after two years. Scurvy was slow to appear.

Good nutrition is a military necessity.

Even in the face of apparent plenty, food deficiencies occur in a civilian population. It is estimated that some 15% of the first million men called by the draft in the United States had disabilities directly or indirectly due to nutritional faults.

On a proper daily diet the soldier usually has excellent physical efficiency and good morale. He resists infection and recuperates quickly from wounds.

The Canadian soldier overseas gets better food than does the civilian in Britain. He certainly gets better rations than did his father, last time. He receives more meat and cheese than the civilian, but he misses fresh milk, eggs, green vegetables and fruit.

For the civilian population of the British Isles proteins are of course the big problem and the most expensive items. First-class proteins—meat and eggs—are scarce, so second-class proteins from cereals and vegetables must be used in abundance.

The British people are prepared, if necessary, to eat grass. The dried juice of one-quarter of the available grass in the British Isles would supply 100 gm. of second-class protein per day for the whole population. Grass is also a good source of vitamin C.

Yeast is a good source of protein, and can be literally plucked out of the air, for yeast can be grown on a synthetic medium made from nitrogen.

How are the British people getting along with the stringent rationing—on 1 shilling and two-pence worth of meat per week, practically no eggs, very little milk and cheese, and no imported fruits? (Children under 5 years, of course, fare better.)

One's impression of the people in the large cities is that they *are* beginning to show some of the effects of a war-time diet—many appear to look rather pale and lean.

A report of group examinations shows that the hæmoglobin of older school children is now lower than pre-war levels.

On the whole, however, the dietary in Great Britain is perhaps better than before the war, especially for the poorer classes, because of th very regimentation imposed. People have, perforce, to tend more to a vegetarian type of diet. The national wheat loaf contains extra vitamin B1 and also calcium carbonate.

Even in the United States about 12% of people show clinical deficiency of vitamin A. About 40% of indigent clinic patients show a vitamin C deficiency; as do all patients over 70 years of age.

A patient on the old strict ulcer diet becomes vitamin C deficient in about four days.

The diet for Canadian soldiers was said to contain 25 mgm. of vitamin C. This was not allowing for the destructive effect of army cooking.

German soldiers, be it noted, receive 100 mgm. of crystalline vitamin C daily.

The Neuroses.—These, including gastric neuroses, are a tremendous item in war, as shown by the large number of neuropsychiatric individuals rejected before enlistment, and the still considerable number that *do* get into the services or devleop after induction.

In the First Great War over 340,000 men were discharged from the British Army for neuropsychiatric conditions—100,000 of them pensioned. In this war approximately 20% of men invalided to Canada are nervous or mental cases.

Of a group of cases seen t No. 1 Canadian Neurological Hospital, 79% had a history of previous nervous instability. Fifty per cent were boarded to Category E; 20% of the remaining 50% were made E within a year.

Many of these men, at least in the early part of the war, were hurried over to England, within a month of enlistment.

In the United States, from 1917-19, there were admitted to service mental hospitals 95,000 cases. Approximately 58% of those hospitalized in veterans' hospitals today are neuropsychiatric cases and cost the United States Government almost one billion dollars in 15 years. Over two-fifths of U. S. pensioners are nervous or mental cases.

It is estimated that it costs $30,000 to care for one psychiatric patient from breakdown to death.

It is reported that even in 1939, before the Americans came into this war, 3 out of every 7 men discharged from service suffered from mental disease, and suicide ranked second as a major cause of death.

In the present South Pacific war over 34% of the first American soldiers returned to Australia were cases of disturbance of, or injury to, the nervous system. Most of the anxiety state cases gave a history of previous nervousness or breakdowns.

In the last war, the large number of neuroses (one-third of the British unwounded casualties) caught the medical services unprepared, without any agreed method of diagnosis or treatment. The unhappy term "shell shock" was a costly misnomer.

A British commission finally recommended in 1939 that the term be dropped altogether.

Actual war neuroses have been few. It was anticipated that bombing would cause mass panic and hysteria in the civil population. Nothing of the sort happened. This was first apparent in the Spanish war in Barcelona, and later in London and other large British cities. This is felt to be chiefly because the population was prepared. Bombing of England did not occur as soon as expected, and also because many peace-time neurotics were too busy helping, by driving ambulances, working in the A.R.P. and auxiliary services, and feeling too important to complain of their previous symptoms. London neurotics have practically disappeared from outdoor clinics.

The British people appear more bored than worried about air-raids. Young children have been much less affected than adults.

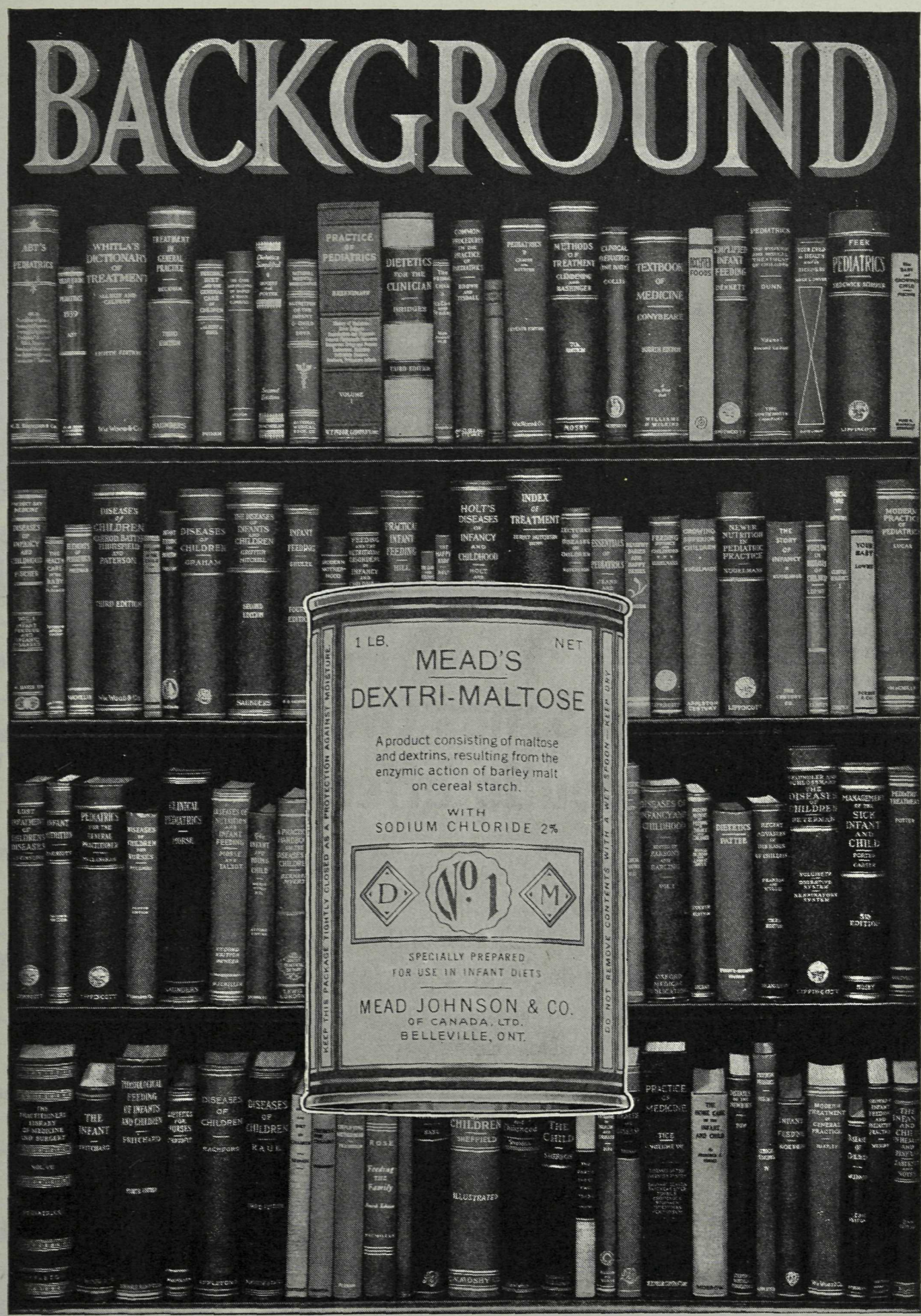
Proportionately, there have been more neuroses among service men than in civilians.

Until recently at least, the highest incidence of battle neuroses occurred in Norway —where new men were subjected to the new terror of dive bombing. A large number showed marked primary shock without being wounded. Nearly every patient was back with his unit, however, within a few days. For the hard lessons of the last war were utilized. In that war it was finally noted that the earlier such cases were treated, the better the results—70% back to duty when held within 10 miles of the front, 40% from the base, and 10% from England.

Among British troops in France in 1939 to 1940 there was very little battle neurosis —for fight and flight happened close together. There were a few functional paralysis of the arms, but none, be it noted, of the legs.

In the first Libyan campaign only 93 psychiatric cases developed and these all cleared up within three weeks.

There are always many dullards and psychopathic personalities in the services. Frequently they are in trouble with the Sergeant-Major and are often found in the guardroom. The army is not a social service agency, nor a haven of rest for misfits. In war, it is far better to have a man who is physically sick than one who is neurotic.

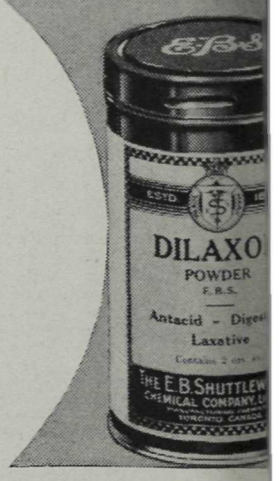


THE use of cow's milk, water and carbohydrate mixtures represents the one system of infant feeding that consistently, for three decades, has received universal pediatric recognition. No carbohydrate employed in this system of infant feeding enjoys so rich and enduring a background of authoritative clinical experience as Dextri-Maltose.

DILAXOL E.B.S.

The Original Antacid

by SHUTTLEWORTH'S



DILAXOL E.B.S. has gained general endorsation by the Medical Profession, because of its high efficacy in the gastric disorders shown on the accompanying chart.

Each ingredient of Dilaxol E.B.S. has a specific function. The ingredients combine to form a balanced product, effective in a number of gastric disorders.

DILAXOL E.B.S. has two separate therapeutic effects:

1 The physical adsorption of Dilaxol is high, because it forms a colloidal jel in the stomach, which is an active adsorbent for organic substances, including alkaloids and bacterial toxins, putrefactive amines and food poisons. It also provides an efficient, neutral protective coating for stomach ulcers and the inflamed mucous lining, thus greatly hastening the healing process.

2 Chemical action: The chart above shows how abnormal conditions, such as hyperacidity, are controlled by neutralization of excess acid. The acid-combining power of Dilaxol E.B.S. is extremely high, yet it cannot cause alkalosis, because the unused ingredients are insoluble in the digestive tract and any excess is excreted unchanged.

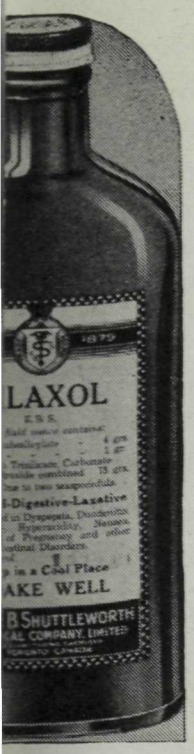
THE

Ingredi
Magnes Trisilic
Magnes Oxid
Magnes Carbon
Bismu Subsalicy

Each fl

Bismuth S
Digestive
Magnesiun
Hydro

DOSE:



Palatable . . . Protective

. . . Indicated in the treatment of hyperacidity, duodenitis, flatulence, functional dyspepsia, peptic ulcer and nausea of pregnancy.

T OF DILAXOL IN VARIOUS GASTRIC DISORDERS

ntative estion	Hyperacidity	Enteritis	Gastric Ulcer	Adsorptive Property	Normal Digestive Tract
tive bent—	Actively neutralizes excess acid only	Protective jel	Insoluble—Forms protective coating	Very active—should not be given with alkaloids	No effect
nown ective	Neutralizes excess acid	Non-irritating	Non-irritating—Preferred to sodium bicarb., which may cause alkalosis — Does not produce gas	No action	Mild laxative in large doses
if excess present	Actively neutralizes excess acid	Laxative if excess acid is present	Less irritating than sodium bicarbonate	Highly adsorptive	Slight laxative
ntion rrhoea	Diminishes excessive acidity	Protective action —Marked anti-septic action	Demulcent action—Lowers hyper-secretion (Bastedo)	Some adsorbent property — Removes amoebae and other protozoa from intestine	Effect is only on inflammation, not peristalsis; therefore no action in normal digestion (Sollmann)

ce contains:

4 grs.
1 gr.
, Carbonate and
ed . . 75 grs.

o fluid drachms,

DILAXOL E.B.S. is also supplied in POWDER FORM in convenient dispensing packages of 2 ounces and in packages of 1 lb. and 5 lbs.

THE E. B. SHUTTLEWORTH CHEMICAL CO. LIMITED
TORONTO *MANUFACTURING CHEMISTS* CANADA

Effective oral therapy for all menopausal Patients

TABLETS

"PREMARIN"

FOR TREATMENT OF SEVERE MENOPAUSAL SYMPTOMS: "Premarin", conjugated oestrogens (equine), is recommended to bring even the most severe menopausal symptoms under control. Extensive clinical tests have established it as the most potent orally-active oestrogen from natural sources yet available.

LIQUID AND TABLETS

"EMMENIN"

FOR MILDER SYMPTOMS AND FOR MAINTENANCE: "Emmenin", conjugated oestrogens (placental), given early in the menopause or when symptoms are mild, has proved effective. It is also valuable for maintenance therapy after severe symptoms have been brought under control with "Premarin".

Both "Premarin" and "Emmenin" are well tolerated and promote a feeling of well-being.

Ayerst **PIONEERS OF ORAL OESTROGENS**

AYERST, McKENNA & HARRISON LIMITED • *Biological and Pharmaceutical Chemists* • Montreal, Canada

150

However, something can be done with a certain number. The British Army boards the dullards to category C and employs them in labour battalions where they are relatively happy and do good work. But units, hospitals and reserve units will probably always be clogged with these charwomen, "the unsatisfactory sick."

The Germans do not recognize war neurosis as sufficient reason to put a man out of service, and they, too, use the neurotics in building roads, and trenches, but put them where they are subject to all the dangers that other men must face.

It may be remarked that in the British Guards Regiments, it is "not done" to be neurotic, and it is said that no case of neurosis has ever been sent into hospital from "The Guards."

While most of the neurotics should never have been enlisted, many might be well today, with high morale, had they but achieved battle. For morale is an awareness of efficiency. High efficiency depends much on good health. Contentment engenders good health. Efficiency to perform a task cannot be maintained at a high level, if men are held back from performing that task. Discontent with waiting, boredom and frustration all interfere with morale, and contribute to, or even cause, ill health.

Rees states that *all of us* are potential neurotics and delinquents—"There but for the Grace of God, go I."

Effort syndrome is a vexatious problem in this war, as it was in the last. It occurred in the American Civil War, where it was described as "young soldier's heart." Forty-four thousand from the last war were pensioned in Great Britain. Most cases of effort syndrome are anxiety neurosis or have nervous system cause. Some few are post-infective, but these often show a mild depressive state. This condition of ill health is not a specific disease in itself. Its pathogenesis is actually unknown. Symptoms and signs, however, closely resemble those of fear rather than those of effort.

From cases reviewed at Hammersmith Hospital, London, two points are emphasized:

1. Severe mental or physical strain is of no more importance than rough conditions, discipline, and fear of, and dislike for, army life.

2. A psychoneurotic state can nearly always be diagnosed in these cases.

When strenuous assault training was put into effect in England, a fair number of men were sent into hospital with no specific disease—men of 35 to 40 years of age or more—often previously alcoholic or of poor physique—who carried on with ordinary training, but who were unable to keep up with the tempo of the toughening process. Some were cases of mild effort syndrome and some showed signs of early cardiovascular change.

The most common cause of death at ages 40 and above is still cardiovascular disease, and the age incidence of coronary deaths appears to be lower year by year. The chronic stress of flying is said eventually to induce a generalized and often rapid deterioration of the cardiovascular and nervous systems. Alcohol and tobacco probably hasten the process.

When one considers what battle training entails, and the strain of modern mechanized warfare, in which powers of endurance must be immense, one tends to agree with the statement that this is a young man's war.

Air Raid Casualties.—Up until a year ago approximately 50,000 British civilians had been killed by bombs and about the same number wounded. The casualties from battle in World War I were in the proportion of one killed to four wonded. Now, where bombing plays the biggest part, the proportion is about one killed to two wounded and of the wounded 50% die soon after injury.

Although tremendous devastation has been caused in many cities by bombing, yet, if looked upon in a cold analytical way bombing loses much of its terror. Most people adopt a fatalistic attitude, and stay where they are when a raid is on.

It is estimated that to kill one man in an open field, 50 to 100 bombs are required.

A Short Reference to Blast and Its Effects.—When a bomb bursts, there is pushed out a single pulsation of short duration, travelling faster than sound, followed by a zone of rarefaction (the negative wave). The force may vary from 100 pounds up to

hundreds of tons per square inch. Even 10 pounds pressure per square inch against a wall 10 x 20 feet is equivalent to a weight of 50 tons. However, the pressure effect falls rapidly. Thus, of three men standing 6 feet apart, only two may be killed. In one instance reported, a 50 kgm. bomb dropped into a room containing eight people. Five only were killed, and the other three were back to work in three weeks' time.

One man in London, lying only 50 feet from a land mine when it exploded, was lifted for a distance of two feet. His ear-drums were ruptured (apparently about 6 pounds pressure will rupture ear-drums) but he was conscious and in two weeks' time was well.

If a person is unconscious from blast he usually does not recover.

Experiments with rabbits have shown that when they are anchored at different distances from a given explosion, certain events will occur:

At 10 feet (pressure 120 pounds to square inch) the animals disintegrate.

At 15 feet (pressure 60 pounds) all animals are dead, with bloody froth pouring from nose and mouth.

At 20 feet—some are dead, some die later (up to 2 or 3 weeks).

At 25 feet, the rabbits live but show changes in various organs.

At 40 feet, they are unharmed.

At post-mortem the outstanding lesions are hæmorrhages into the lungs, but also in abdominal organs, and less often in the nervous system. The hæmorrhages are due to the impact of the blast wave on the body wall, and *not* to blast acting through the respiratory passages. The chief effects are on the side exposed to the blast. This is proven by encasing animals in sponge-rubber, which protects them from damage.

Post-mortem findings in humans killed by blast are similar to those of the experimental animals.

Where patients survive the blast-damage to the lungs, diapedesis of the red blood cells from the capillaries occurs, and goes on for about 48 hours. These patients show shock (often profound), dyspnœa for the first 2 or 3 days, and cyanosis, may have chest pains, and blood-stained sputum.

X-ray shows bilateral mottling which takes about 7 to 10 days to clear up.

Some of these chest cases show abdominal pain and rigidity. Some have had laparotomies done—with negative findings. (Probably reflex vagus effect).

Heart damage may occur through trauma to the chest wall—especially in the young adult. Experimentally it has been noted that in a heart sensitized by adrenalin, cardiac irregularities and coronary spasm may develop.

In the strain of battle, where the vascular system is surcharged with adrenalin, slight trauma to the chest wall may cause considerable cardiac disturbance. Vascular occlusion may develop several hours or several days later. Therefore, when cardiac irregularities appear soon after chest injuries, coronary occlusion must be considered.

Impact of the blast wave from depth charges, striking men in the water, causes chiefly abdominal injuries, retroperitoneal hæmorrhage or rupture of the intestine.

Air raid casualties are seldom caused by blast alone. A multitude of other events complicate the picture—as bomb fragments, flying masonry, displacement and falls, carbon monoxide, asphyxia and burns.

Because of the prevalence of lung damage from blast it may be fatal to give an inhalation anæsthetic.

The crush syndrome is an arresting condition, occurring where a limb has been pinned down under debris for hours. Plasma pours into the injured limb and progressive anuria develops. Mortality has been 100% in these cases treated in one London hospital.

Shock in air raid casualties is usually present and may be divided into: (1) Primary shock—where the nervous system alone is involved—a vaso-vagal phenomenon—but where the blood volume is normal; (2) Secondary shock, in which the blood volume is low—with falling blood pressure. Secondary shock may be superimposed on primary shock.

There are also other conditions associated with apparent shock, such as elderly patients with hypertension, patients with carbon monoxide poisoning and patients with coronary thrombosis.

According to Sharpey Shaffer the treatment of shocked casualties is of three types:—

1. The so called conservative surgical method (warmth, morphia, and rush in and operate.

2. The hæmatological method, used by those with large supplies of fluids that they wish to utilize.

3. The method of observation, by serial blood pressure readings, serial hæmoglobin readings, and serial postural response—with the giving of plasma and fluids as indicated. This is known as the Continuous Interference Syndrome.

Burns.—The treatment of burns has called forth many remedies and produced much controversy. Tannic acid, of course, is taboo on the face and extremities, but is favoured by some for other parts. Continuous saline baths have produced excellent results. Dyes of various sorts are used. Those used vary with the colour scheme favoured by the surgeon.

Recently sulphadiazine triethanolamine, in ointment or spray, has been offered as the treatment of choice.

So many remedies have been employed that a consultant to one of the large London hospitals has said, "I really don't know what the treatment for burns is this week."

In the last war, the British medical service handled over eleven million sick and wounded, and sent 90% back to duty. (The British Empire mobilized over eight and a half million—of whom nearly one million were killed, over two and a half million were wounded, and over 270,000 were taken prisoner.)

The Canadian Medical Service, which first became a living and powerful force at Ypres in 1915, cared for well above 500,000 (over 144,000 of these Canadian battle casualties).

Battle casualties in the last war in France in the B.E.F. were: wounded, 37%; total killed, wounded and prisoner, 56%. Canadian battle casualties were 34.5%—144,600 (of whom 56,638 were killed).

The medical officer does his killing by proxy—although he may be killed himself. Seven hundred and forty-two British medical officers were killed or died of wounds in the last war. (The only two men who ever won the Victoria Cross twice were medical officers in the R.A.M.C.)

Thirty Canadian medical officers were killed, 99 were wounded. It is not generally known that 21 Canadian nursing sisters were killed or died of wounds.

At Dieppe, several Canadian medical officers were killed or wounded.

A few words about Dieppe (information obtained from Brigadier Sherwood Lett, D.S.O., M.C., who was wounded in that battle).

Two medical officers accompanied each battalion. Extra stretcher-bearers from field ambulances went ashore with the attacking troops. All wounded, if humanly possible, were brought back to the beaches. The first-aid training that every officer and man of the attacking force had received paid big dividends. Casualties from the beaches were placed on landing craft first, and taken to several ships, which had been fitted as emergency floating hospitals. These were soon filled to over-flowing. The wounded were back over the sixty miles of water, and carried by ambulance or ambulance train, and admitted to various Canadian hospitals in England within 18 to 36 hours.

Incidentally, secrecy was good—so good, in fact, that hospitals did not know they were to receive casualties until after the attack began.

Blood plasma undoubetdly saved many lives, as did sulpha drugs and early surgery. Only one case of osteomyelitis developed. Of 88 severely wounded men admitted to one hospital only 2 developed gas-gangrene, which was quickly controlled. The Brigadier was full of praise for the medical services, and remarked that if the standard set at Dieppe, in efficiency and courage, be taken as an example of what the Canadian

Medical Service can provide, then the Canadian people may have the satisfaction of knowing that their sons will always receive the finest medical care possible.

In conclusion, it is apparent in this war, as it affects the Canadian Army, that the devastating diseases of former wars are almost non-existent, that tuberculosis, kidney disease and rheumatic disease are relatively low in incidence. This has been accomplished by preventive medicine, routine inoculation, routine chest X-rays, routine urinalysis and routine dental care.

Apart from the casualties of battles yet to come, the chief problems that confront the Canadian Medical Services are seen to be gastro-intestinal, neuropsychiatric and venereal.

To practise medicine with the armed forces is not only a great adventure but a great privilege, and War Medicine throws a challenge to the eager young medical man. As a happy warrior against disease and death, he finds that satisfaction and comradeship, born of common service and often of common misery and stark fear, that cannot be found except in war.

The task of the Medical Service is "To preserve a man alive and fighting fit, in the midst of chance and hostilities."

In the First World War, the Canadian Medical Service never once failed in this task. In this World War it shall not fail.

Vancouver General Hospital

REPORT MADE BY DR. F. N. ROBERTSON TO THE MEDICAL BOARD OF THE VANCOUVER GENERAL HOSPITAL

Mr. Chairman and Gentlemen:

I have asked for a few minutes of your time in order to render a final report upon the test for cancer, which you have so kindly sponsored. In order to save time, no description of the technique nor the test will be given, but just the statistical findings. But before giving them it will be necessary to pick up the threads from my last report.

You will recollect that Dr. Dolman was asked to look into the technique and the whole matter of the test. His criticism was that the test depended too much upon the personal element and that two technicians might get different results. He also recommended that 100 tests be done where the technician never saw the patient nor the chart.

A variation of the test was made so that the personal element would not enter into the results. This was presented to Dr. Dolman and met with his approval. This new method is as follows: the urine was measured, not guessed at, for 60 c.c. This was tested for calcium by Sulkowitch's reagent and lime water added to the urine till it contained a normal amount of calcium. Blood to the amount of 4 cc. was taken from the patient and the needle removed from the syringe. The glass tip was then placed against the bottom of the enamel dish, and the blood laid under the urine, not forcibly as before. The whole was left to stand for 20 minutes. Then the blood and urine were carefully poured out and any excess remaining in the dish gently washed out with cold water. Any blood clots in the dish were then decolourized by hydrogen peroxide and gently washed again with cold water. A 5% aqueous solution of Carbol Fuchsin was then added and any fibrin left in the dish would be vividly stained, which would be a positive test.

Neither the technicians nor myself liked this method as well as the original, as, in pouring off the blood and urine, the normal blood clots were liable to cling to the clots adherent to the dish and tear them off. Thus the test was rendered of no value. Also

any chips or scratches in the enamel would stain with Carbol Fuchsin and were difficult to distinguish from stained fibrin. However, it met Dr. Dolman's requirements.

The next step was to get 100 patients. Dr. J. B. Harrison kindly consented to send 100 patients who were receiving X-ray therapy. These were just "the run of the mill" cases, not all cancer patients. In order that the technician doing the tests should not see the patients, we really required two technicians. In these war times it was found impossible to obtain two. However, the technician did the best she could under the circumstances. Dr. Harrison sent 72 patients and for 64 of these the technician was able to find another technician in the Lab, not busy at the moment, who drew the blood for her.

These 64 patients were never seen by the technician. She only knew them by number and the reports she rendered were given by number and compared with the diagnosis held in the X-ray Department. They also were tested by the new method as outlined before. The number is not that required by Dr. Dolman, but his conditions have been met in every other way.

Of these 64 cases, 2 had leukæmia, 1 had Hodgkin's disease and 4 have no final diagnosis. Thus only 57 cases are left to be reported on, and in this small series the test was accurate in 50 cases or 87.7%. There were 41 Positive tests, 9 Negative tests, 2 Doubtful tests (which should have been repeated) and 5 False tests.

All this has been done to meet Dr. Dolman's criticism. Filling his requirements for a test where the personal element does not interfere with the test, and where the technician has no knowledge of the patient, the accuracy of the test, as stated, was 87.7%.

Now I would like to give you the results of the major portion of my work, which will take much less time. This book contains the record of 1310 cases tested by 1729 tests.

From these 1310 cases must be taken 443 cases, as 260 had no final diagnosis, 73 were taking sulphonamides, 3 had dermatitis, 6 had Hodgkin's disease, 10 had sarcoma, 6 were abortions or Estopic pregnancies, 10 had leukæmia, 9 were technical errors and there were 66 doubtful tests. Thus there is left a balance of 867 cases and in these cases the test was correct 735 times—480 Positive tests and 245 Negative tests. This gives an accuracy of 84.7%.

Of the 66 doubtful cases only 6 were repeated and these still remained doubtful. In the 1729 tests done there were 104 doubtful reports. These were all repeated with the following results 17 remained doubtful, 52 became positive, 13 became negative, or a definite report could be given in 65 of the 104 cases.

The balance of the cases were as follows: 6 false positives, 2 false negatives, 1 leukæmia, 3 on sulpha drugs and 10 without a final diagnosis. In the series of 867 cases there was agreement with the diagnosis in 735 cases. There were 93 false positives, 15 false negatives, and 66 doubtfuls.

The false positives are so many more than the false negatives and there are so many doubtfuls that it rather suggests that the test is too sensitive. All doubtful tests should be repeated.

Regarding the reports of weakly positive, moderately positive, strongly positive, etc.: These terms were used at first and we felt the terms might have some relation to the grade of malignancy or the extent of it. But experience has shown that there is no relation. However, the terms were continued, as they were found useful in writing up our reports. As far as the clinician is concerned a "weakly positive" report is just as significant as a "strongly positive." In other words, the reports should be either positive, negative or doubtful, and all doubtfuls should be repeated.

In conclusion, I would like to express my gratitude to the Staff for their assistance in these experiments, and to sum up my own opinion of the results. I feel that it has been definitely proved that a reaction between the blood and urine of a cancer patient does take place. Also I think the test is of very definite value, when taken in conjunction with clinical findings. It may be impossible for the Lab. to carry on these tests as before, but I do feel that the Lab. could set a charge for the test and do it upon request, as is done at St. Paul's. The charge would limit the number of tests, yet the test could be obtained when desired and in this way the technique could gradually be improved.

STAFF MEDICAL WORK IN THE VANCOUVER GENERAL HOSPITAL

G. L. Hodgins, M.D.

The members of the medical staff of The Vancouver General Hospital have thought that the physicians of Vancouver might be interested in a record of the amount of work done in the medical wards and in a comparison of the work done during each year of the War. There is a tendency to regard this present era as one of general prosperity, and therefore, one in which the staff medical work would be drastically curtailed. This tendency is reflected in the reduced number of beds which have been allotted to staff medicine, but the figures presented in the accompanying tables show that this is not entirely the truth. The steady reduction in the total number of beds allotted to medicine since 1940 has been offset by the steady reduction in the number of days each patient stays in the hospital. It is not due to any change in the type of case which is seen, rather it is due to more rapid diagnosis, more intense work by the house physicians, and more work done by the attending physicians. If the Provincial Government could provide more room for infirmary cases, and if the City authorities could provide more beds for convalescent patients, it would be possible to reduce the hospital days' stay very appreciably. There are many days each month when there are as many as seven to eight patients waiting to be transferred to convalescent homes or infirmary beds. At times, there have been periods when patients had to wait two and three weeks before they could be transferred out of the hospital and only because of lack of space.

In Table 1, we see the total number of male and female medical beds in The Vancouver General Hospital since 1940. It will be seen that they have been reduced by 23 beds during this time.

Table 1.

Total Number of Staff Beds (Medical)

	Male	Female	Total
1940	51	20	71
1941	45	20	65
1942	36	12	48

In Table 2, there is an outline of the total number of staff medical patients treated each year and the average number of days which each have stayed in the hospital. Thus, there have been 546 male patients in 1942 with an average stay in hospital of ten days.

Table 2.

"Staff" Medical Patients in Vancouver General Hospital

	Male			Female			Total		
	1940	1941	1942	1940	1941	1942	1940	1941	1942
Total Number Treated	691	638	546	551	569	435	1242	1207	981
Average Stay in Hospital in Days	14.1	12.8	10	15.5	14.1	13.5	14.6	12.9	11.8

Table 3 is more illuminating insofar as it shows that the average number of patients discharged has increased each year, which is an excellent sign, and also the death rate in the hospital has steadily declined. Furthermore, the improvement in discharges and in death rates has not been accomplished by transferring them from the hospital because the number transferred per year has declined steadily also.

Table 3.

	Male			Female		
	1940	1941	1942	1940	1941	1942
Patients Discharged	178 (26.7%)	193 (31.1%)	168 (31.0%)	240 (45.3%)	257 (47.6%)	224 (51.5%)
Patients Died	140 (21.0%)	152 (24.5%)	107 (19.6%)	63 (11.8%)	72 (13.3%)	41 (9.4%)
Patients Transferred	348 (52.2%)	275 (44.4%)	258 (47.2%)	229 (42.9%)	211 (39.1%)	157 (36.1%)
	666	620	533	532	540	422

As the physicians of Vancouver can readily understand, these 48 staff medical beds must serve the population of Greater Vancouver as well as many cases sent from outside

the city. Therefore, it is absolutely necessary that they be kept as beds for the treatment of acutely ill patients and as active beds for the rapid diagnosis of difficult medical problems. It is impossible to be expected to use them for the aged people who need only nursing care, for everyone who has had a "stroke," or for anyone who can get any care at home whatsoever. The physicians of Vancouver have been very cooperative in this regard, otherwise it would not be possible for a city of this size to be able to carry on with so few medical beds.

(I would like to thank Mr. Fish of the Medical Records Department for his courtesy in making the statistical survey.)

* * * *

SUBDURAL HAEMATOMA IN INFANCY

J. W. Cluff, M.D.

(Senior Resident in Neurology, The Vancouver General Hospital)

Intracranial hæmorrhage with the formation of a subdural hæmatoma is not an uncommon disease of infants, and it is one in which the diagnosis is so simple it should never be overlooked.

Etiology

Formerly the condition was known as Pachymeningitis hæmorrhagica interna, which name expressed the belief that an inflammatory process was in question. Price goes so far as to state that the condition is now considered to be invariably of traumatic origin. Trotter was the first to point out that the lesion in reality was traumatic, but, due to the minor nature of the trauma, and the long interval between injury and onset of symptoms, the injury is frequently forgotten or overlooked and the history does not reveal the primary cause.

It occurs most frequently in undernourished infants, particularly those not breastfed. Ingalls made a study of Vitamin C deficiency and its relation to subdural hæmatoma. Rosenberg stated that he had never seen it occur in a healthy normally developed breastfed baby. Such factors as malnutrition and Vitamin C deficiency do appear to predispose to the disease. Sherwood, Rosenberg, Peet and Kahn all refer to the fact that the greater proportion of cases occur in illegitimate children reared in institutions or foster homes, who may well have a deficient diet but are also exposed to frequent trauma. The modern concensus of opinion seems to favour trauma as the actual exciting mechanism in all cases.

The increase in the incidence of the disease is comparable to the increase in the incidence of carcinoma. The frequency with which both conditions are found is in direct relation to the intensity with which they are sought for. An increased effort toward diagnosis is rewarded by the increasingly favourable prognosis of treated cases.

Pathologic Physiology: The origin now undoubtedly appears to be hæmorrhage into the subdural space from rupture of the superior cerebral veins. These run from the cerebral cortex to the dura or longitudinal sinus and have a short vertical course in the subdural space. The line of force of the blow is usually in the anteroposterior or posteroanterior diameter, since the falx cerebri protects this region from lateral trauma.

Following the original hæmorrhage there is organization along the inner dural surface with formation of very thin walled vessels and a vascular membrane is formed. Peet and Kahn state that from these vessels there is continuous transudation producing the xanthochromic fluid. The membrane lining the outer surface of the arachnoid is less vascular but is fibrous and inelastic and milky white in appearance at operation.

Possibly increased intracranial pressure compresses the venous drainage system, augmenting transudation by passive congestion. From time to time these thin walled vessels in the inner dural membrane rupture; this accounts for lamination of the subdural membrane and frequent alterations in colour of fluid.

Clinical Features

First symptom noted is usually a gradual enlargement in the size of the head, frequently associated with convulsions. The shape and size of the head resemble hydro-

cephalus with bulging of fontanelles, but instead of a dull apathetic face one is struck by the bright alert expression usually seen except in advanced cases, even though the eyeballs are displaced downward.

General symptoms of increased intracranial pressure as headaches, changes in optic fundi, vomiting, strange behaviour, irritability progressing to drowsiness, lethargy and eventually coma are frequently found.

Various neurological signs may also appear, the most common being convulsions and an internal strabismus, but one may also find flaccid or spastic paralysis, weakness, exaggerated reflexes and muscular incoordination in various limbs.

Diagnosis

Suspicion of the presence of subdural hæmatoma is aroused by any of the above findings. In some cases the only sign is gradually increasing size of the head. Confirmation of diagnosis is a simple procedure. A subdural tap will reveal the typical blood stained xanthochromic fluid if the hæmatoma is present.

Bilateral aspirations should be attempted whether fluid is found on the first side tapped or not. In contrast to adults in whom only about fifty per cent of subdural hæmatoma are bilateral, most series of cases reported in infants show the large majority to be bilateral.

The aspiration is relatively safe and easy to do if certain precautions are observed:

1. Use aseptic precautions: shave and scrub scalp well.

2. Use sharp needle with short bevel and make entry at point of lateral angle of anterior fontanel, pointing the needle in a lateral direction.

3. Force used to insert the needle must be under control. The needle should be grasped near the tip with gloved fingers resting on scalp to prevent it from being pushed into brain when dura is pierced.

As soon as the needle enters the dura, if present, the fluid usually appears and gushes forth each time the baby cries. This fluid is always xanthochromic and bloody, with elevated protein content, and if centrifuged the supernatant fluid usually shows a yellowish colouration. These factors are important in distinguishing it from

1. *Ventricle fluid in hydrocephalus.* In this condition fluid is not usually encountered until needle has penetrated the dura one or two centimetres. The fluid is clear and has a normal cell count. If red cells are present they are usually due to trauma of puncture; centrifuging in such cases gives clear supernatant fluid.

2. *Subarachnoid fluid.* If more than a drop or two of clear fluid is obtained, the possibility of an accumulation of a large amount of subarachnoid fluid following cortical atrophy must be considered. Such fluid may be rendered bloody by trauma of the tap but if centrifuged it will give a clear supernatant fluid.

If lumbar puncture is performed it may yield clear fluid, chemically normal or xanthochromic or blood-stained fluid, and the possibility of subdural hæmatoma must be remembered with any of these findings.

Treatment

This must of necessity be based on a comparison of the effects of the disease in infants and adults. When infants and children are seen only occasionally in a group, most of whom are adults, there is a tendency to treat all the same way regardless of age. If infants and young children are considered as a separate group, one is more likely to remember the factors requiring more radical treatment in this group.

According to Ingraham and Heyl these factors include:

1. The fact that the brain volume is doubled during the first three months of life and redoubled during the next six months. In view of this fact a thin membrane of inelastic tissue covering the brain should do considerable damage. Obviously the danger from the constrictive effect on the circulation is greater than in a brain which has reached full growth.

2. In addition to the constrictive effect of the inner membrane there is interference with absorption of cerebro-spinal fluid because of (a) pressure tending to obliterate

the subarachnoid space and (b) the inflammatory reaction to the presence of blood in the subarachnoid and subdural spaces. Ingraham and Heyl believe that the removal of bloody cerebro-spinal fluid will minimize this difficulty but that as long as a membrane is present, absorption will be impaired with resultant tendency to increasing hydrocephalus.

In adults hydrocephalus secondary to subdural hæmatoma is uncommon whereas in infancy it occurs in most cases.

3. In addition to the above two factors relative resistance of the infant and adult brain is based on principles that as the functions of the cortex are in the process of being developed there should be as little interference with circulation as possible. To accomplish this, membranes must in large parts be removed. While formerly leaning toward conservatism the treatment has now become radical.

The only type of case that might recover spontaneously with repeated aspirations is one with an outer membrane so thin as to be scarcely visible on the inner surface of the dura and a great amount of fluid present. Rosenberg states that of cases treated this way fifty per cent die in hospital of intercurrent infection. He followed fifteen out of a total of thirty cases who left hospital and found that four died, two were idiots, four imbeciles, one severe neuropath, one stutterer, and two bed-wetters, one of whom had optic atrophy. Only two of the original thirty were normal.

Peet and Kahn reporting nine cases in 1932, of whom five died during or shortly following radical surgery, felt that in spite of their mortality rate surgery was justified in view of Rosenberg's findings.

They proposed examination of membranes through a trephine opening to determine whether the condition might regress under conservative therapy or not. The burr holes were so placed that they could be extended as osteoplastic flaps if membranes were in evidence.

In reviewing their series they proposed the following operative procedure:

1. If hæmatoma is bilateral the space opposite the operative side is tapped before commencing the operation. This procedure is to avoid subsequent pushing over of the brain stem by pressure of fluid on the unoperated side when the intracranial pressure commences to reach normal postoperatively.

They felt that three of their five deaths were due to this mechanism.

2. A moderate sized osteoplastic flap is then turned down in the frontoparietal region, the dura is opened, meningeal vessels clipped and membrane removed. The milky membrane is removed from the arachnoid and permits brain expansion. The wound is closed without a decompression opening being left.

During operation, facilities are available for immediate transfusion.

Ingraham and Heyl in 1939 reported a series of eleven cases with only one death. They propose a plan rendering radical management safe and giving (in their series at least) a low mortality rate.

1. Lumbar puncture. This is performed only in absence of evidence of markedly increased intracranial pressure. About ten cubic centimetres (10 c.c.) of fluid are removed. If it is bloody, daily spinal taps are perfomed until it clears; if there is marked increase of intracranial pressure, bilateral subdural taps are first perfomed.

2. Bilateral subdural tap. Not more than fifteen cubic centimetres (15 c.c.) are removed from each space. If only a small quantity is obtained it may be examined for protein and red cells. Each side is subsequently tapped on alternate days for seven to ten days while improving the general condition of the patient. Vitamins, fluids, and transfusions are administered as indicated and infections such as pneumonia and otitis media, which not infrequently occur as associated conditions, are controlled.

3. Bilateral trephine. After seven to ten days bilateral trephine is performed with burr holes so placed that they can be included in bone flaps. The cavities are emptied and examined for the presence of membranes and organized clots. If desired the cavities may be filled with air and radiographs taken to determine the size of the space. If membranes are present one must proceed and perform osteoplastic flaps and remove as much of the membrane as can safely be reached through the operative opening. One side at a time is operated, allowing a brief period of convalescence between.

Report of Two Cases

Case 1: D. M. B., female, aged four and one-half months, admitted on February 12, 1942, to The Vancouver General Hospital under Dr. Isabel Day and referred to Dr. Frank Turnbull, with a history of convulsions and vomiting. She was a second child of normal term birth and had been breast-fed for three weeks, making satisfactory progress except that she failed to gain weight as mother thought she should. One month previous to admittance she had a convulsion. A doctor was called and diagnosed a feeding upset. Three days prior to admittance she had another convulsion and had vomited frequently from that time on. Examination revealed an emaciated child, dehydrated, head enlarged, fontanel tense, eyes displaced downward, fundi clear. She continued vomiting and had one convulsion in the hospital. Aspiration of the right subdural space a few days later revealed fifteen cubic centimetres (15 c.c.) of amber fluid containing gross blood. This was repeated three times in one week with improvement.

February 27, 1942: Under ether anæsthesia a right parietal bone flap was turned down. The dura was opened and a thin but definite subdural membrane removed. The brain expanded well and was closed without drainage. Postoperatively aspirations were done for five days and increasing amounts of fluid ranging from thirty to fifty cubic centimetres (30-50 c.c.) were obtained.

March 5, 1942: Trephine was performed just behind the bone flap margin under local anæsthesia. Dura and membrane were opened; the outer membrane was removed as much as possible and inner membrane incised allowing brain to expand. The space was washed and the wound closed with drainage. Drainage was continued for one week; then the wound healed and the child was discharged from hospital, apparently well.

April 23, 1942 (seven weeks later): The patient was readmitted with a history of her head enlarging and being drowsy and irritable. The bone flap was reopened and the inner surface of the dura found to be covered by a light granulation tissue. The subdural membrane was thin. The sac was washed out and the dura replaced and closed with drainage. She continued to improve and was discharged two weeks later.

August 25, 1942 (four months later): The patient was readmitted. She had been well until three days previously when she fell, bruising forehead and right eyelids. She vomited all the following day and on the day of admission screamed, fainted and became tense. Physical examination revealed bilateral retinal hæmorrhages, the right optic nerve-head swollen, internal strabismus and the eyes pushed down.

August 28, 1942: Under avertin and ether anæsthesia the bone flap was re-opened and about eight cubic centimetres (8 c.c.) of loculated fluid and a moderately thick subdural membrane were found. The space was cleaned out and the dura excised, turned inside out and sutured back in place. The wound was closed with drainage. Reports say that she has continued to be well.

Case 2: L. T., male, aged five and one-half months, admitted to hospital on January 24, 1943, under Dr. J. W. Millar, referred to Dr. Frank Turnbull, with a history of having had a block of wood fall one foot onto chest producing bruises. He became immediately unconscious and had a convulsion. Radiographs revealed no fracture of chest. The child continued to be comatose and was tube-fed; he also had frequent minor twitchings which were controlled by phenobarbital. Further questioning of foster parents revealed that the child had been adopted at the age of about two months. He had always been well and weighed eighteen and one-half pounds at the time of the injury. One week before the injury he had fallen three feet from a table to the floor, bumping his head with resultant ecchymoses to both cheeks and temples and bump over the occiput. On admittance the central fontanel was tense and internal strabismus was present.

A few days later subdural spaces were aspirated and forty cubic centimetres (40 c.c.) of bloody fluid were obtained from the left and two cubic centimetres (2 c.c.) from the right. Aspirations of the left space were repeated as indicated. One week after admittance the child was lethargic, the fontanel tense, and internal strasbismus present; the limbs moved very little voluntarily and were flaccid on passive movement.

February 1, 1943: Under ether anæsthesia the left space was aspirated and forty-five cubic centimetres (45 c.c.) of bloody fluid obtained. A left parietal flap was turned down and the dura was opened with a circular incision and removed. A few pieces of

membrane were removed from the surface of the subarachnoid membrane and the inner surface of the dura. The dura was replaced and sutured inside out. The bone flap was replaced and the scalp closed with drainage. At the conclusion of the operation a small blood transfusion was given. The child made good progress and became conscious but was drowsy most of the time. Aspirations were attempted postoperatively for about one week but no fluid was obtained.

Approximately three weeks later the baby again became lethargic and irritable. Aspiration of the left space yielded forty cubic centimetres (40 c.c.) of bloody fluid on three occasions.

February 27, 1943: Under local anæsthesia, a burr hole was made in the right fronto-parietal area. On opening the dura about forty cubic centimetres (40 c.c.) of blood tinged brownish fluid exuded and a small organized clot was teased out. The former burr hole on the left side was then re-opened. On opening the dura the brain was found to be depressed one-half centimetre (½ cm.), giving the impression that hæmatoma had been bilateral but communicated and had drained through opening on the right. (One other case that communicated was mentioned by Peet and Kahn.) The wounds were closed with drainage. That on the left drained very little but the right side drained for a total period of nine days. The last two or three days the drainage was clear cerebro-spinal fluid. The child made a good recovery, was discharged in three weeks, and is now well.

Comment

Lumbar puncture was not performed in either of these cases. Though advocated by Ingraham and Heyl, they admit that it must not be done until after subdural aspiration in the presence of markedly increased intracranail pressure. Certainly it seems safer to remove fluid from above than from below and avoid the danger of pressure from above pushing the brain down and compressing the brain stem at the incisura or foramen magnum. Aspiration is a simple procedure and may be repeated until the infant is prepared for operation.

These cases also illustrate how well infants tolerate cranial surgery when precautions are taken. The first case had craniotomy performed on four occasions, the second on two.

Blood for transfusions is routinely taken the night before operation and is available immediately if shock supervenes. In the absence of this complication the baby is given a transfusion of ten cubic centimetres (10 c.c.) of whole blood for each pound of body weight immediately following operation.

The dura was turned inside out because even after the memberane has been removed the inner aspect of the dura is seen to be covered with delicate granulation tissue which carries the vessels supplying the membrane. This tissue obviously would exude fluid if replaced; by inversion the non-vascular outer surface is placed next the arachnoid membrane.

Summary

1. Subdural hæmatoma is not an uncommon condition in infancy and is one which is amenable to treatment and offers a good prognosis. Due to the simplicity of aspiration the diagnosis is easily made. In any child presenting progressive hydrocephalus, especially if associated with convulsions, aspiration must be attempted to rule out subdural hæmatoma which can be cured.

2. Due to several factors the condition in infants and small children should be considered as a separate group and treated as such.

3. Radical treatment seems the most satisfactory method and offers the better prognosis.

I wish to thank Dr. Frank Turnbull for his assistance in the preparation of this paper.

BIBLIOGRAPHY

A Textbook of the Practice of Medicine—Edited by F. W. Price—Sixth Edition (1941)—Oxford University Press, London.

Peet, Max, and Kahn, Edgar: Journal of the American Medical Association, (1932) 98: 1851-1856.

Rand, C. W.: Archives of Surgery, (1927) 14:1136.

Trotter W.: British Journal of Surgery, (1914) 2:271.

Sherwood, David: American Journal of Diseases of Children, (1930) 39-981.

Ingraham, F. D., and Heyl, H. L.: Journal of the American Medical Association, (1939) 112:198-204.

Rosenberg, O.: Quoted by Peet and Kahn as above.

to reduce industrial absenteeism due to urinary infections

In the vital battle of production, it is essential that every worker be kept on the job and at full production capacity.

When a war worker suffers with one of the common urinary infections, Pyridium is of decided service. This is especially evident in the milder, ambulant cases of urinary infection.

The prompt and effective symptomatic relief provided by Pyridium contributes to a more rapid recovery, with the result that the worker can be returned to his job sooner than would otherwise be possible. Pyridium is convenient to administer. The average oral dose is 2 tablets t.i.d. At this dosage level, it possesses the combined advantages of relative nontoxicity, effectiveness in the presence of either acid or alkaline urine, and local analgesic effect on the urogenital mucosa.

PYRIDIUM

TRADE MARK

(Phenylazo-Alpha-Alpha-Diamino-Pyridine Mono-Hydrochloride)

A decade of service in urogenital infections

MERCK & CO. Limited *Manufacturing Chemists* Montreal and Toronto

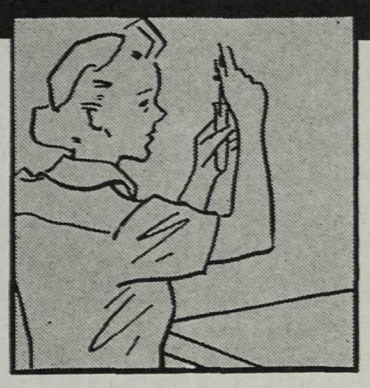
CLINITEST

THE NEW 1 *MINUTE* TABLET TEST FOR URINE - SUGAR

Active reagents all contained in a single tablet

Standard Fool-proof Technique

CLINITEST in the OFFICE



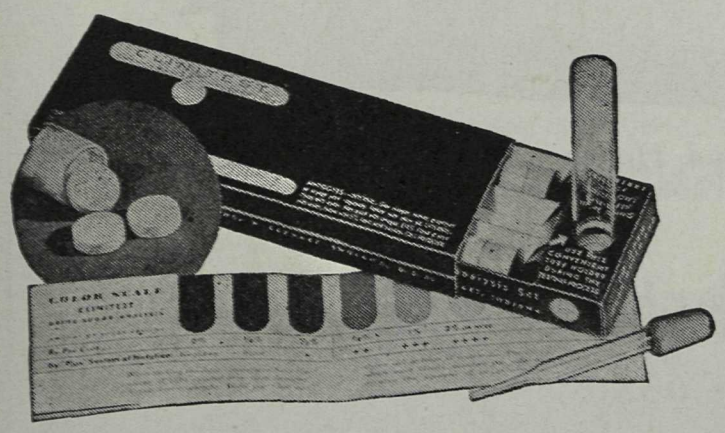
CLINITEST in the LABORATORY

CLINITEST in the HOME

The invariable reaction to a demonstration of Clinitest is one of wonder that so *dependable* a test method could, at the same time, be so *simple* and so *speedy*. Naturally this has been reflected in a rapidly increasing demand for Clinitest Sets.

SOME ADVANTAGES WHICH OFFER SPECIAL APPEAL

No external heating required.
Active reagents in a single tablet.
Standard fool-proof technique.
Dependable . . . a copper reduction test.
Indicates sugar at 0%, ¼%, ½%, ¾%, 1% and 2% plus.



The Test involves 3 simple steps

1. **5 drops urine** *plus* 10 drops water.
2. **Drop in tablet.**
3. **Allow for reaction and compare with color scale.**

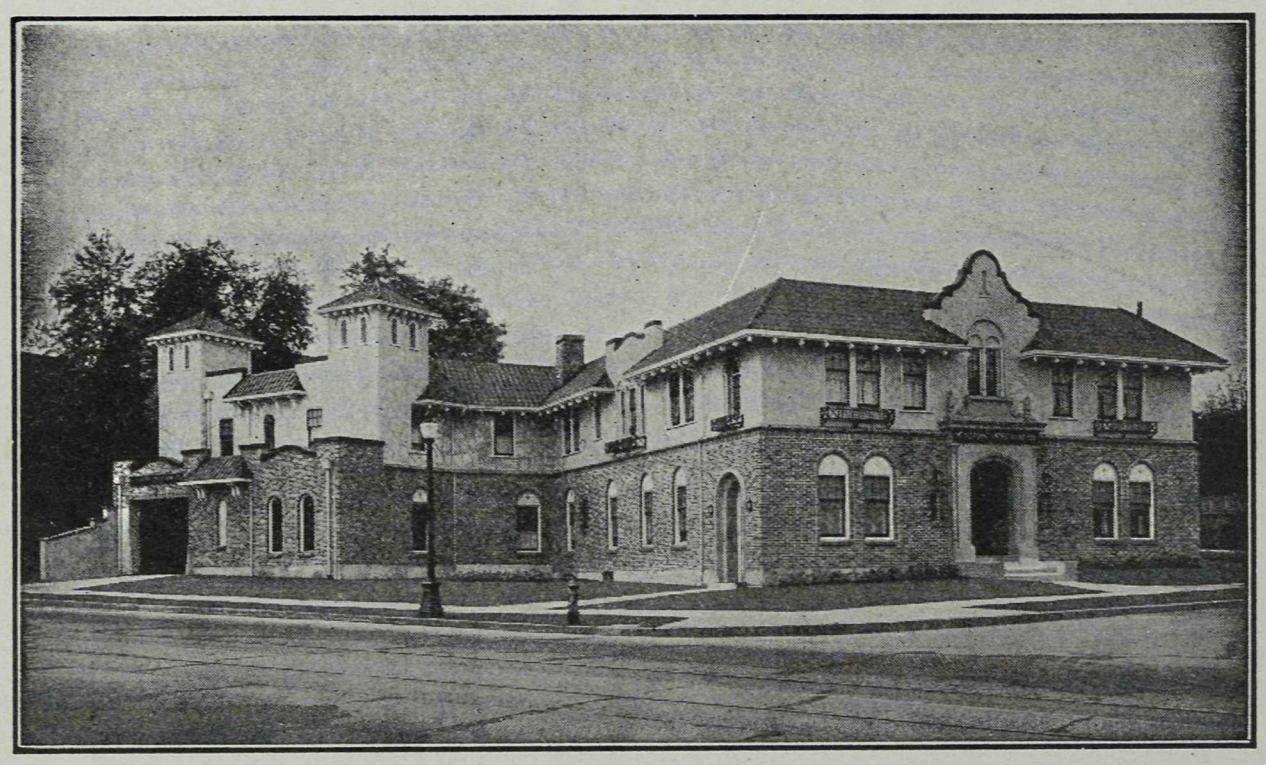
Write for full descriptive literature.

Available through your surgical supply house or prescriptive pharmacy.

EFFERVESCENT PRODUCTS INC.

Sole Canadian Distributors

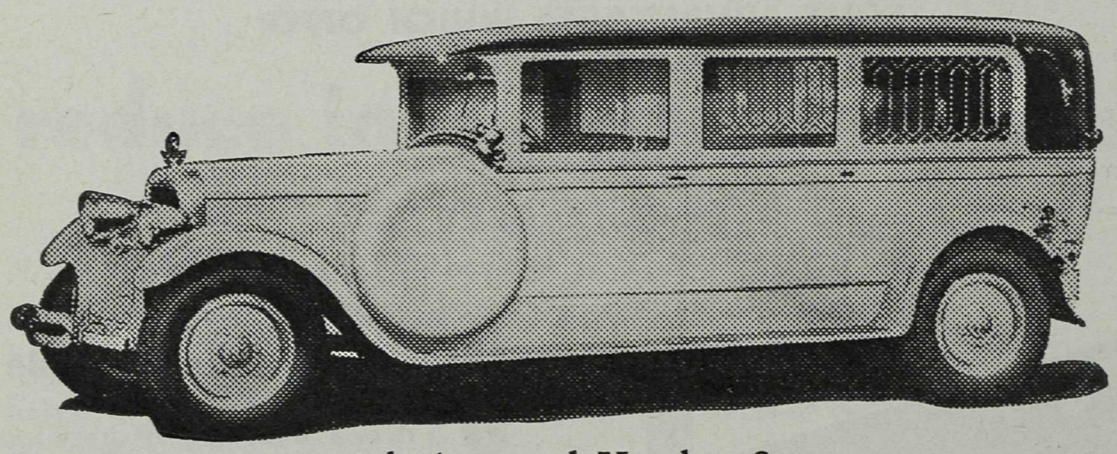
FRED. J. WHITLOW & CO., LTD., 187 DUFFERIN STREET, TORONTO



Mount Pleasant Undertaking Co. Ltd.

KINGSWAY *at* 11th AVE. Telephone FAirmont 0058 VANCOUVER, B. C.

R. F. HARRISON W. E. REYNOLDS



13th Ave. and Heather St.

Exclusive Ambulance Service

FAirmont 0080

PRIVATE AMBULANCES AND INVALID COACHES

WE SPECIALIZE IN AMBULANCE SERVICE ONLY

J. H. CRELLIN W. L. BERTRAND

HIGHLY PURIFIED AND STABLE

Chorionic Gonadotropin

FORMED IN THE PLACENTA AND EXTRACTED FROM URINE OF PREGNANT WOMEN

Indications

Functional uterine bleeding

Undescended testes

Male hypogonadism

Korotrin powder is supplied in vacuum packed vials (with rubber diaphragm stopper) containing either 1000 or 5000 international units. Fresh solutions containing from 100 to 500 units or more in each 1 cc. are made with ease. Also available in ampuls containing 100 and 500 units.

Korotrin

Trademark Registered in Canada

Brand of CHORIONIC GONADOTROPIN

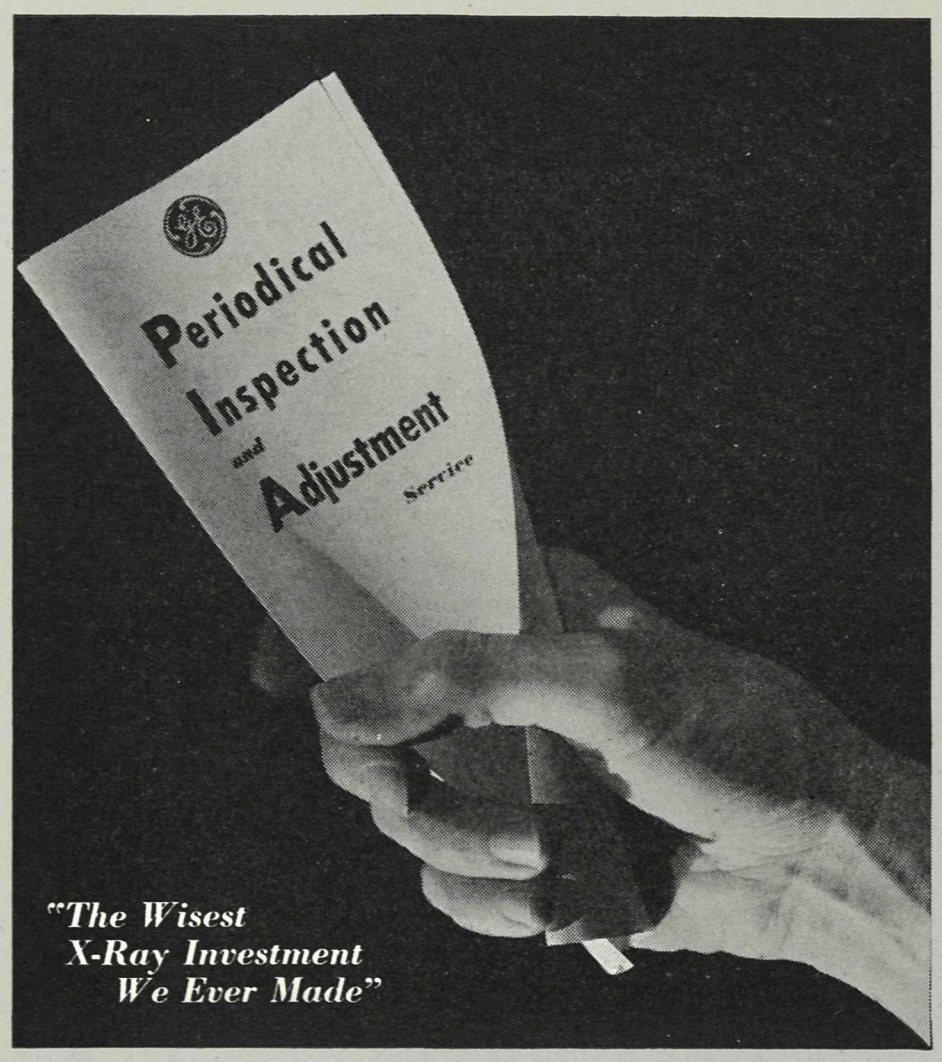
ANTERIOR PITUITARY-LIKE HORMONE

WINTHROP CHEMICAL COMPANY, INC.

Pharmaceuticals of merit for the physician — *General offices:* WINDSOR, ONT

Professional service office: Dominion Square Building, Montreal, Que.

WINTHROP



That's how hundreds of x-ray laboratories feel about G-E's *Periodical Inspection and Adjustment Service,* which keeps their equipment in A-1 operating condition the year round.

Just as your automobile continues to give the most satisfactory and most economical performance, year after year, when competently serviced at regular intervals, so it is with fine x-ray equipment. To this end *P. I. and A. Service* has for thirteen years been extended to x-ray users everywhere through G-E's dominion-wide field organization. And continues despite difficulties imposed by today's restrictions.

P. I. and A. is a tangible service. The owner of x-ray equipment actually contracts for it, stipulating the number of periodical equipment check-ups he desires the G-E Service Engineer to make during the year. And you'll find upon inquiring among those who have long used this service, that they consider it a negligibly low-cost insurance on their original investment. Yes, needed minor adjustments, when immediately attended to, help to prevent serious trouble and costly repairs.

In Canada this service is extended through the Victor branch offices and regional service depots listed herewith. You can rely on our factory-trained men in these offices to give you helpful technical information at all times.

MONTREAL, QUE.
600 Medical Arts Bldg.

HALIFAX, N. S.
37 Deacon St.

TORONTO
30 Bloor St., West

OTTAWA, ONT.
454 Holland Ave.

WINNIPEG, MAN.
Medical Arts Bldg.

REGINA, SASK.
82 Angus Crescent

CALGARY, ALBERTA
431 14th Ave., N. E.

EDMONTON, ALBERTA
11511 97th St.

VANCOUVER, B. C.
Motor Transportation Bldg.
570 Dunsmuir St.

Today's Best Buy
War Savings Certificates

VICTOR X-RAY CORPORATION of CANADA, Ltd.
DISTRIBUTORS FOR GENERAL ELECTRIC X-RAY CORPORATION
TORONTO: 30 Bloor St., W. · VANCOUVER: Motor Trans. Bldg., 570 Dunsmuir St.
MONTREAL: 600 Medical Arts Building · WINNIPEG: Medical Arts Building

HAY FEVER

CORYPHEDRINE

Affords prompt relief, especially if taken in the early stages. Helps respiration by producing a feeling of eupnoea, stimulates the respiratory system and relieves spasm. If the condition is already well established many of the disagreeable secondary symptoms are lessened.

CLINICAL SAMPLE
Clinical sample available to physicians on request.

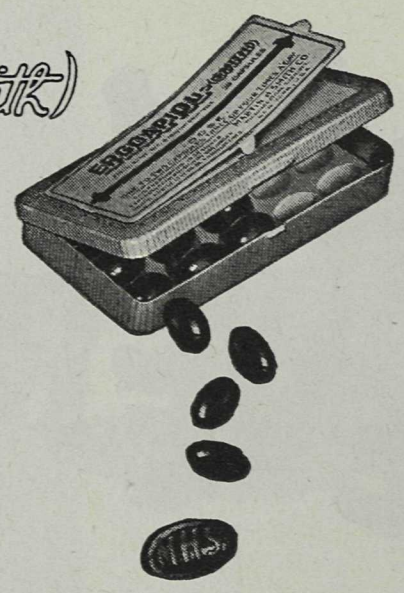
CORYPHEDRINE
ADULT DOSE: One to four tablets per 24 hours.
Supplied in containers of 20, 100, 500, and 1000 tablets. Each containing 7½ grains acetylsalicylic acid and ¼ grain ephedrine hydrochloride.

Laboratory Poulenc Frères
OF CANADA LIMITED—MONTREAL

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.



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.

Full formula and descriptive literature on request

Head Colds Checked

WITH 3 DROPS IN EACH NOSTRIL . . .

PRIVINE "Ciba"

(1:1000 solution of 2-(naphthyl-1-methyl)-imidazoline hydrochloride)

NASAL DROPS

Clinical investigations on Privine Nasal Drops have proved that they are excellently suited for the treatment of all forms of naso-pharyngeal affections. In head colds, a few moments after the instillation of 3 drops of Privine in each nostril, the headache and sensation of heaviness in the head disappear, while the nasal respiration becomes easier, the watering of the eyes stops, the voice regains its normal tone and the sense of smell is restored.

ISSUED:
In bottles of ½ ounce with dropper, and bottles of 4 ounces.

CIBA COMPANY LTD. - Montreal

TUTAMATE

TUTAMINA MATRIS

A Complete Vitamin and Mineral

NUTRITIONAL SUPPLEMENT

Frequently Prescribed for the

PREVENTION OF PREMATURITY

INDICATIONS:

Prematurity, Polyneuritis of Vitamin B_1 Deficiency, Nutritional Anaemia, Rickets, Dental Caries, Tetany of Vitamin D Deficiency, Iodine Deficiency, Builds up depleted stores of Vitamins and Minerals.

DOSAGE:

Two capsules daily with meals

MODES OF ISSUE:

Boxes of 50 and 100 Capsules

Charles E. Frosst & Co.

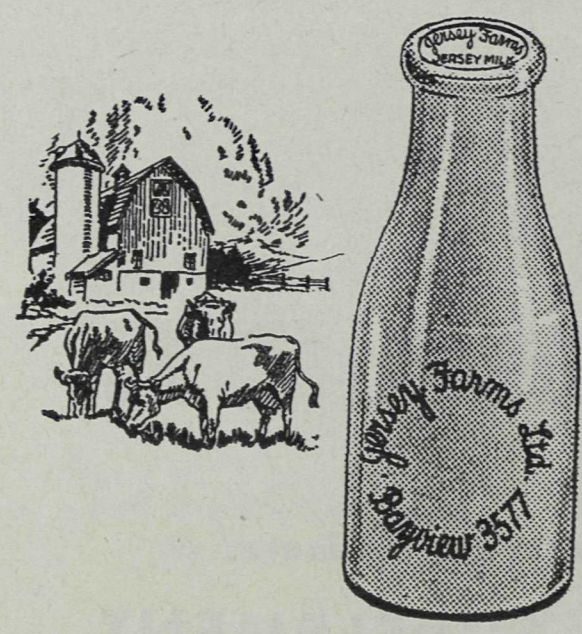
MONTREAL, CANADA

Frosst

The Canadian Mark of Quality Pharmaceuticals Since 1899

WHERE QUALITY AND PRICE ARE EQUAL OR BETTER PRESCRIBE CANADIAN PRODUCTS

For Healthy Bodies . . .



The medical profession today unhesitatingly recommends pure whole milk as the complete food for all ages. From a midmorning snack to a midnight bite, it's "Just what the Doctor ordered." Keep an ample supply on hand at all times and laugh at Father Time's futile effort to mark you. Be sure your milk and cream is from carefully selected, tested herds, and reaches you with a minimum of delay—pasteurized, of course.

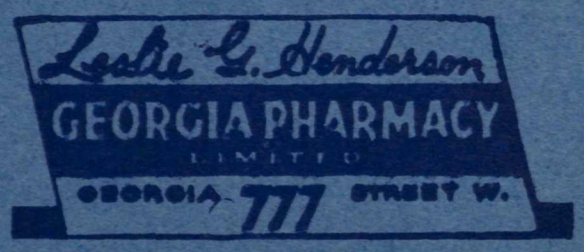
Jersey Farms LIMITED
for JERSEY QUALITY
MILK CREAM BUTTERMILK

Bay 3577

Our Desire to Serve . . .

—is just as keen as ever. Occasionally we are asked for a medicinal that has become a war casualty, but very few of the medical profession have been inconvenienced by such a circumstance at the Georgia Pharmacy.

Phone
MArine 4161



Center & Hanna Ltd.

ESTABLISHED 1893

VANCOUVER, B. C.

North Vancouver, B. C. Powell River, B. C.

Hollywood Sanitarium

Co. Limited

NEW WESTMINSTER, B. C.

★

For the treatment of

NEUROPSYCHIATRIC DISORDERS

★

Reference—B. C. Medical Association

★

For information apply to

MEDICAL SUPERINTENDENT, NEW WESTMINSTER, B. C.
or 721 MEDICAL-DENTAL BUILDING, VANCOUVER, B. C.

PACIFIC 7823 WESTMINSTER 288