The BULLETIN

of the

VANCOUVER MEDICAL ASSOCIATION

Vol. XX. JULY, 1944 No. 10

With Which Is Incorporated
Transactions of the

Victoria Medical Society

the

Vancouver General Hospital

and

St. Paul's Hospital

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ANNUAL MEETING BRITISH COLUMBIA MEDICAL ASSOCIATION

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SEPTEMBER 26, 27, 28, 29

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THE VANCOUVER MEDICAL ASSOCIATION

BULLETIN

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

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

VOL. XX JULY, 1944 No. 10

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VANCOUVER HEALTH DEPARTMENT

STATISTICS—MAY, 1944

Total Population—Estimated	299,460
Japanese Population—Estimated	Evacuated
Chinese Population—Estimated	5,728
Hindu Population—Estimated	227

	Number	Rate per 1,000 Population
Total deaths	337	13.3
Japanese deaths	—	Population evacuated
Chinese deaths	14	28.9
Deaths—residents only	299	11.8
BIRTH REGISTRATIONS:		
Male, 363; Female, 365	728	28.7

INFANTILE MORTALITY:	May, 1944	May, 1943
Deaths under one year of age	20	22
Death rate—per 1,000 births	27.5	31.4
Stillbirths (not included above)	16	7

CASES OF COMMUNICABLE DISEASES REPORTED IN THE CITY

	April, 1944		May, 1944		June 1-15, 1944	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Scarlet Fever	158	0	160	--	55	0
Diphtheria	--	0	--	--	--	0
Diphtheria Carrier	--	0	--	--	--	0
Chicken Pox	211	0	281	0	50	0
Measles	32	0	44	--	4	0
Rubella	46	0	116	--	45	0
Whooping Cough	28	--	33	--	6	0
Mumps	42	0	23	--	13	0
Typhoid Fever	1	0	--	--	1	0
Undulant Fever	--	0	--	--	--	0
Poliomyelitis	--	0	--	--	1	0
Tuberculosis	75	16	77	8	40	--
Erysipelas	3	--	6	--	--	--
Meningococcus Meningitis	7	1	--	--	--	--

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
Syphilis							
Gonorrhoea							

Figures not yet available.

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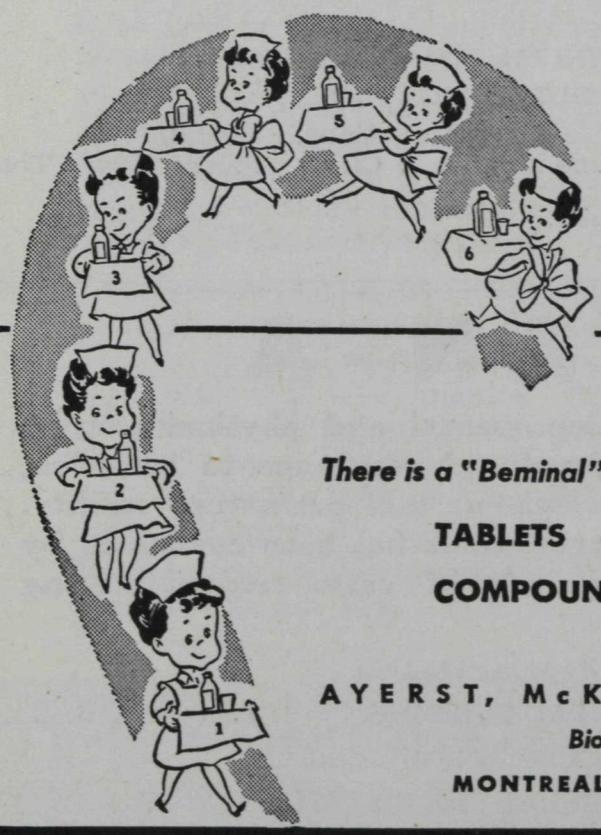

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* * * *

PROGRAMME OF THE FORTY-SIXTH ANNUAL SESSION

GENERAL MEETINGS will be held on the first Tuesday of the month at 8:00 p.m.

CLINICAL MEETINGS will be held on the third Tuesday of the month at 8:00 p.m. These meetings are to be amalgamated with the clinical staff meetings of the various hospitals for the coming year. Place of meeting will appear on the agenda.

General meetings will conform to the following order:

8:00 p.m. Business as per Agenda.
9:00 p.m. Paper of the evening.

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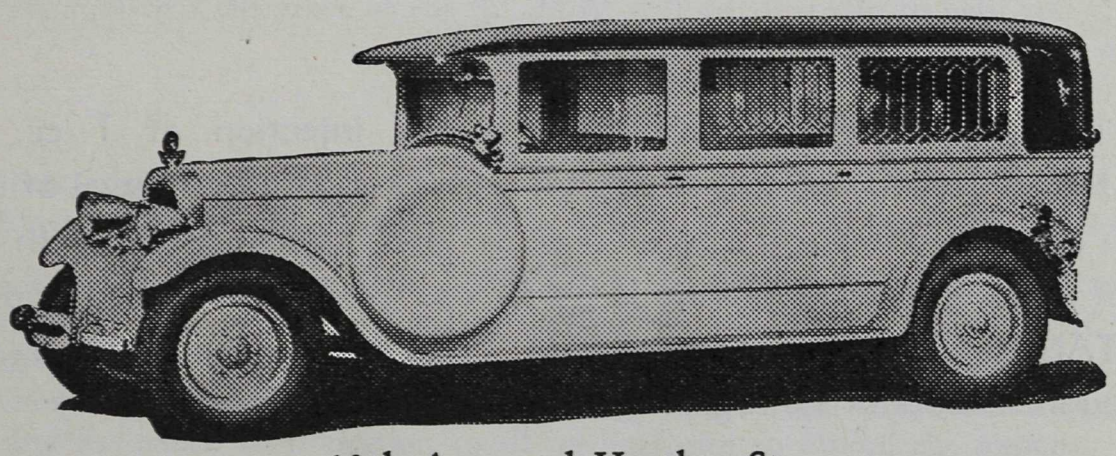

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- Of interest to every physician in his private practice.

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THE EDITOR'S PAGE

The forthcoming Annual Meeting of the British Columbia Medical Association, to be held in Victoria from September 26th to 29th inclusive, is one of the outstanding events of the year for the medical profession of British Columbia. It is, perhaps, the most important event, for it includes the whole Province; and with it is associated the Annual Meeting of the College of Physicians and Surgeons.

The business meetings are quite as important as the scientific programme, which forms a great part of the proceedings. We shall hear the reports of the year's work, and elect our new officers for the coming year. We could not have a pleasanter place wherein to meet than Victoria, which has always been noted for its hospitality and wholehearted efforts towards making any meetings held there a complete success—and we are sure that every man who can possibly spare the time to attend will find himself more than amply repaid.

Speaking of the scientific programme, of which full details will be found in this issue, we can safely say that it promises to be excellent. We congratulate the Programme Committee, whose task has been a difficult one, and has been well fulfilled.

The British Columbia Medical Association has grown steadily in significance, and in value to its members, throughout the years. For many of these years, it has been fortunate in its Executive Secretary, Dr. M. W. Thomas, whose whole time and energies are devoted to its service, and who is outstanding amongst Provincial Secretaries. He has worked hard and long over the preparations for this meeting, and we owe it to him to show our appreciation of his work. So we urge all our readers to set aside these dates, and regard it as a duty, as well as the pleasure that it cannot help but be, to be in Victoria from September 26th to September 29th. Reserve rooms and tickets early—and we are sure that the office of the B.C.M.A. will do all it can to help you.

* * * *

Another important meeting of interest to all medical men is the Regional Meeting of the American College of Physicians, to be held in Vancouver on September 14 and 15.

This is the first occasion on which this organization has held meetings in Canada, and will remind our readers of the Regional Sessions of the American College of Surgeons held here some few months ago, under the chairmanship of Dr. A. B. Schinbein. Dr. G. F. Strong of Vancouver will preside at the meeting of the American College of Physicians, and has issued an invitation to all medical men to attend the sessions. Notable speakers will be present.

Perhaps the most dramatic and in one way the most interesting event of the meeting will be the attendance of Commander C. M. Wassell, the internationally famous doctor whose gallant and heroic work President Franklin Roosevelt described in such glowing terms, and whose courage and devotion will never be forgotten in the annals of military medicine. Dr. Wassell is expected to speak at the meeting, and we are sure everyone will want to see and hear this man whose heroism was of the finest and highest type, in that it was shown in the saving of life rather than its destruction, and under the most perilous and trying conditions which one can possibly conceive: not in the heat of battle, but through long days and nights of cold and hunger and terrible hardship, under continuous threat of capture and torture by a cruel and inhuman enemy. Every doctor of medicine must feel a thrill of pride in this man, who represented the best and finest of his profession.

ITEMS OF GENERAL INTEREST

A new plant for the manufacture of "the miracle drug" Penicillin, in Canada, recently went into production. Located in Montreal, this plant, which is a private enterprise, was constructed in record-breaking time, and is now producing Penicillin "made in Canada." While the actual capacity of the new plant was not announced, the output will be large, and every effort is being made to meet the requirements of the Armed Forces, as well as those for civilian medical needs. In fact, when the plant was only partially constructed, the Company officials decided to double the originally proposed capacity and the additional equipment was installed along with the initial facilities in order that the greatly expanded enterprise could swing into operation at one time. Further expansion is feasible and is now being studied for installation.

The production of Penicillin is a difficult and delicate microbiologic process influenced by a large number of factors, the slightest variation in any of which may alter seriously the yield and potency of the material. Faced with these problems, Company microbiologists developed a method in which an aqueous suspension of spores of a high yield of the mold, *penicillium notatum,* is mixed with sterilized soil. This soil-spore mixture, when dried in a frozen state and placed under refrigeration, was found to retain its potency indefinitely, thus affording a stable master culture from which factory batches giving uniformly high yields could be started. Pioneering in the application of microbiologic and chemical engineering principles to the problem of producing Penicillin by submerged fermentation, chemists have succeeded in developing a practical manufacturing process for producing the vital drug in large tanks, thus obtaining a purer product in larger quantities, in less time, and with reduced manpower requirements.

Penicillin is subjected to repeated tests and control procedures throughout every step in the production process, and the finished product is assayed, tested, and approved under rigid standards established by the Government.

Penicillin has proved to be effective against a large number of infections which can often be effectively treated in a period of hours or days, rather than the weeks or months formerly required. In the treatment of war wounds and burns, Penicillin is a potent weapon against bacterial infections, and is now being successfully used on the fighting fronts throughout the world.

* * * *

DOCTORS! PLEASE READ THIS OPEN LETTER FROM THE REGISTERED NURSES' ASSOCIATION

To the Members of the British Columbia Medical Association:

In spite of increased enrolment in our schools of nursing and the return of many inactive and retired nurses, the shortage of nurses is becoming increasingly grave. The difficulties created by this shortage are apparent in all fields but it is concerning private duty nursing that this letter is addressed. We are asking for the cooperation of all doctors in curtailing luxury nursing. Doctors and doctors alone can control the use made of private duty nurses. For this reason, the Registered Nurses' Association of British Columbia asks that each doctor, when calling nurses, considers the following points:

1. Does this patient *need* (not want) more care than can be given by the staff of the hospital or by family or servants at home?
2. If so, does the patient need continuous nursing service, or will two, or even just one nurse, be able to carry him over the busy or difficult times during the day?

In addition, doctors are requested to encourage their patients to relinquish their nurses as soon as the need for constant nursing care is over.

Governmental authorities have suggested that public opinion may impel some form of control. Such control would carry with it the possibility of the elimination of private duty nursing altogether.

LIBRARY NOTES

RECENT ACCESSIONS TO LIBRARY—

Surgical Clinics of North America, Symposium on Post-Operative Complications and Gastro-Intestinal Surgery, Lahey Clinic Number, June, 1944.

The Conquest of Epidemic Disease, 1943, by Charles E. A. Winslow.

A Hundred Years of Medicine, 1943, by C. D. Haagenson and W. E. B. Lloyd.

Supplements to the Oxford Loose-Leaf Medicine file have been received and include the following articles:

Vol. 1—Revision of article, p. 545, "Aviation Medicine," by Dr. L. H. Bauer.

Vol. 2—New article, p. 492(93), "The Cor Pulmonale," by Dr. P. D. White.

Vol. 3—Revision of article, p. 1, "Diseases of the Esophagus," by Dr. E. S.
Revision of article, p. 783, "Diseases of the Adrenals," by Dr. R. F. Loeb.

Vol. 4—Revision of article, p. 79, "Gout," by Dr. J. H. Talbott.

Vol. 5—New article, p. 422(7), "Histoplasmosis," by Dr. H. Pinkerton.
New article, p. 438(1), "Q Fever," by Dr. G. Blumer.
New article, p. 488(36-1a), "Ornithosis," by Dr. H. A. Christian.
Revision of article, p. 599, "Rabies," by Dr. H. N. Johnson.

Vol. 6—New article, p. 46(7), "Electrocephalography," by Dr. W. G. Lennox.

Renewal pages have been received also for the Nelson Loose-Leaf Medicine System, as follows:

Vol. 2—p. 67, "Acute Anterior Poliomyelitis," by W. Lloyd Aycock.

Vol. 5—p. 423, "Therapeutic Agents in Disorders of the Alimentary Tract," by Ralph C. Brown.

Vol. 6—p. 385, "Meningovascular Syphilis," by Hans H. Reese.
p. 401—"Tabes Dorsalis," by Hans H. Reese.
p. 549, "Diseases of the Meninges," by Nathan Savitsky.

MEDICAL SERVICES ASSOCIATION

"M. S. A. PLAN RECEIVES ENTHUSIASTIC ENDORSEMENT"*

Recently employees of the B. C. Plywoods Ltd. in plant and offices voted overwhelmingly in favour of the Conference Committee's recommendation that the Medical Services Association plan be adopted to replace the expiring medical contract, thus firmly establishing the fourth point in the four-point programme of protection which provides life insurance, mutual benefits, hospitalization and medical service.

The Conference Committee was keenly aware of its responsibility in selecting a new plan. Guided by the expressed desire of plymakers for free choice of physician and surgeon, the Committee made the fullest investigation of all suitable plans available, paying particular attention to this requirement. That 95 per cent of the voters approved the Medical Services Association plan submitted is a tribute to the Committee, both for the time and care spent in general research and for the excellence of the arrangement they made on the practical working details of the new scheme.

The development and adoption of this promising new medical plan is another striking example of the power of the idea which brought the Employees' Conference Committee into existence. The idea is simply that the interests of all connected with an organization are largely mutual. Experience has justified this belief in the minds of those who have marked the Committee's progress, and has resulted in a wide understanding of the Company's friendly attitude towards all sound proposals relating to employees' security and well-being.

*From *Sulvaply News*, published by MacMillan Industries Ltd.

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Yorkshire & Pacific Securities Ltd.
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Victoria City Hall Employees
Western Sales Book Co. Ltd.
Young Women's Christian Association—Vancouver

IT WOULD APPEAR THAT A CONSIDERABLE NUMBER OF DOCOTRS ARE WRITING LIQUOR PRESCRIPTIONS IN LATIN. AS THE LIQUOR BOARD EMPLOYS NO PHARMACISTS, WE WOULD ASK THAT LIQUOR PRESCRIPTIONS BE WRITTEN IN ENGLISH.

A. J. MacLACHLAN, *Registrar.*

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(Canadian Medical Association, British Columbia Division)

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1944 ANNUAL MEETING
SEPTEMBER 26, 27, 28, 29
EMPRESS HOTEL, VICTORIA, B. C.

Plan to attend your Annual Meeting.

Please make your reservations early, and directly with the Hotel.

SPEAKERS:

MAJOR GENERAL G. B. CHISHOLM, R.C.A.M.C., D.G.M.S., Ottawa.

SURGEON COMMANDER J. W. MacLEOD, Consultant in Medicine, Navy. (Formerly Internal Medicine, Montreal.)

DR. HARRIS McPHEDRAN, Associate Professor of Medicine, Toronto.

DR. WILLIAM MAGNER, St. Michael's Hospital, Assistant Professor of Pathology, Toronto.

SURGEON COMMANDER H. S. MORTON, Surgeon, Esquimalt. (Formerly Montreal.)

DR. ALBERT ROSS, Assistant Professor of Surgery, McGill University.

DR. G. H. STEVENSON, London, Ont., Professor of Psychiatry, University of Western Ontario.

Guest lecturer from R.C.A.F. to be announced later.

REPRESENTING CANADIAN MEDICAL ASSOCIATION:

DR. HARRIS McPHEDRAN, Toronto, President.

DR. T. C. ROUTLEY, Toronto, General Secretary.

DR. WILLIAM MAGNER appears under the Department of Cancer Control, C.M.A.

SURGEON COMMANDERS MacLEOD and MORTON are provided by arrangement through the kindness of Surgeon Captain A. McCallum, Medical Director-General, Navy.

Canadian Medical Association lecturers include Doctors McPhedran, Magner, Ross and Stevenson.

The Committee on Programme has prepared excellent fare for this four-day meeting.

- Fifteen lectures on four mornings.

- Afternoon sessions on Economics:

  Wednesday afternoon in charge of the Committee on Economics of the Council; Chairman, Dr. H. H. Milburn.

  Thursday afternoon under the Committee on Industrial Medicine; Chairman, Dr. D. J. Millar—Session on Industrial Medicine.

- Annual Meetings:

  Tuesday evening—College of Physicians & Surgeons. All doctors should attend.

  Wednesday evening—British Columbia Medical Association (Canadian Medical Association, B. C. Division).

  Note: Annual meetings are being held on separate evenings to avoid late sessions.

- Official Luncheon, addressed by Doctors McPhedran and Routley of the C.M.A.

- Golf—Friday afternoon.

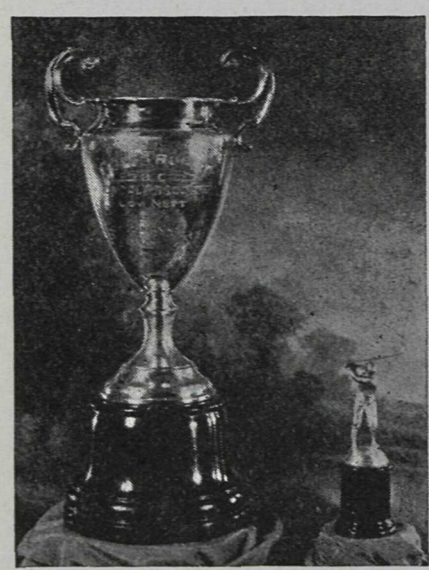
- Annual Dinner, Friday evening—Guest speaker, Dr. Norman MacKenzie, President, University of British Columbia.

- Entertainment for Ladies.

- Public Meeting—Thiursday evening, addressed by Doctors Harris McPhedran, William Magner and others.

PLEASE NOTE: Registration Desk Phone will be—BEACON 2241.

GOLF



Golf play on Friday afternoon, September 29th, at 1:30 p.m. at the Oak Bay Golf Links.

Dr. F. M. Bryant, 1209 Douglas St., Victoria, and Dr. E. L. McNiven, 701 Yates St., Victoria, are arranging the tournament.

The British Columbia Medical Association trophy is up for competition. Dr. G. A. Davidson is the present holder and will defend his title. Other prizes have been arranged. Send your handicap to Doctor Bryant.

LADIES' REGISTRATION AND ENTERTAINMENT

All ladies are asked to register, and attend the Ladies' Tea and the Ladies' Dinner.

COMMERCIAL EXHIBITS

A large number of commercial exhibits, which are always interesting, have been arranged.

PROGRAMME FOR THE VICTORIA MEETING

September 26, 27, 28, 29

TUESDAY, SEPTEMBER 26th

8:30 a.m.	Registration.
9:30 a.m.	Dr. Stevenson—"Psychiatry in General Practice."
10:15 a.m.	Dr. Magner—"Pathogenesis in Anæmia."
11:00 a.m.	Dr. Ross—"Refrigeration Amputation."
12:00 noon.	Official Luncheon—Grill Room. Speakers: Dr. Harris McPhedran, Dr. T. C. Routley.
2:30 p.m.	Clinics and demonstrations at hospitals.
8:00 p.m.	Annual Meeting—College of Physicians & Surgeons of B.C. All doctors should attend.

WEDNESDAY, SEPTEMBER 27th

9:00 a.m.	Dr. McPhedran—"Management of Congestive Heart Failure."
9:45 a.m.	Dr. Magner—"Infectious Mononucleosis."
10:30 a.m.	Dr. Ross—"Fractures of the Surgical Neck of the Humerus."
11:15 a.m.	Surg. Commander Morton—"Loose Bodies in the Elbow Joint."
12:00 noon.	Lunch hour.
2:00 p.m.	Session on Economics—Chairman, Dr. H. H. Milburn, Committee on Economics of the Council of the College.
8:00 p.m.	Annual Meeting—British Columbia Medical Association. All doctors should attend.

THURSDAY, SEPTEMBER 28th

9:00 a.m.	Dr. Stevenson—"The Prevention of Mental Diseases."
9:45 a.m.	Surg. Commander MacLeod—Clinical Experience with Penicillin."
10:30 a.m.	Speaker—to be announced later.
11:15 a.m.	Dr. Ross—"Acute Diverticulitis of the Sigmoid."
12:00 noon.	Lunch hour.
2:00 p.m.	Conference on Industrial Medicine—Chairman: Dr. D. J. Millar.
4:00 p.m.	Conference on Emergent Epidemics—Chairman: Dr. Gordon O. Matthews.
8:00 p.m.	Public Meeting.

FRIDAY, SEPTEMBER 29th

9:00 a.m.	Surg. Commander MacLeod—"Gastroenterological Problems in the Canadian Navy."
9:45 a.m.	Major General Chisholm—"Mental Hygiene of Soldiers."
10:30 a.m.	Speaker to be announced.
11:15 a.m.	Surg. Commander Morton—"External Skeletal Traction."
12:15 noon.	Luncheon—Board of Directors.
1:30 p.m.	Golf—Oak Bay Golf Links.
7:00 p.m.	Annual Dinner. Guest speaker, Dr. Norman MacKenzie, President, University of British Columbia.
7:00 p.m.	Ladies' Dinner.

REGIONAL MEETING
AMERICAN COLLEGE OF PHYSICIANS AND WAR-TIME GRADUATE MEDICAL MEETING
SEPTEMBER 14-15 HOTEL VANCOUVER

INVITATION

This is a joint Regional Meeting of the American College of Physicians and War Time Graduate Medical Meeting. All medical officers of the armed forces in the United States and Canada, Fellows and Associates of the American College of Physicians, and other civilian physicians in the Pacific Northwest and Western Canada are cordially invited to attend.

There is no charge of any nature for registration or attendance at the scientific sessions. The Luncheon tickets for Thursday, September 14, will be $1.50, and the Dinner tickets for that night will be $2.50.

PROGRAMME

THURSDAY, SEPTEMBER 14

Morning Session, 9.00 a.m., Salon A, First Floor

Presiding: T. Homer Coffen, F.A.C.P., Regent, Portland, Oregon

"The Recent Status of Rickettsia Disease": Dr. Matthew Riddle, Associate Professor of Medicine, University of Oregon Medical School.

"Control of Staphylococcic Infections with Sulfonamide Drugs": Lieut. Col. Roy H. Turner, Chief of the Communicable Disease Treatment Branch, Army Service Forces, Washington, D.C.

"Clinical Experiences with Penicillin": Capt. Chas. E. Watts, F.A.C.P., Medical Officer in Command, United States Naval Hospital, Seattle, Wash.

"Some Pharmacological Problems in the Use of Chemotherapeutic Drugs": Dr. Norman D. Davis, Professor of Pharmacology, University of Oregon Medical School.

LUNCHEON, 12.30 P.M., MAYFAIR ROOM

Presiding: J. W. Scott, F.A.C.P., Governor, Edmonton, Alberta

Speaker: Maj. Gen. G. R. Pearkes, V.C., C.B., D.S.O., M.C., G.O.C. in C. Pacific Command

Afternoon Session, 2.00 p.m., Salon A, First Floor

Presiding: E. G. Bannick, F.A.C.P., Governor, Seattle, Washington

"Respiratory Limitations in Altitude Flying": Group Capt. G. E. Hall, Consultant in Medicine, R.C.A.F., Ottawa, Ontario.

"Respiratory Disease Problems in an East Coast Base": Surgeon-Comdr. J. Wendell MacLeod, Consultant in Medicine, R.C.N.V.R., Halifax, N.S.

"Visualization of the Chambers of the Heart and Great Vessels": Lieut. Comdr. Israel Steinberg, M.C.-V.'s, U.S.N.R., F.A.C.P.

"Experimental and Clinical Aspects of Carotid Sinus Reflexes": Dr. Hance Haney, Professor of Physiology, University of Oregon Medical School.

FRIDAY, SEPTEMBER 15

Morning Session, 9.00 a.m., Salon A, First Floor

Presiding: G. M. Poindexter, F.A.C.P., Governor, Boise, Idaho

"Hepatitis": Lieut. Col. Roy H. Turner, Chief of the Communicable Disease Treatment Branch, Army Service Forces, Washington, D.C.

"Psychosomatic Medicine": Brig. W. P. Warner, Deputy Director General of Medical Services, Ottawa, Ontario.

"Gastroenterological Problems in the Canadian Navy": Surgeon-Comdr. J. Wendell MacLeod, Consultant in Medicine, R.C.N.V.R., Halifax, N.S.

"Some Principles and Problems in Immunity": Dr. C. E. Dolman, Head of Department of Bacteriology and Preventive Medicine, University of British Columbia, and Director of Provincial Laboratories.

"Thiouracil in Grave's Disease": Dr. David P. Barr, F.A.C.P., Professor of Medicine, Cornell University Medical College, New York City.

Afternoon Session, 2.00 p.m., Salon A, First Floor

Presiding: Homer P. Rush, F.A.C.P., Governor, Portland, Oregon

"Body Section Radiography": Comdr. Wendell G. Scott, M.C.-V.'s, U.S.N.R.

"Maintenance of Normal Body Temperature in Service Personnel": Group Capt. G. E. Hall, Consultant in Medicine, R.C.A.F., Ottawa.

"Some Experience with the Use of Gold Salts in the Treatment of Arthritis": Dr. P. H. Sprague, F.A.C.P., Assistant Professor of Clinical Medicine, University of Alberta.

"Observations on Active Rheumatic States": Dr. John MacEachern, F.A.C.P., Assistant Professor of Medicine, University of Manitoba.

"Malaria Control"—with two films: Lt. Commander Frank P. Mathews, Malaria Indoctrination Officer, 13th Naval District, Seattle, Wash.

OFFICIAL DINNER (Informal), BANQUET ROOM, 7.00 P.M.

Presiding: G. F. Strong, F.A.C.P., Regent, Vancouver, B. C.

Speakers

David P. Barr, F.A.C.P., Pres.-Elect A.C.P., New York City.

Commander Corydon M. Wassell (M.C.), U.S.N.R.

CANCER OF THE THYROID

LT. W. R. GOVAN, R.C.A.M.C.
(Formerly of the Interne Staff of The Vancouver General Hospital)

Cancer of the thyroid is more common than is generally supposed. In a recent five-year period, 1100 cases of thyroid disease were admitted to the wards of a large Canadian hospital. Of these, 40 or 3.06 per cent, proved to be malignant. Nevertheless its possibility is so rarely entertained that the diagnosis is only suspected in the fully developed and almost hopeless state in the majority of cases.

This is indeed unfortunate because the prognosis in cancer of the thyroid gland is better than is generally realized. Mayo, in a recent report, states that 125 of 249 cases treated were known to be alive at least ten years after treatment.

Cancer of the thyroid practically always arises in a thyroid already the seat of goitre. In the majority of cases there is a pre-existing adenoma. Although it may occur early in puberty, carcinoma of the thyroid is most commonly met with in the usual cancer period. It is rather more common in women than in men. According to Ewing, true tumors rarely develop in the Graves thyroid. When malignant tumors are associated with Graves symptoms it is possible that the initial hyperplasia belonging to the general disease passes rapidly into a malignant overgrowth which thereafter dominates the picture.

That a simple colloid goitre presenting a structure that usually remains harmless for years may give rise to metastatic tumors of benign or malignant type is one of the striking anomalies of the pathological thyroid.

PATHOLOGY

The *gross* appearance varies considerably. Where arising from an adenoma the tumor remains encapsulated for a considerable time. Sooner or later there is invasion of the capsule, and infiltration of the surrounding tissue with involvement of the regional lymph nodes. In other cases the tumor is diffuse from the beginning.

Microscopically, cancer of the thyroid is usually classified into medullary, adenocarcinomatous and scirrhous forms. Metastases occur by both lymphatic and blood stream spread. The question of metastases is of peculiar interest. Secondary tumors are most common in the lungs and then in the bones. Metastases pass chiefly by the blood vessels.

The bones are involved only less frequently than with mammary and prostatic cancer and in the following order: skull, sternum, spine, ribs, humerus, femur and pelvis.

One peculiarity of these malignant metastases is their ability to revert to the normal type of thyroid tissue. In other words, if a microscopic examination of such metastases is made the malignant character of the tumor may have disappeared entirely or have diminished to such an extent that the microscopic picture is mostly one of normal glandular structure.

Metastases are capable of normal physiological function. Classical is the case of Von Eiselberg who performed a complete thyroidectomy for a malignant tumor. Nothing worth notice followed the operation but later on, when in a subsequent operation a metastasis was removed, marked symptoms of myxœdema soon developed.

SIGNS AND SYMPTOMS

The early signs and symptoms of malignant change in a thyroid are few and no one is pathognomonic. Certain findings are however suggestive. A goitre slowly increasing in size which commences to enlarge at an accelerated rate should be suspected of being malignant. Increasing hardness suggests malignant change. Pain and fixation to the surrounding parts are features of importance. Such fixation occurs, as a rule, first in the region of the trachea. Hoarseness due to involvement of the recurrent laryngeal nerve is indicative. A patient who presents herself complaining of hoarseness accom-

panied by a nodular goitre should be suspected of suffering from cancer of the thyroid. Occasionally the original tumor remains small while metastases develop and in a few cases the thyroid tumor has been overlooked and a metastatic tumor in bone or lungs has first attracted attention. That many metastatic thyroid tumors function is indicated by the presence of colloid, and has been proved experimentally by von Eiselberg. The presence of iodine in metastatic adenocarcinoma demonstrated by K. Ewald is a further indication of functional activity. Briefly the most important signs and symptoms are:

1. Accelerated rate of growth.
2. Increasing hardness.
3. Hoarseness.
4. Pain and fixation.
5. Poor appetite.
6. Loss of weight.

Methods of examination include a careful history, thorough physical examination, laryngeal examination and surgical biopsy.

Treatment

Three methods are available: surgery, radiation therapy or a combination of the two. The best known therapy is the last. If post-operatively an area of unsuspected malignancy is found in the centre of an encapsulated adenoma, no further treatment is required. If the capsule has been infiltrated or if the carcinomatous change has occurred in a diffuse goitre, it is advisable to follow radical surgical extirpation with adequate radiation therapy.

In a brief summary of malignancy of the thyroid gland in The Vancouver General Hospital during the ten-year period from 1932 to 1942, the following facts are revealed:

Number of cases proved by pathological examination		45
Of these, there were	women	30 cases
	men	15 cases

Average age was 47 years.

1. Rapid increase in size.
2. Increasing hardness of tumor.
3. Loss of weight.
4. Increased nervousness and palpitation.
5. Signs of extension of tumor, i.e., cough, stridor, signs of metastases.

Pathological Reports of These 45 Cases:

Malignant adenoma	19
Diffuse carcinoma	12
Papillary carcinoma	7
Squamous cell carcinoma	1
Anaplastic carcinoma	1

Every gland examined had previous thyroid disease.

Results of autopsies showed metastases as follows in order of frequency:

Bones, Lungs, Local extension, Cervical glands, Liver, Adrenals, Mediastinal glands, Kidneys.

Ribs and skull were the bones most frequently involved.

It was found almost impossible to check on length of life following thyroidectomy and radiation therapy on these patients. Some twenty-four persons have received radiation therapy to the thyroid gland. Only a few cases were followed up post-operatively, and most are still alive. Two of them, eight years after operation and radiation therapy, and six others were still alive after three years.

The following is a case report of a patient recently admitted to The Vancouver General Hospital:

Mrs. J. B., aged sixty-three years, history of thyroidectomy in 1923. The thyroid increased in size and symptoms of hyperthyroidism returned so that in 1929 she underwent another thyroidectomy. The pathological report was adenoma with hyperplasia. On admission in 1942 complaints were pain over the upper third of the sternum for six months and intermittent pain over the left scapula for three years. Physical examination was negative. Radiograph of the chest showed a large mass in the left axilla invading the thoracic cavity. The third and fourth ribs were noted to have completely disappeared for a distance of two inches at the site of the mass.

A biopsy of this mass was taken at operation. The pathological report was metastases of malignant adenoma of thyroid to the third and fourth ribs. Radiographs of the cranium revealed several small, more or less circular areas of absorption of lime which suggest small secondary malignant deposits.

Diagnosis: Metastases to the third and fourth ribs and to the cranial bones from malignant adenoma of the thyroid.

Conclusion

1. Malignancy of the thyroid gland is not uncommon.
common.
2. Malignancy occurs in glands already the seat of thyroid disease.
3. Prognosis after thyroidectomy and radiation therapy is good.
4. All adenomas of the thyroid should be removed.

REFERENCES

Ewing: Neoplastic Diseases.
Boyd's Pathology.
Canadian Handbook of Cancer.

THE DIAGNOSIS AND TREATMENT OF UPPER RESPIRATORY TRACT INFECTIONS IN INFANTS AND CHILDREN WITH SPECIAL REFERENCE TO SINUSITIS

By Dr. Clifford Sweet
(Summer School, Vancouver Medical Association)

Wherever man travels his infectious diseases follow him, and that is particularly true of the upper respiratory tract of our body, and the upper part of the intestinal tract. We have learned to control the infections of our food and drink quite well. We are just beginning to do something with air-borne infection. We are, perhaps, on the eve of discovering some means of raising the local immunity of the upper respiratory tract infections. The Russians have done some very good work with influenza by means of vaccine. No one is immune to the common cold. The young child is born with little or no immunity. The upper respiratory tract infections and the common cold in a child may be serious and the complications are severe—fever, prostration, diarrhœa, vomiting. As the child grows older he gradually develops an immunity to these infections and when he gets them he does not get the severe reactions which were common in his infancy. This varies with the individual but is somewhere between nine and ten years of age and then he no longer gets the high fevers and no longer is he so severely ill. However, every child is subjected to repeated infections of his upper respiratory tract, and the maintenance of his upper respiratory tract in a state of physiologic health is of the greatest importance. No one knows exactly what the significance of the sinuses connected with the nose may be, but they are there—we all have them—and they are easily infected and infection may reside in them for a very long time. It has been found, in a recent

analysis in the Henry Ford Hospital, that the most frequent cause for prolonged fever in children is due to residual and previously undiscovered sinusitis.

Sinusitis is no new disease and I think it is highly important that we give our patients a word of explanation when we use that word. In my youth every newspaper and magazine had a cure for catarrh, which is just another name for sinusitis. This is proven by the fact that freshmen classes have an upper respiratory tract in much better health than were those of the students even twenty years ago. Unquestionably the wholesale removal of tonsils and adenoids has added very greatly to the well being of the children of our country.

I used, before I knew of some of our present methods of treating sinusitis, to be consulted by mothers concerning their children because the child had been in a poor state of health for a long time. Very frequently on examination we found that condition which has been termed broncho-sinus disease. It was in reality an infection in the upper respiratory tract and the lymphatics lying along the tracheal tree were infected. An infection cannot exist for any length of time in the sinuses or the tonsils without producing enlargement of the lymphatic structures along the tracheal tree.

The diagnosis of sinusitis in the very young child is difficult because no one can look into the nose of a young child very effectively. If you look in and see a purulent discharge, he has a sinusitis, but the fact that you cannot see this discharge does not prove that has not got a sinusitis. In very young children the nasal discharge goes back again—at least 80 or 90 per cent of it drops back into the pharynx. When I ask mothers if the child has any discharge from the nose, they invariably answer "No." The very young child does not know how to blow his nose. When he is a small infant I think the discharge from his nose is carried out entirely by gravity. When he gets a little older he sniffs his nose and draws back the discharge into his throat. I often encourage mothers to let the child sniff his discharge out of his nose. If they don't a large part of that discharge goes down into the child's stomach where I think it probably does little or no harm. The gastric secretion is a powerful sterilizing agent and it has been shown in experiments with mice that if discharges are allowed to go into the stomach, little damage results. When the child gets this secretion down into the throat and some of it goes into the upper part of his treachea, he begins to cough and of all the causes of coughing that there are, the greatest cause in young children is secretion going down from the nose, and the coughing which the child does is highly beneficial. Often this secretion does go down into his lungs and then is a contributing cause of bronchopneumonia. No amount of cough medicine is going to be of any very great value. In fact, I tell my patients that there is no such thing as a cough medicine; that all we have is something that will liquefy the discharge and let it run out more easily. A sedative should be given in sufficient doses for these children to get some rest. Put him in a position so that the secretion will come out of his treachea.

The physiology of the nasal sinuses is quite well known now, thanks to a number of investigations. When the nose is open and nasal breathing is going on normally there is a entrance of air into and out of the sinuses which tends to keep them in good health. The mucous membrane of all the sinuses is very rich in mucus-secreting cells and that mucus is of the highest importance in cleansing the sinus.

In the treatment of sinusitis by any means at our command we should help that individual to return his nose to a normal physiological state and we should not do anything that interferes in any way with the physiology of the nose.

When I say to a mother that her child has a sinus infection and I see a look of horror on her face, I tell her that when anyone gets a cold severe enough to produce thick mucus then he has an infection of the sinuses.

There is no part of the nasal cavity proper which becomes infected in the ordinary sinusitis. It is possible that there is infection in the nose after a sinusitis has lasted for a very long time and there is considerable destructive process in the nose itself in an atrophic rhinitis.

The age incidence of sinusitis is from one hour after birth on. I have frequently seen babies come home from the hospital with their mothers, having an acute purulent sinusitis. From the noses of those babies I have been able to remove large amounts of that purulent material. In babies the sinuses exist as grooves in the nose without any well-defined cavity but that part of the antrum which is already developed can be infected just as well as in the adult. Very early in babyhood the ethmoid sinuses develop. The frontals and the sphenoids come later.

When one gets a common cold, secondary infection follows with many kinds of organisms. When that happens there is at once a swelling of all the structures within the nose, which interferes in three ways with its physiological action:

1. With the increase in size of the spongy turbinates and these are unable to enlarge and shrink as they normally do. You know, the nose is the greatest air-conditioner.

2. The sinuses open into the nose and this swelling of this mucous membrane tends to close up the orifices of the sinuses.

3. The inflammatory process plus the load of mucus plus the bacteria interfere with the ciliary action.

Therefore, when we want to treat a nose which is blocked up so the individual cannot breathe through it, we must find some way of getting air through it. In the very young child, if the child's nose is plugged over long periods of time he fails to get a development of the sinuses which keeps pace with his age. I used to be consulted about these children and I had no satisfactory treatment to offer them except to put the child to bed for long periods of time, which I did, sometimes putting these children to bed for three to six months if necessary in order to spare them from re-infection and to recover from their respiratory tract infection.

Approximately fifteen years ago there were some very important experiments carried out. We had had, prior to that time, two agents for shrinking the mucous membranes and they were cocaine and adrenalin; but the shrinkage is followed by a period of turgescence and both these paralyze ciliary action. It was found that ephedrine would produce very effective drainage and did not leave behind a state of turgescence. Ephedrine stimulated the ciliary action. Since ephedrine has come into common use, other substances have been produced which act in the same manner as ephedrine, but in my hands I have had less satisfaction from them than I have had from the solution of ephedrine which I now have been using for ten years. The ordinary commercial solutions of all the substances which are used for the shrinkage of the mucous membranes have in them some form of preservative and there is no preservative that has been discovered that it is not irritating to the nasal mucus membranes, so if you want one you will have to have it made up without any preservative in it. There is no antiseptic which can be used in the nose as yet advantageously.

I would like to speak of the instillation of the sulpha drugs in the nose as a bad practice. If I have a patient who is sufficiently ill with sinusitis so that I want to use the sulpha drug, I give it to him by mouth and raise his blood level sufficiently high to act upon the nose.

We have found no antiseptic which can be used in the nose or in the eyes which is more beneficial than Nature's own discharges.

The object of intranasal breathing is to shrink the structures within the nose so that air can pass through and so that the natural openings of the sinuses may be free and the secretions pushed out by the cilia. When this method, which I am going to describe, was first brought out, some of my colleagues were afraid of it. Jones of London wrote very clearly that you cannot infect an open sinus. A closed sinus will become infected almost within hours after it is once closed up.

I think there is absolutely no danger of spreading infection from one sinus to another by introducing a properly made liquid for the nose. This liquid should not produce any irritation. Therefore, it should be isotonic with the fluids of the body. The ephedrine molecule is a very large molecure and therefore it ionizes imperfectly. Physiological salt solution must have other salts added to it. We have found a very simple

way of producing an isotonic salt solution, and that is by making up the solution with tap water instead of distilled water. Tap water is always the same pH as the body. Our acid-alkaline balance is the same as that in which we live. A 1% solution of ephedrine added to tap water with 6/10 of 1% salt solution makes a solution that is almost perfectly isotonic. No preservative is added to it. Dr. Parkinson and I have tried to get several of the large manufacturers to make this up but they have refused to do it. One of their highest executives said they will not put out any solution that has no preservative in it. We have gotten around that by having our pharmacists put up this sterile solution and the ephedrine and salt can be boiled right in the tap water and they dispense with it a small dropper bottle, and we warn the patient that he is to use it only after he has poured the solution into the smaller bottle. Some bacteriological work was done some years ago in which they found you can get a very fine growth of bacteria from any bottle of nose drops after the dropper has been introduced into the nose of a patient.

Since I have known this method I have had more real health in treated infants and children who have sinusitis than I have had before. I have had so many of these children brought to me who have not been well for weeks or even months. In an earlier day, little or no attention was paid to upper respiratory tract infection. One day I was talking about sinusitis in children in the Library of one of the larger hospitals. An old man who had retired said, "What are you talking about, anyway? Every kid has a snotty nose." And I guess that is just about the case.

After the acute stage of sinusitis the child may be free from fever, and may not have any signs of continuing illness except that he is not quite well. It is remarkable to me that people can carry so much infection in the sinuses for so long without producing more systemic trouble than they do. I think I need not argue—I presume that at some time in the life of every individual in this room, bacteria have been in his body. After any part of the body has had repeated damage by infection, certain changes occur which put that infection into the chronic stage. I am quite convinced that if we go on taking care of the acute sinusitis in children, of helping the child to get over the sinusitis which follows the ordinary cold, the sinusitis whic his particularly due to scarlet fever, then we can bring up a generation of children, very few of whom will have chronic sinus disease.

I said the little child cannot blow his nose and there is no way in which you can prove that he has a sinusitis—unless you can actually see the discharge in his nose. I am often guided to the diagnosis of an upper respiratory tract infection by the fact that I find the child had red inflamed eardrums, although at no time has he had an otitis media.

Then after shrinking the nose with ephedrine I use intermittent suction. With ordinary water suction I make gentle suction. In the small infant you need not close the other nostril while you make suction. If the child is a little older you have to occlude the other nostril, which is done most effectively by applying the ball of your thumb on and off the other nostril In the small child you may close both nostrils and not know it. If I get a purulent secretion the child has a sinusitis because that secretion can come from nowhere else. A negative result does not disprove sinusitis. Quite frequently, when I suspect a sinusitis, I instruct the mother to use the ephedrine at home once in four hours for two or three days and then come back again. I don't get the sinuses open with the first or second application but gradually they do get open. When the child's nose is very much swollen, only a small amount of the solution can be introduced into it and you have to introduce some and wait for that to have its shrinking process and then put in more. This solution in a child takes about three minutes to do its work; in the adult about five minutes to do its work. One spray will not be enough in a badly swollen nose. Sprays do not work very well with children because the child has spray shock.

Now. all of the commercial solutions that are made up that contain ephedrine are not beneficial, because they all contain alcohol. I have tried them all personally in my

office and my patients know the difference between the commercial product and the normal solution. Besides that, they are very expensive. You can, if you want, prescribe a powder made up of ephedrine and salt in powder form and have the mother put 100 c.c. of water with it and this is very economical.

Postural drainage is very important in treating respiratory tract infections in children, no matter whether it be upper or lower. This slide shows the method of giving postural drainage to a child. This is a means of postural drainage that we have devised in our hospital. These children who have perhaps some signs of bronchectasis nearly, if not always, have the upper respiratory tract infection also. With a child in that position the sinuses become just as dependent as if the child were bent back with his nostrils perpendicular. Ephedrine has a systemic reaction; you will get abdominal pain and other symptoms if you get any in the throat. By using this position you treat the nasal mucous membranes withou getting any in the throat. After three to five minutes the face is turned down toward the floor and the excess of the solution comes out. In the small infant it is important that the mother or the nurse be instructed how to instill this solution into the baby's nose. The baby is wrapped in blankets, put face down on the attendant's lap and his face is lowered beside her knee so that his head is well beyond 45 degrees and she puts the ball of her thumb on the child's ear in order to hold his head. She then instills that solution into his nose for at least three minutes by the clock.

Now, I have a very short reel that will illustrate this method of instillation. The nose should be blown with a hanky or other means and it should be held loosely so as to catch the secretion. The nose should never be blown when it is blocked up. People who have hay fever who waken up in the morning with a blocked up nose should not attempt to blast it open. If you walk around for a few minutes you will most likely remove the blockage. This treatment should be continued until no more excess secretion can be obtained from the nose. I have used this with so much satisfaction that I cannot be too enthusiastic about it. I should say that in general the sinusitis which follows an acute common cold, with the effective use of the ephedrine alone, will have its normal course cut in half.

Formula:

Ephedrine	.9
Sodium Chloride	.6
Tap water	90.

Boil all together and add no preservative.

NOTICE

We have been informed that drug addicts are visiting doctors' offices and obtaining Prescription D 10 in the B. C. Formulary or D 6 in the Pharmacopoeia of the Public Welfare and City Relief Department for the purpose of extracting the 5 minims of Opium Pro Dosa.

The Royal Canadian Mounted Police have requested that the tincture of opium be deleted when writing this prescription.

A. J. MacLachlan,
Registrar.

FOOT PROBLEMS IN THE ARMY AND OUT OF IT

By Lt.-Col. R. I. Harris

Read at Vancouver Medical Association Summer School.

An astonishing amount of misery to human being arises from foot disability. Scarcely ever is the disability more than the source of continued discomfort or misery. Rarely does it involve a serious detriment to health and yet the interference of function which foot disabilities give rise to can be serious, not only because of the way they modify the patient's activities but, in times like these, when we are training men to be soldiers, sailors and airmen, it can be a source of a tremendous amount of lack of fitness and is a great problem in the army. If your experience in being taught to be a doctor as a student was like mine, it will have been that the teaching of foot problems was pushed aside. There were so many other major problems to teach the student and they were so much more important and so much more interesting that nobody ever took the trouble to tell us much about foot problems. It took me a great many years to discover that, after all, there is an intelligent background of approach to foot problems and it is not without its interest, and if I can in some brief way give you some inkling of the basis of foot problems and arouse your interest, it will have served a purpose.

At the moment, these foot problems are of tremendous importance in the armed forces, especially in the army where we are training mn to be fit for tasks which are almost at the limit of human capacity, espceially in front line army service. A man must be physically superfit in order to be a soldier, and if he has any defect in his feet he may not be fit to be a soldier. That puts a tremendous burden on the medical service of the armed forces, and especially the army. They have to have a great knowledge about foot defects. If a man has a deviation from normal to his feet he had better not be in the army, or if he does enlist he needs to be properly graded. It brings up problems of training. A man may enlist and not have had any trouble with his feet before. If he suddenly, in his army training, is thrust into a much more strenuous kind of life it may bring out weaknesses in the feet which should be properly treated or he should be properly regraded. The M.O. must have a knowledge of these foot defects and be able to differentiate between problems which are real and those which are not real. If you complain enough you may get something that you want. Napoleon said that an army marches on its stomach. That is not quite true. It still has to march on its feet and they have to be good feet.

A large proportion of the problems of feet arise from the fact that our feet, which we now use as structures to support our weight and to propel us when we walk, have developed from lower extremities which long ago served different functions. This slide will illustrate that in a simple way because it represents the outline of the feet of our types of primates as they exist today. They came from a common stock and, while we have no knowledge of what the feet of that common ancestor were like, we can be sure that they had qualities which we see in the feet of its descendants. It changed slowly from a grasping organ into one which supports our weight and propels us when we walk. We see its highest development in the feet of human beings who now no longer use their feet for grasping at all and use them solely for bearing weight and for propelling themselves when they walk.

Just as individuals are born with noses which are not all alike, so they are born with feet which are different from each other. These deviations may be of such a nature as to interfere with their function. A man who is a boxer and whose arms are long has an advantage over one whose arms are short, and so the structure of our feet may influence the function of those feet—the amount of work which can be done by those feet. All the more serious foot problems are based upon these structural deviations from normal and must be recognized as serious aspects of the foot problem.

In this slide we see the structure of the feet for grasping objects. When we come to the human foot we see that the long axis deviation has gone.

I would like first of all to discuss some of these deviations from average structure which we should recognize because they interfere with function. It is not sufficient to look at a man and say he has flat feet. It is necessary to determine why he has flat feet.

The term flat feet means very little. It may mean nothing in terms of function because it may be that this man has one foot which is functionally good and strong. We cannot be entirely guided by the appearance and the shape of the foot. I have only to point out to you the disability of claw-foot to remind you that we had to do something more than recognize a foot as looking flat in our attempt at assessing the quality of individual feet. One such abnormality which is of importance, although it is rare, is the presence of an accessory tarsal bone on the inner end of the scaphoid. This slide illustrates it moderately well. One can recognize them frequently by the presence of a projection at the inner end of the scaphoid. It is usually bilateral. Nearly always it is necessary to have an X-ray to determine this accessory bone. The significance of this defect is that it interferes with the function of the post-tibial tendon. In consequence, the tendon no longer functions as efficiently as a lifter-up of the inside of the foot. It now expands a good deal of its effective force in tilting the foot at the mid-tarsal joint. This is a foot in which the capacity for weight-bearing is diminished. If a patient has an accessory tarsus scaphoid there is a limit to the load that you can put on that foot. So for the army, any attempt to train this man by graduating his training period will only succeed up to a certain level as there is nothing you can do with these feet outside of an operation. Here is another slide in which the accessory tarsus scaphoid is on one side only. The tubercle of the scaphoid is enlarged and that in itself can produce similar symptoms.

Apart from the recognition of this as an army problem, I would call your attention to it as a problem of civil life. One can usually recognize it in childhood. The child is brought to the doctor because of a bulge on the foot. An X-ray will show what it is. One must early assess the degree of disability which this is causing the patient. Nearly all in my experience have some disability. It may be slight but usually it is considerable, and if that proves to be the case then you would be wise early to operate and relieve them of their disability, because it can be done, and the operation is one of the most satisfactory operations undertaken for improvement of the function of the foot. It consists in removal of the accessory tarsus scaphoid and then the displacement of the tendon to a poine more near the centre line of the foot, where, after the removal of the accessory tarsus scaphoid, it can now act as a better lifter of the inside of the foot.

Those of you who have had a long experience with the Mayo operation for the treatment of hallux valgus will have learned that there is one shortcoming to this otherwise excellent procedure for the cure of this thing. You have cured the bunion but you have disturbed the weight-bearing of the foot. This slide shows such a case. A similar disability which is produced by this operation exists in life as a result of undue shortening of the first metatarsal. Morton observed that patients who had certain kinds of trouble had short first metatarsals. This is the X-ray of the foot of a nurse who came complaining of trouble in the fore part of her foot and, in looking at the soldiers' feet, it was possible to see that she had undue weight-bearing on the soles of her feet; so we had a pair of patients suffering from a similar disability—one caused by operation and one congenital. This is a picture of the soles of a soldier's feet in which we see the trademark of a short first metatarsal with callouses as you see here. These can be a source of considerable disability. One can appreciate that when you see a patient who is complaining of difficulty in the fore part of his feet, you must ask yourself why this is so, and one of the reasons is because he has a short first metatarsal. How are we going to find out? A simple way to get some inkling of it is to flex his metatarsophalangeal joints sharply and if it is possible to do this you can get some inkling as to the position of the first metatarsal and you can see if it is shorter than his second. This is usually somewhat greater in this examination than is actually the case and an X-ray is really necessary. These are the X-rays of a patient with a very short first metatarsal. Morton, in his study of disabilities due to short first metatarsals, tried several ways of determining the relative amount of weight borne in various parts of the foot and this slide is one of the attempts on his part to indicate graphically those parts of the foot which bore most weight. Now, Morton's device for indicating graphically the relative

amount of weight bone is not easy to reproduce. We have been engaged in the army for sime time past in a study which we hope will provide us with some statistics of value in foot problems, and one of the things we have been trying to do is to devise some means of making a footprint. Most foot prints only indicate how much of the foot is in contact with the ground. This is an attempt to show clearly and simply and with certainty the relative amount of weight borne by various parts of the foot. Here in this slide you see a drawing of it. Here we have some prints that were made with this gadget.

You can see that if a patient has a short first metatarsal, he has a deviation from normal which will inevitably give rise to disturbance in weight-bearing in the fore part of the foot. That may or may not result in interference of function. Commonly, all the short first metatarsals of any serious degree do give rise to disturbance in function.

This is a slide of an associate of mine in the army who went through the last War. He got through the last War with difficulty due to his feet and in this War he was persuaded to retire to an M.D. H.Q.

One must not put too much upon the discovery of organic deviations from the normal structure. One has to assess a man's disability. Here we see several other examples of feet which have disabilities from short first metatarsals. Here we see a nursing sister who has a great deal of trouble with her feet, chiefly because of a short first metatarsal. She has callouses and it is difficult to give her a pair of feet that will give her good function. In civil life you can sometimes supply them with a metatarsal pad. This is a man who is engaged in a munitions plant and who was seriously disabled because of pain and who has been greatly elrieved by a metatarsal support. Here is a case in which the short first metatarsal is associated with another type of increased weight bearing. Fryberg's infarction is present here in the second metatarsal. Morton says some other things. He says that one of the evidences of this disturbance of weight-bearing is found in the X-ray in that the second metatarsal becomes thicker and heavier than normal and will show up in an X-ray. He also said that two other conditions will give rise to a similar condition: (1) Posterior displacement of the sesamoid; (2) hypomobility of the first metatarsal and scaphoid.

One of the reminders of the fact that our ancestors had grasping feet is the fact that the first metatarsal is set at an angle to the rest of the foot. This is one of the causes of hallux valgus, and since we are talking about congenital deviations from normal structure, we will discuss that while we are here. That can be the foundation of many severe types of hallux valgus, as you will see in this next case. Here are the feet of a person with severe hallux valgus. You can see here the callouses which she has. Here is an X-ray of that same patient. I would not have you think that a metatarsus primus varus is the basis of all hallux valgus. Nearly always there is an accessory factor which results in the style of the deformity. A single pair of shoes which are too short, worn in childhood, can produce a deformity which, although slight, can disturb the action of the toes and perpetuate the deformity. An injury can do the same thing.

This in my opinion is the best operation for hallux valgus. No operation gives the patient a perfectly normal toe. I have already discussed with you the changes in the function of the foot with the Mayo operation. This Kellar operation is much simpler than the Mayo operation but does leave the patient with a flail joint. One must recognize that when advising a patient to have this operation because unless their disability has been severe they will be distressed by the fact that the toe is longer than normal and it is only when they have a lot of trouble with bunions that they will be content to have that operation that leaves them with a flail joint.

One of the most disabling of foot problems is a curious disability, the exact cause of which is not yet clearly understood. Several years ago Russell K..... wrote about something which he called muscle-bound foot which must have been the kind of foot I am talking about not. It is also based upon deviations from the normal foot. It is characterized by three outstanding features which are determined on examination: (1) If you maintain the foot in the mid position you will be surprised to find that the

range of dorsiflexion of the ankle joint is greatly limited. The knee, of course, must be fully extended. This is a demonstration of the effect. That means that the patient can't get his heel on the ground by means of movement at the ankle joint. If he does get his heel to the ground, he puts his foot into marked valgus. We see here the foot of a chaplain in the army and you will see that he has this condition to a very marked degree. His feet are only flat when he stands on them. These are X-rays of his feet. These are the X-rays of a nurse who all her life has been greatly disabled by her feet and she has markedly flat feet and she also has characteristics of this unstable foot. She has a short first metatarsal, it is true, but her complaint is here and not there. Here is the imprint of one such foot, and you will notice that most weight is borne along the inner margin of the foot.

(2) Movement of the subastragaloid joint is excessive. They are hypermobile.

(3) The disability exists only when the patient bears weight on the feet and disappears when he takes his weight off his feet.

Here is an X-ray of another case. If one searches for the cause of this problem in the Department of Anatomy, you will find some interesting factors. This is the type of foot in which one gets the unstable foot which I have just described. Here are the X-rays of three such cases. Here, perhaps, is an even more revealing picture. If one looks at it from the side, you don't see very much. In this one there is no support of th head of the astragalus. Here is a normal foot. Here are the X-rays of that patient we have just seen.

These, then, are some of the abnormalities which we must recognize in men's feet if we are to assess properly their ability to use their feet for function, because if certain abnormalities exist there is a limit to what these people can do and it would be folly for us to try to make them do what they can't do.

This is an example of a disease of the bone which follows trauma, the cause of which is obscure. It is greatly disabling and out of all proportion to the trauma. In this case there was a fracture of the external malleolus. Here is another example of it. This man had a minor injury and developed this condition. It slowly improved with some setbacks.

One of the acquired disabilities is an osteoarthritis of the metatarso-phalangeal joint of the first toe. It interferes greatly with function. These patients are unable to dorsiflex their toe because of the pain. Because it is due to trauma, it is much more frequently seen in young men. Spastic flat foot has something to do with an acute arthritis of the tarsal joint. The foot is held in valgus and is held tautly there. You will recognize this as a patient with a flat foot and you will find he can't swing his foot to the correct position. The reason is that his peroneal tendons are continuously contracted. How the mechanism develops is still obscure. It is most often seen in young pepole. I have not had much success with any form of treatment.

This is an example of a print with a localized lesion on the sole of th efoot there and these are other prints of patients with disturbances at the point of weight-bearing. This is a lesion which one sees in adolescents only. It is not very common but certain young individuals will produce an injury to the epiphysis of the os calcis. Here we see a type of fracture produced by use of the foot by walking which is of considerable interest. We are recognizing these things now when we didn't do so in civil life. It is due to the fact that the bone is not able to bear the ordinary stress which is put upon it and slowly gives way at a certain point. When the patient first presents himself there is nothing in the X-ray. Gradually we see this change occur. It is much more common in some armies than in others. It is much more common in the American Army than in the Canadian Army.

There are many other things about foot problems which I have no time to talk about tonight.

"THE ROLE OF BODY MECHANICS IN THE HEALTH EXAMINATION AND CARE OF GROWING CHILDREN"

By Dr. Clifford Sweet

Read at Vancouver Medical Association Summer School.

I know I am appearing in a peculiar role—I don't do the sort of work that has been just illustrated (i.e., Fractures of the Os Calcis). I started my work in the country. Like every other young man, I tried to do something for every patient that came to me. One of the first problems was one of backache. It is still there and I expect to see backaches until I die. I find that in many young children backaches and leg pains are not due to rheumatic fever but are due to postural defects. I see many children with tender heels who have tender heels because their heels are taking a constant pounding as they walk or stand. Some of these children need thyroid. I see many painful and injured knees in young adolescent children. I have seen several cases who were thought to have Osgood-Schlatter's Disease of the tibial tubercle when all that they had was weak quadriceps and femoral muscles and strong over-active hamstrings. There was one boy whom I shall never forget— a very large boy—and that boy had such weak quadriceps and such strong hamstrings, and his pain was so strong each day that he had to learn to back down a hill in order to take the pull off his quadriceps. Incidently, he was wearing great enormous shoes with a large metal arch support in each shoe. By training that boy he recovered and the next autumn he played football. He did have some rarefaction of the tibial tubercle because of the damage that had been done.

Then I began to notice, as I looked at the little children who came to me, that they all had pronated feet at a certain age, that they were all knock-kneed at a certain age, and it was common practice at that time to put a wedge on the inner border of the heel and many of them had a great enormous wedge on the inner side of the sole involved; and I would like to mention that the wedging of the inner sole of a shoe is generally only to be condemned. The so-called Thomas heel is of some use but need not be applied universally. My reason was that if it occurred in all cihldren then it must not be abnormal. There are certain patterns which occur in the life of the child as it grows. He does a certain thing when he first stands. There are certain things that occur in him at two years of age, three years of age, and so on. I think that those knock-knees are apparent rather than real, and depend upon a muscle balance which is part of the child's age at that stage of growth, and it is the inward rotation of the femur. The child gains in weight and strength and muscular development. In the human body the last muscles to develop in a growing child are those which are attached to the pelvis. Consequently the gluteal muscles are generally poorly developed and the child at that age has an inward rotation of the femur which is normal and physiologiacl for him. He comes out of that, if he has developed normally, at about six or seven years of age.

Now, heredity plays a large part in the mechanics of the body. It is quite evident that the stocky, short-backed people have an easier time of it than the people with long backs. Squadron-Leader Bell pointed out the effect which a slothful life has upon the heart of an individual. I would like to point out to you that every internal organ in the body through the pericardial ligament is attached to the cervical spine, so that when the spine slumps everything goes down. When the spine is at its full height everything is lifted up, even the patient's spirit. Unquestionably, many of the functions of the body, particularly the vital capacity, depend upon the complete upright stance of the body. Now, man is, I think, just a part of the whole animal creation. Undoubtedly he was once quadruped. He has everything that a quadruped has and, in addition he has only the clavicle, and the clavicle comes down from our reptilian ancestors. The problems of lack of muscle balance, I believe, are fundamentally related to the change of a quadruped into a biped. I spoke a moment ago of the imbalance of the quadriceps and the hamstrings. It is so universal. I find that children who come to me with repeated strained ankles all have short hamstring muscles. One can see quite readily

how this injury occurs. With a short muscle, when the joint is subjceted to force it suddenly meets the impact between the force and muscle that stops it. When the muscles are stretched and freed that joint can then get out of the way.

I have adolescent girls who have knee injuries that they have sustained, sometimes only in walking downstairs. X-ray examination of those knees is negative. The hamstring muscles are found to be very short, and in any sudden movement the hamstring muscles actually jerk the head of the tibia back under the femur. I have repeatedly had these girls balance up the muscles and they no longer sustain the injury.

I was delighted to hear Col. Harris speak of shoes the other day. I am quite sure that shoes are greatly responsible for the difficulties which people suffer in later life. I found that 75% of my patients coming from a very good class of people were wearing shoes that were too short. Now, a shoe is necessary but it should be a proper shoe: (1) It should fit at the heel. Many shoes are made too wide in the heel for the human foot. (2) The shoe should fit in the arch, and I mean that the back of the great toe joint should always come at the turn of the sole. One of the grave faults of all shoe manufacturers now is that too little of it is in the length of the arch. (3) Then the shoe should have room enough for the forefoot. A shoe should be wide enough so that when it has been worn for a long time you can see the welt of the shoe all the way around.

When the arch of the shoe is too short the individual is forced to walk with his feet everted in order not to have to force a hinge in his shoe. Also, the short arch pulls that leather down on his metatarsals with every step and so we have the child's foot encased in the shoe and he is forced to walk everted. The little baby stands up with just one idea in mind and that is stability. You will see that he stands with his feet everted and with all of his weight-bearing joints slightly flexed. When he finally gets brave enough he will take his first step. Very soon he begins to gain skill and reaches out with that stepping foot. Then someone says, "Now it is time for a good heavy shoe to support his foot." The child who is beginnnig to walk should not be interfered with by a stiff rigid shoe. The foot has two functions: (1) Weight-bearing, and (2) Propulsion of the act of walking. The child must develop his feet and because of rigid shoes, because of the lack of the use of his feet and because of too narrow or too short shoes, I see children with poorly developed feet at nine or ten years of age. So I say that every child should go bare-footed. If the child is to wear any sort of appliance with which to put his foot in the proper position, this should be removed for a reasonable time each day so that he can use his feet for a little while.

Now, for my first slide. This first is a copy of a drawing showing our descent from the fish. I know why, in the evolution of the quadruped and the biped, we now have certain muscles which are always weak and others which are over-strong. If you will think, for example, that I am a quadruped and I am walking, you will see that my quadriceps muscles has a very easy job. It just has to clear my foot from the ground. My psoas is one of the driving muscles. So that in the change from quadruped to biped we have unbalanced flexor and extensor muscles. The gluteal muscles in the quadruped have no function except to wag the tail and stabilize the hip joint a little.

Now, this slide illustrates the reason why the bow-leg in the young infant persists when he has no rickets. The child is bow-legged when he is born. When the child begins to walk, his bow legs disappear and he goes on to knock-knees.

Now, I said that gravity pulls you forward. Learn to stand properly. I have learned to stand with one foot forward and to use my knee and my hip joint to get over what I am doing. My back is extended to its full length; therefore, my shoulder girdle is elevated and my hands are free. In the schools they try to teach the children to write with an arm movement. If you are going to do this you must sit at full height.

Now, this slide shows a boy of approximately three years of age and he is not very knock-kneed. Now that boy is a young man, a magnificent specimen. This is his sister, who is a little older—about four and a half or five years here. You see the

apparent knock-knees. This is an X-ray taken of that girl's legs at that time. You will see that there is nothing abnormal except that they are rotated inward. Now. here is that same little girl when she was about six years of age and she has almost recovered from her knock-knees without any wedged shoes or anything else. She was allowed to go bare-footed a great deal. Here she is at about nine years of age and I can see nothing wrong with her legs.

The human body is made in such a way that we are liable to fall forward as this illustration shows. It shows how the curves of the spine straighten out when the body is elongated.

One of the most harmful things in the teaching of body mechanics is the clinging to the military parade posture. This slide illustrates this posture. The military parade position is nothing but a method of starting. The soldier, sailor and airman can develop a magnificent body because of his training. There is no athletic exercise of any sort known to man which can be done with great skill by an unbalanced body. I keep a picture of Helen Wills in my office as a horrible example of a bad back. This slide illustrates in an exaggerated form the way in which the average human being stands as soon as he becomes tired. Now, this cartoon illustrates five very prominent athletes who were going up for military induction. If they go into military service they will have many faults corrected if they have a good trainer.

I should like briefly to review with you some points in physiology as I see them. I believe the practice of medicine should be based more on physiology than upon any of our scientific studies. I had an old Scotch professor who always went into the physiology of the condition he was treating.

What ist he physiology of the bones? We are not supported by bones except as they act as levers. Bones are subject to change in position at any time of life. You can improve your body mechanics at any time in your life if you have sufficient interest. The physiology of ligaments is to limit the joint and hold it in place. Ligaments do stretch when they have stress put upon them for a very long time but the ligament is a pretty stout fellow whose job is to keep one end of a bone from slipping off the other. A tendon is an inelastic structure. If a tendon could stretch it could not carry out its physiological function. You can lengthen a tendon but you can't stretch it. The thing you stretch is the muscles. Then there is the physiology of the muscle and this is a structure which is elastic and can contract.

Then, of course, you have habit pattern.

During growth very often one leg will get longer than the other and when that happens, the individual has to get a compensatory scoliosis and that scoliosis can be treated successfully only in one way and that is to put a lift under a short leg until it catches up. For some reason or another it occurs about three times as often in girls as it does in boys. Girls get a functional scoliosis because anyone who has binocular vision must have his eyes on the same plane. I have learned a very quick method of inspecting the eyes of a child sufficiently to make suspect that the eyes are not right. Get a little distance in front of the child and throw a source of light into his pupils and while he looks at it, if that point of light falls directly in the centre of both pupils he has no muscular imbalance of his eyes. If you find the light in one pupil and out of the other, then I know he has some imbalance of his rectus muscles. When that child gets scoliosis for any reason, the muscles of that short side get shorter and shorter, and the muscles of the other side get stronger and stronger. Then this individual develops a habit pattern of walking and walks as best as he can. When one attempts to straighten him up, it actually hurts him. At first he gets discouraged when he is told to improve his posture. They have to go at it gradually. It is often very painful when these patients try to stretch these muscles too suddenly.

Obiit

DANIEL WADE DAVIS

Died—July 4th, 1944

The late Doctor Davis was born in Canada in 1887. He entered McGill University as a freshman in Medicine in 1904 at the early age of seventeen. An illness interrupted his medical course, and he graduated with the class of 1909.

Doctor Davis served overseas as Medical Officer during the last war. He practised in Alberta during several years, and was for some time at Coleman.

The profession in British Columbia will always associate Doctor Davis with his long years of service at Kimberley. He was capable and gave much of himself to his work and the people, and would be looked upon as a doctor who had been successful and had made a contribution, not only to the people whom he served, but to his profession as well. We have to look with satisfaction and gratitude upon the work of men like Dr. Wade Davis. It is through these fine medical gentlemen, who have built and maintained standards in medical practice in all parts of the Province, that British Columbia has been able to point with pride to the quality of its practising profession.

Doctor Davis exerted through his strong personality an influence upon all with whom he had been associated, and I think I can safely state that the younger men who had been associated with him throughout the years at Kimberley had benefited very largely in experience and instruction. Wade Davis had built for himself strong friendships which had largely been attracted by the force of his personality. He possessed a quaintness of expression which left a lasting impression with those who had learned to know and understand him. Those who knew him best enjoyed the frankness with which he attacked any question, and at times the sharpness of the jibes from which his most intimate friends were not spared.

Doctor Wade Davis will be long remembered in this Province as a man who had made his contribution to the best in Medicine. He possessed strong opinions on the conduct of medical practice, and in leaving Kimberley just before the sad accident which ended his life while having a well-earned rest on Vancouver Island, he had striven at great sacrifice to himself to have the agreement under which the doctors provided service in Kimberley ridded of those features which he felt were wrong in practice and were the cause of irritations which disturbed the best relations in medical practice between patient and physician.

To have lost both parents in such a tragic way was a great shock to his two sons, the elder Edmond, who is now serving with R.C.A.M.C. and has returned from overseas, and the younger, Lieut. Jack Davis, who is now serving with the Navy on the Atlantic coast. These two young men who we hope will receive some comfort in this sudden bereavement from the knowledge that their parents had made such a splendid place for themselves with the medical profession. They have our sincerest sympathy.

M. W. T.

NEWS *and* NOTES

We regret to record the passing of Doctor Thomas H. Lougheed at Winnipeg. Doctor Lougheed practised at Blubber Bay during several years. His son, Doctor Morley Lougheed, is the Medical Health Officer in Winnipeg.

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Dr. R. J. Patchett, formerly ship surgeon on the *Empress of Canada,* was practising at Sooke near Victoria at the time of his death. A number of the profession knew Doctor Patchett during his practice at Telegraph Creek and on the Queen Charlotte Islands.

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The sympathy of the profession is extended to Doctor and Mrs. A. N. Dobry, who recently lost their infant son, Norman, by death.

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We regret to record the loss of WO2 C. F. Coleman, R.C.A.F. He is the son of Doctor C. E. Coleman, who after his discharge from the R.C.A.M.C. took up practice in Vancouver.

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The following Officers, formerly located at New Westminster, are receiving congratulations on the birth of daughters: Major B. H. Cragg, R.C.A.M.C., and Flight-Lieut. V. A. Pepper.

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The following Officers with the R.C.A.M.C. are very proud of their newly-born sons: Capt. H. Edward White, formerly of Vancouver; Capt. S. A. Creighton, formerly at the Vancouver General Hospital, and Capt. F. A. Olacke, formerly practising at Ashcroft.

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The birth of a son to Doctor Eleanor Riggs, now Mrs. Monty Wood, wife of Lieut. B. M. Wood, R.C.N.V.R., aroused considerable interest among the profession in Vancouver where Doctor Riggs formerly practised.

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Daughters were born to Dr. and Mrs. G. F. Kincade of Vancouver and Dr. and Mrs. J. G. Robertson of New Westminster, and a son to Dr. and Mrs. R. E. Page of Vancouver.

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Among recent marriages are listed that of Major Douglas R. S. Milne, R.C.A.M.C., to Miss Margaret Petrie. Major Milne was an interne at St. Paul's Hospital where Miss Petrie, neice of Dr. G. A. Petrie, received her nurse's training.

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Lieut. J. A. McLaren, R.C.A.M.C., was married this month, as was Dr. Glen A. Agnew, son of Dr. T. H. Agnew of Vancouver. Doctor Glen Agnew has been associated with Dr. R. W. Irving at Kamloops.

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Major G. A. Kirkpatrick, R.C.A.M.C., who has been overseas during the past three years, has arrived in Vancouver for a brief visit.

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We regret to learn that Capt. W. S. Huckvale has been wounded, although we understand that reports are favorable to his recovery.

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Congratulations on recent promotion to Wing Commander A. J. Elliot, who has been serving overseas as eye consultant with the R.C.A.F. Mrs. Elliot and her young daughter are at present residing with the former's parents, Doctor and Mrs. G. K. MacNaughton of Cumberland.

* * *

Dr. Douglas W. Graham of Victoria is receiving congratulations on his recent marriage.

It is reported that Flight-Lieut. Don S. Munroe has become a Member of the Royal College of Physicians. Flight-Lieut. Munroe will be remembered as an interne at the Vancouver General Hospital and more recently before appointment to the R.C.A.F. associated in practice with Doctor G. F. Strong.

* * *

Colonel C. A. Watson, Officer Commanding a General Hospital in England, looks very fit in the recent photograph published where he received the Queen during her visit at the hospital. Colonel Watson, better known as "Charlie Watson," formerly practised in Victoria.

* * *

The Victoria Medical Society, which is the host society to the provincial association for the Annual Meeting in September has made plans for a very splendid meeting. Surgeon Commander H. S. Morton, Navy, now serving as Surgeon at Esquimalt Naval Hospital, read a paper to the Victoria Medical Society at its last meeting. His subject was "Fighting Fractures." This very excellent paper dealt with fractures of the jaw and hand.

* * *

Dr. R. A. Hunter has had a month's holiday at Shawnigan Lake.

* * *

All the Medical Officers to the Reserve forces in this Military District have been in camp for annual training. The Officers of the 13th Field Ambulance Reserve have just completed their two weeks' training.

* * *

Dr. G. A. McCurdy, Pathologist at Jubilee Hospital, is on vacation near Kamloops. We hope that Doctor McCurdy has recovered his health.

* * *

Dr. J. Stuart Daly and family of Trail spent a month at the coast. On their return journey they visited in Penticton.

* * *

Flight-Lieut. G. S. Rothwell, R.C.A.F., visited Penticton during his furlough.

* * *

Dr. W. H. B. Munn of Penticton had a week-end's fishing near Summerland.

* * *

Dr. A. P. Miller of Port Alberni has just returned from a short holiday in Penticton.

* * *

Dr. W. C. Pitts of Port Alberni had a vacation at Wall Beach.

* * *

Lieut. E. V. Helem, .C.A.M.C., former interne at the Vancouver General Hospital, was married in Toronto. He is now stationed at Camp Borden.

* * *

Dr. C .T. Hilton of Port Alberni has been in Vancouver for a short visit.

* * *

S/Ldr. R. N. Dick, R.C.A.F., formerly of Chemainus, had the misfortune to break his forearm.

* * *

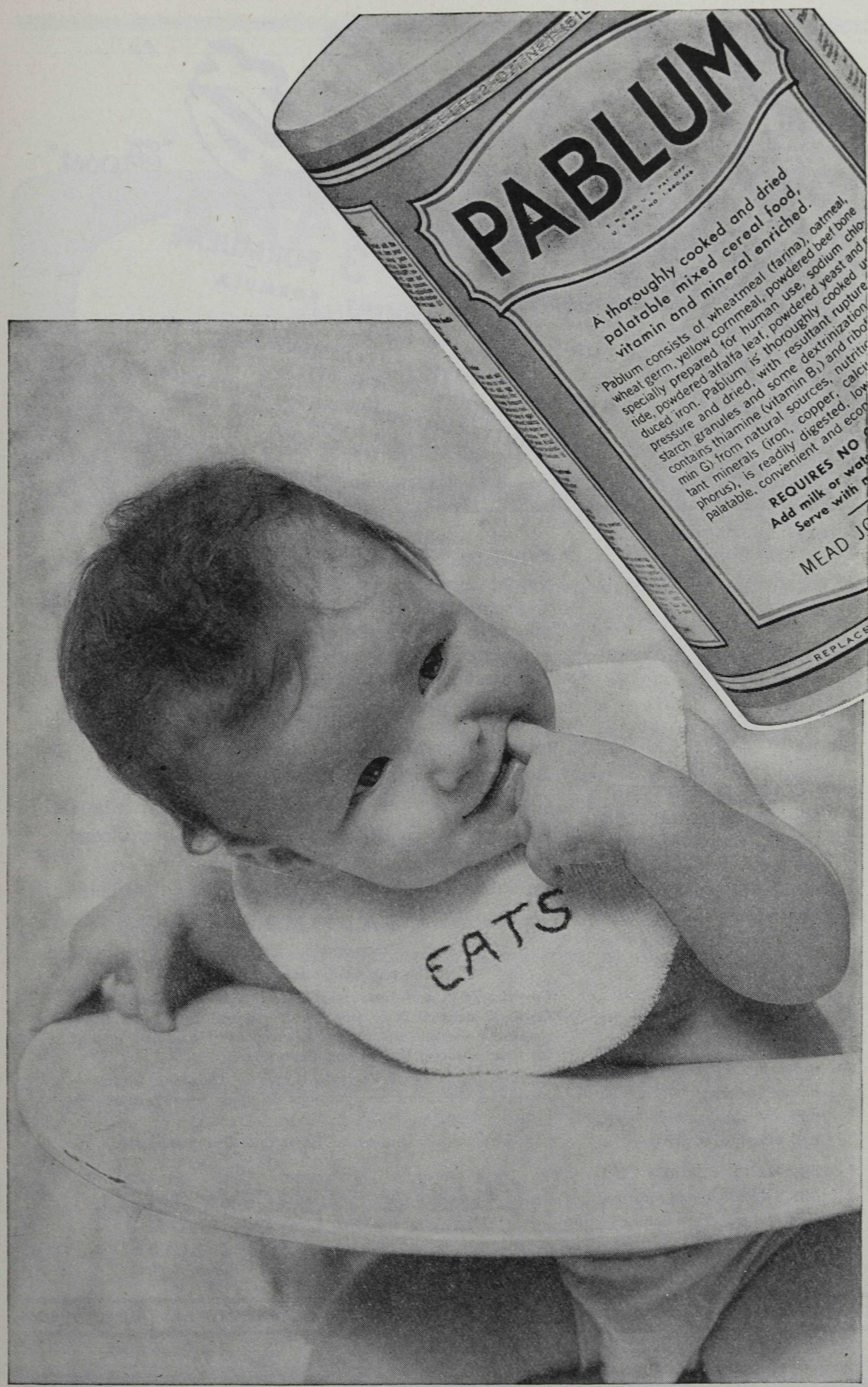
Dr. M. G. Archibald of Kamloops visited the office during a recent visit in Vancouver. Doctor Archibald is looking uncommonly well.

* * *

Dr. and Mrs. E. J. Lyon of Prince George are holidaying at Fort St. James on Stewart Lake.

* * *

Capt. B. T. Dunham, R.C.A.M.C., formerly of Nelson, is Medical Officer with an artillery unit in Normandy.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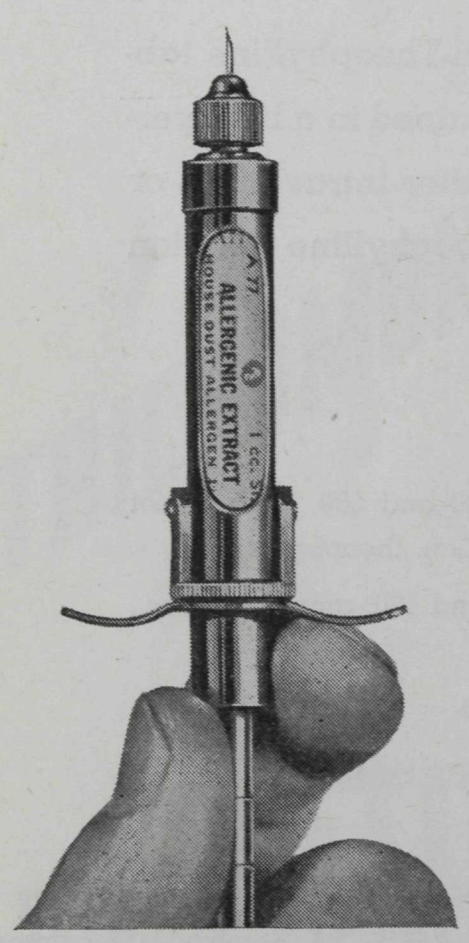

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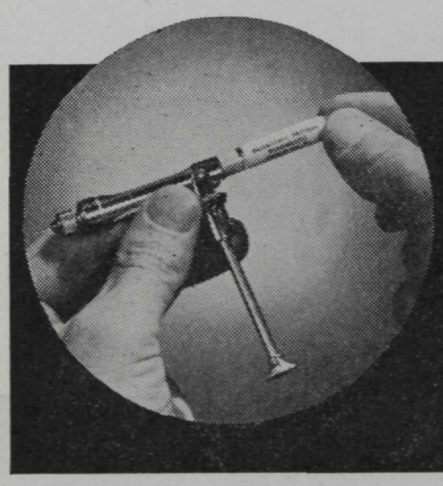

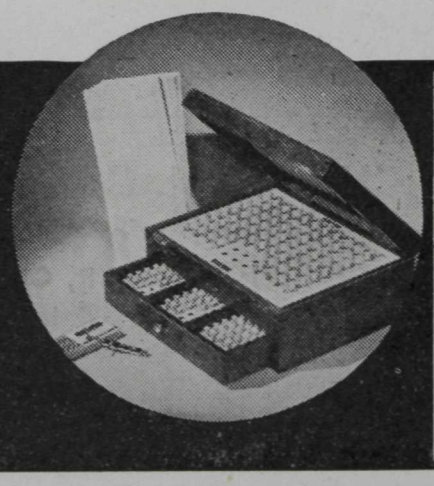

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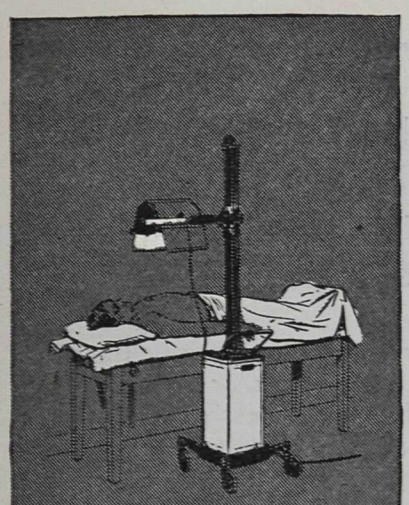

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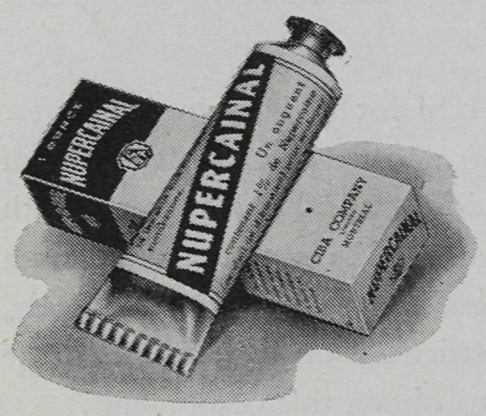

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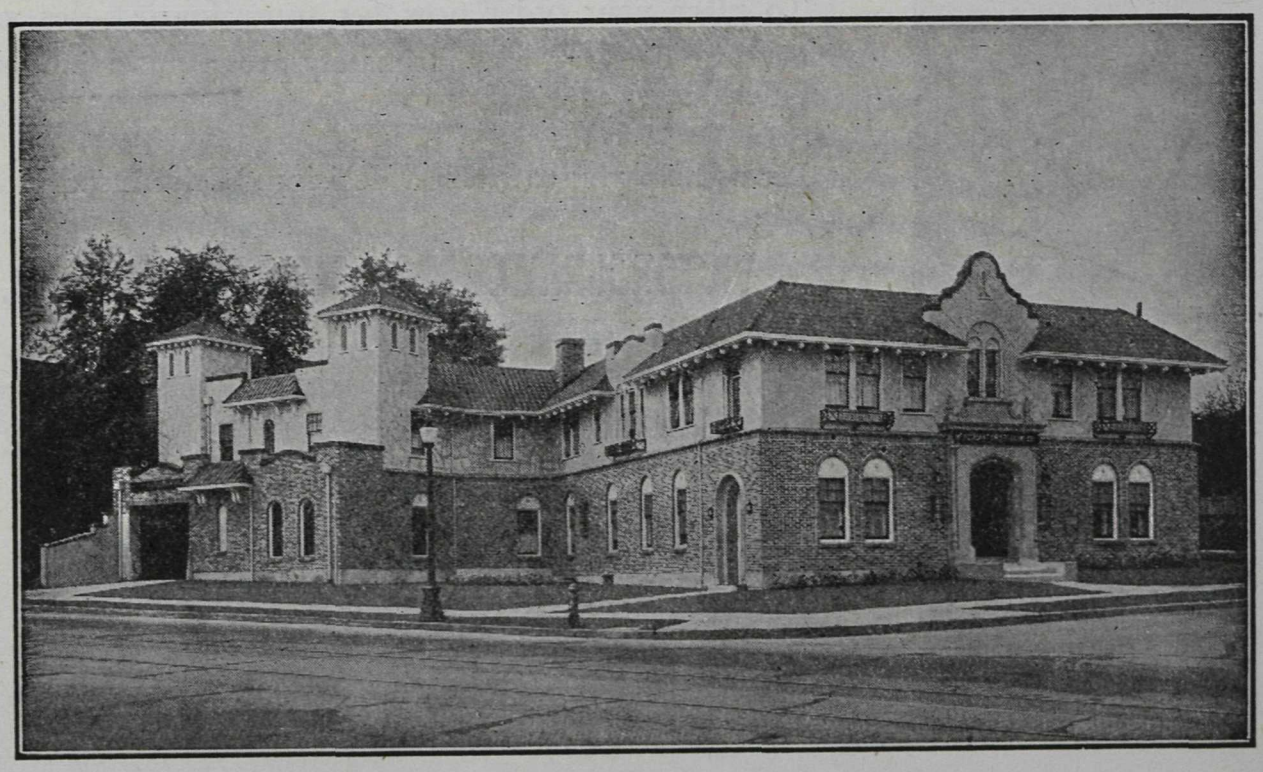

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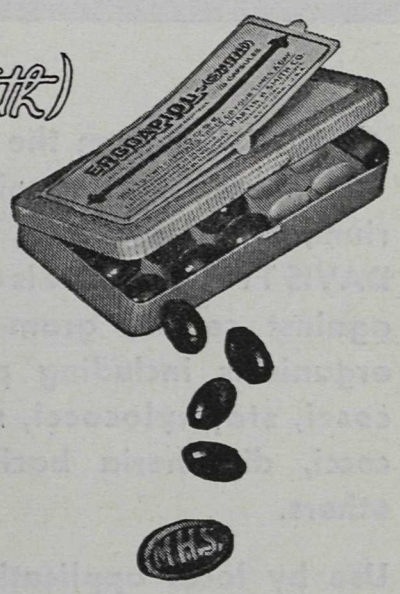

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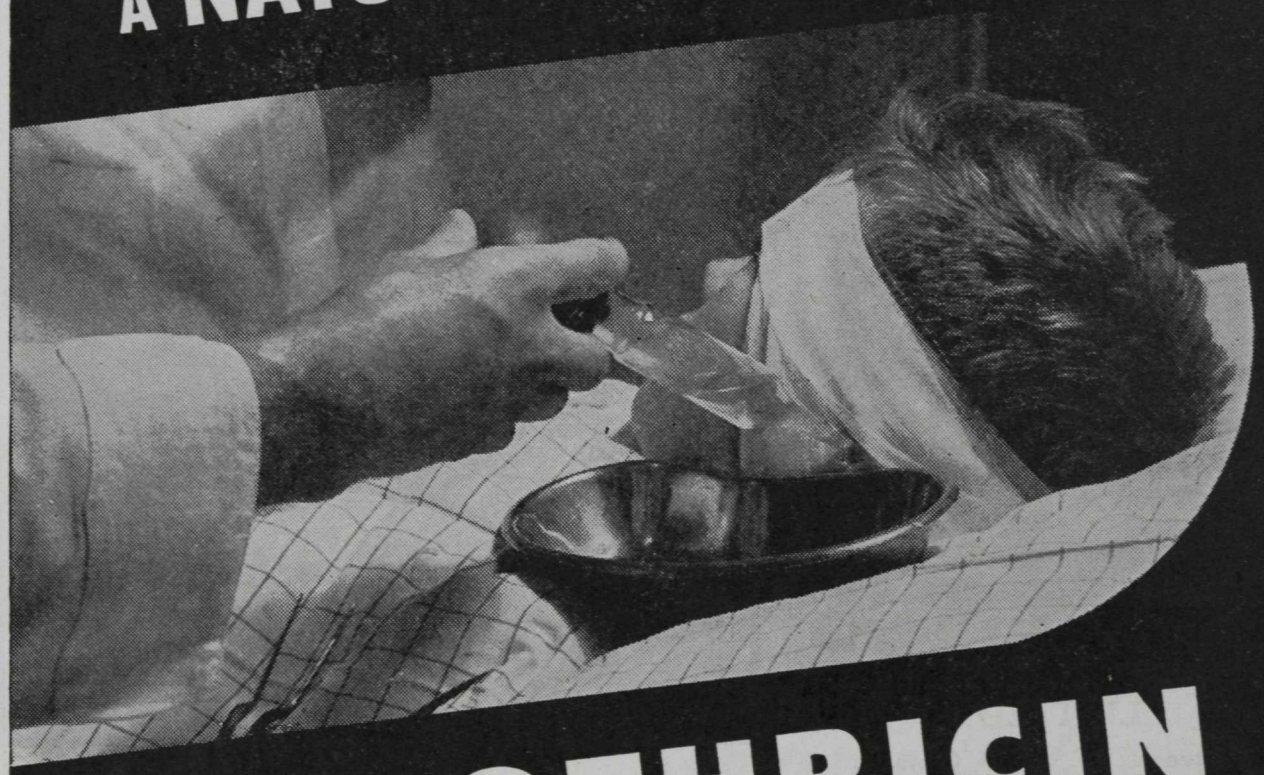

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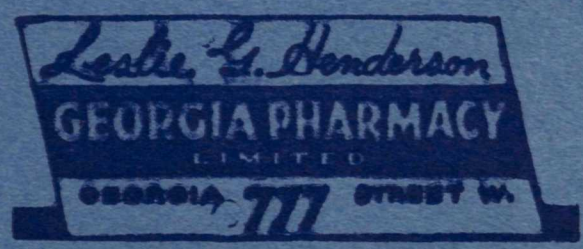

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