UNIVERSITY OF BRITISH COLUMBIA
JUL 17 1942
THE LIBRARY

The BULLETIN

of the

VANCOUVER MEDICAL ASSOCIATION

Vol. XVIII. JULY, 1942 No. 10

With Which Is Incorporated
Transactions of the

Victoria Medical Society

the

Vancouver General Hospital

and

St. Paul's Hospital

In This Issue:

	Page
NEWS AND NOTES	292
TREATMENT OF CANCER OF THE BREAST	300
THE KELLER OPERATION—Donald E. Starr, M.D.	301
CURRENT TRENDS IN COMMUNICABLE DISEASE CONTROL—Dr. J. S. Kitching	304
METHODS FOR THE DIAGNOSIS OF NUTRITIONAL DEFICIENCIES—Dr. Eleanor Riggs	309
DESTRUCTIVE ARTHRITIS FOLLOWING RENAL INFECTION	314
MEDICINE IN SOVIET RUSSIA—Dr. D. M. Baillie	316

VANCOUVER MEDICAL ASSOCIATION
SUMMER SCHOOL

SEPTEMBER 15 - 18 Inc.

The Original Antacid which has enjoyed wide endorsation by the medical profession for more than thirty years!

PALATABLE . . . . . PROTECTIVE

DILAXOL E.B.S. has earned the approval of the Medical Profession, because of its high efficacy in control of gastric hyperacidity and the protection it affords against threatened breakdown of the gastric wall.

Though alkaline in reaction, Dilaxol, unlike strong alkalies, does not stimulate the secretion of excess acid. Dilaxol neutralizes free acid and its acid-combining power is extremely high. It has prolonged action, but does not interfere with digestive processes, nor does it cause alkalosis.

Because of its colloidal nature, Dilaxol exerts a protective action on the mucous lining of the stomach, thus preventing breakdown of the gastric wall.

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

Each Fluid Ounce Contains:

Bismuth Subsalicylate . . . . . 4 grains
Digestive Enzymes . . . . . 1 grain
Magnesium Trisilicate, Carbonate and Hydroxide combined . . . . . 75 grains

DOSE: *One or two fluid drachms, in water.*

Also supplied in POWDER FORM, in convenient dispensing packages.

WHEN PRESCRIBING
Specify E.B.S. Preparations
JUST TO BE SURE!

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

BRITISH COLUMB
JUL 17 1942
THE LIBRAR

THE VANCOUVER MEDICAL ASSOCIATION

BULLETIN

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

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

EDITORIAL BOARD:
DR. J. H. MACDERMOT
DR. G. A. DAVIDSON DR. D. E. H. CLEVELAND

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

VOL. XVIII. JULY, 1942 No. 10

OFFICERS, 1941-1942

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

Additional Members of Executive: DR. J. R. DAVIDSON, DR. J. A. MCLEAN

TRUSTEES

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

Auditors: MESSRS. PLOMMER, WHITING & CO.

SECTIONS

Clinical Section

DR. ROSS DAVIDSON.....Chairman DR. D. A. STEELE.....Secretary

Eye, Ear, Nose and Throat

DR. A. R. ANTHONY.....Chairman DR. C. E. DAVIES.....Secretary

Pædiatric Section

DR. G. O. MATTHEWS.....Chairman DR. J. H. B. GRANT.....Secretary

STANDING COMMITTEES

Library:
DR. F. J. BULLER, DR. D. E. H. CLEVELAND, DR. J. R. DAVIES, DR. A. BAGNALL, DR. A. B. MANSON, DR. B. J. HARRISON

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

Summer School:
DR. H. H. CAPLE, DR. J. E. HARRISON, DR. H. H. HATFIELD, DR. HOWARD SPOHN, DR. W. L. GRAHAM, DR. J. C. THOMAS

Credentials:
DR. A. W. HUNTER, DR. W. L. PEDLOW, DR. A. T. HENRY

V. O. N. Advisory Board:
DR. L. W. MCNUTT, DR. G. E. SELDON, DR. ISABEL DAY.

Metropolitan Health Board Advisory Committee:
DR. W. D. PATTON, DR. W. D. KENNEDY, DR. G. A. LAMONT.

Greater Vancouver Health League Representatives:
DR. R. A. WILSON, DR. WALLACE COBURN.

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

Choose the Ferrous Iron hematinic that best meets the needs of your patients

Fe++

Fe++ + B1

Fe++ + B1 + LIVER

FERROUS IRON has been shown in numerous clinical reports to be effective in smaller dosage than other forms of iron and to have fewer undesirable side-effects. Included in the number of hematinics available under the Squibb label are three which supply iron in ferrous form. To meet the needs of individual patients and preferences of physicians one of these products supplies iron alone; another iron and B_1; a third, iron, B_1, and liver.

TABLETS FERROUS SULFATE EXSICCATED SQUIBB

For use where iron alone is indicated. Supplied in 3-grain enteric-coated tablets in bottles of 100 and 1000. Three grains exsiccated ferrous sulfate supplies as much iron (approx. 60 mg.) as 5 grains of ordinary U. S. P. ferrous sulfate.

CAPSULES FERROUS SULFATE WITH B_1 SQUIBB

For prevention and treatment of secondary anemia, especially in patients with anorexia due to vitamin B_1 deficiency. Each capsule contains 3 grains of ferrous sulfate exsiccated and 1 mg. of thiamine hydrochloride (333 U. S. P. XI units of vitamin B_1). Supplied in bottles of 100 and 1000 capsules.

CAPSULES HEBULON*

For prophylaxis and treatment of secondary anemia and as a nutritive adjunct during pregnancy, convalescence and general undernutrition. Each small, easy-to-swallow gelatin capsule contains 2 grains exsiccated ferrous sulfate (approx. 40 mg. of iron), 50 U. S. P. XI units of vitamin B_1; and liver extract (derived from 16 Gm. fresh liver) containing appreciable amounts of certain vitamin B complex factors including riboflavin and filtrate factors. Supplied in bottles of 100, 500 and 1000 capsules.

*"Hebulon" is a trade-mark of E. R. Squibb & Sons.

For literature write 36 Caledonia Road, Toronto, Canada

E·R·SQUIBB & SONS OF CANADA, Ltd.

MANUFACTURING CHEMISTS
TO THE MEDICAL PROFESSION SINCE 1858

VANCOUVER HEALTH DEPARTMENT

STATISTICS—MAY, 1942

Total Population—estimated	272,352
Japanese Population—estimated	8,769
Chinese Population—estimated	8,558
Hindu Population—estimated	360

	Number	Rate per 1,000 Population
Total deaths	276	12.0
Japanese deaths	4	5.2
Chinese deaths	12	16.1
Deaths—residents only	238	10.3
BIRTH REGISTRATIONS:		
Male, 267; Female, 267	534	23.2

INFANTILE MORTALITY:	May, 1942	May, 1941
Deaths under one year of age	24	11
Death rate—per 1,000 births	44.9	22.7
Stillbirths (not included in above)	18	7

CASES OF COMMUNICABLE DISEASES REPORTED IN THE CITY

	April, 1942		May, 1942		June 1-15, 1942	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Scarlet Fever	47	0	62	0	20	0
Diphtheria	0	0	2	0	1	0
Diphtheria Carrier	4	0	0	0	0	0
Chicken Pox	177	0	83	0	33	0
Measles	23	0	21	0	5	0
Rubella	34	0	24	0	22	0
Mumps	795	0	582	0	327	0
Whooping Cough	97	1	95	0	37	1
Typhoid Feves	0	0	0	0	0	0
Undulant Fever	0	0	0	0	1	0
Poliomyelitis	0	0	0	0	0	0
Tuberculosis	50	20	50	21	11	--
Erysipelas	4	0	0	0	0	0
Meningococcus Meningitis	5	0	0	0	0	0
Vericellaform Dermatitis	0	0	2	0	0	0

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

	Burnaby	West Vancr.	Richmond	North Vancr.	Vanc. Clinic	Hospitals & Private Drs.	Totals
Month of April, 1942:							
Syphilis	0	0	0	0	15	15	30
Gonorrhoea	0	0	0	1	58	28	87

A DYNAMIC MENTAL AND PHYSICAL TONIC

INDICATED IN THESE DAYS OF STRESS

BIOGLAN "A"

Another Product of the Bioglan Laboratories, Hertford, England

Stanley N. Bayne, Representative

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

Descriptive Literature on Request

THE SCIENTIFIC HORMONE TREATMENT

SICCOLAM

A fat-free desiccant paste for the treatment of inflammatory conditions of the skin

The introduction of Siccolam is the culmination of a long series of investigations, and its dermatological value has been confirmed by extensive clinical trial. The conclusion has been reached (Brit. Journ. Dermat. & Syph., June, 1941, p. 177) that '. . . *technical properties render this preparation superior to the many lotions, such as calamine, zinc oxide lotion, etc., so commonly used . . . for the same indications.*'

Advantages of Siccolam—

1 Active in all inflammatory dermatoses
2 Absolutely innocuous No contra-indications to its use
3 Effects immediate adsorption of fluid exudate
4 Causes rapid relief of inflammation and pruritus
5 Active in both acute and chronic conditions
6 Can be used in conditions in which the use of fatty preparations is contra-indicated
7 Simple and cleanly in use Dries rapidly

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

THE BRITISH DRUG HOUSES (CANADA) LTD.
Toronto Canada

Sic/Can/427

MEASLES

MODIFICATION »« PREVENTION

In 1939 there were 197 deaths from measles in Canada. More than 95 per cent of these were in the age-group 0-5 years.

Human serum prepared from the blood of healthy adults so as to involve a pooling from a large number of persons may be used effectively either for modification or prevention of measles. Modification is often preferable in that it reduces to a minimum the illness and hazards associated with measles, but does not interfere with the acquiring of the active and lasting immunity which is conferred by an attack of the disease. On the other hand, complete prevention of an attack of measles is frequently desirable, and can be accomplished provided that an ample quantity of serum is administered within five days of exposure to the disease.

For use in modification or prevention of measles, pooled human serum is available from the Connaught Laboratories in a concentrated form. While the recommended dose of this pooled and concentrated human serum for purposes of prevention is ordinarily 10 cc., the most usual dose is for purposes of modification and amounts to 5 cc. The serum is therefore supplied in 5-cc. vials. Prices and information relating to it will be supplied gladly upon request.

CONNAUGHT LABORATORIES
UNIVERSITY OF TORONTO
Toronto - Canada

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

IMPETIGO

Alulotion

A Clean, Effective Treatment for All Types of Impetigo Contagiosa

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

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

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

Supplied in 3 fl. oz. bottles.

John Wyeth & Brother (Canada) Limited
WALKERVILLE, ONTARIO

THE EDITOR'S PAGE

The Canadian Medical Association's Annual Convention at Jasper last month was a very great success in every way, and we heartily congratulate those whose hard work and painstaking organisation were responsible. Over eight hundred men and women attended the Convention, and this must have entailed a severe strain on our hosts, the Canadian National Railway, which operates Jasper Park chiefly. But everyone seems to have been taken good care of, well housed, well fed, and well entertained.

Of course, the man chiefly responsible for this very successful meeting is Dr. T. Clarence Routley, our well-known General Secretary. His work on this meeting goes back many months, and he has grudged no time or effort. When one takes into account the special problems and difficulties that this year of grace has added to his burden in this regard, one is the more disposed to congratulate him most sincerely.

He had one item in his favour. Probably no lovelier spot than Jasper could be found for a Convention of this kind. There is entertainment to suit everyone—and, perhaps especially welcome to most doctors, there is a wonderful golf course. Our versatile golf expert, Dr. George E. Seldon, moved in and took possession of the place: and came away with an enormous cup in his grasp, the Annual Trophy. This gentleman, long known as an ornament to the surgical side of medicine, would seem to have taken up this matter of prize-winning in golf with great seriousness. Our readers will remember how at the last Medical Tournament held in Vancouver, he captured practically all the prizes. Then he goes to Jasper, and does mayhem on the golf situation there. His latest exploit, achieved only a week or so ago, was to capture the medal given on May 24 at Shaughnessy in Vancouver, in the tournament held in aid of the Red Cross. We congratulate George very heartily, but we see a certain danger in the situation. One more such victory, and he will be in the class of Robert Tyre Jones, the four championships in a year man. We warn George solemnly, this is becoming a habit, which will grow on him. He must be very careful.

* * * *

Organised medicine, in British Columbia particularly, but in Canada generally, has recently suffered a severe loss. Dr. Wallace A. Wilson of Vancouver has decided where his greater duty lay, and has rejoined the Army of Canada, in which he served in the last war with distinction. He takes the place in Victoria of Lt.-Col. Gordon Kenning, now overseas: so that he is now D.M.O. of M.D. No. XI.

We cannot, of course, regret this. The Army needs men of Lt.-Col. Wilson's type, and his service in that field will, we know, compensate for the loss that civilian medicine has to suffer because of his transfer. But we confess to a feeling, almost of dismay, when we reflect on what a serious loss this is to our organised medical structure: especially at this particular moment. It is safe to say that there are few men in medicine in Canada today that have quite the same fitness for the job he has held, to his own very real personal disadvantage and loss, for many years, that of leader of the department of Medical Economics, not only in the B. C. Medical Association, but in the Canadian Medical Association, and so all over Canada. Every man who has been connected with this vital part of our medical life has found in him a quality of cool, sane, effective leadership which has commanded everyone's confidence and respect. And not the least part of his power has been his ability to meet and understand those who represent the other parties concerned, the governmental and lay bodies—and to impress them with his sincerity and honesty of purpose. His unfailing tact and courtesy, his patience and sympathy with all points of view, have made him a uniquely fit person for the position he occupied.

We have all accepted a great deal from Wallace Wilson—his time (and he, like any other doctor, has only his time by which to earn a living), his energy and devotion, and his unusual ability. Back and forth over Canada he has gone to serve our interests. Again and again, greatly against his own wishes and inclinations, and against his own interest, he has agreed to work for us, and accepted positions of responsibility, and endless work. The simple fact has been that too great a burden was laid on him in this matter, and it is perhaps high time that he had a respite—but it is going to be hard to replace Dr. Wilson. A proof, if any were needed, of the esteem in which he was held, is the inclusion of him in the Committee of Seven appointed by the Canadian Medical Association to meet the Federal Government recently in connection with post-war reconstruction programmes.

* * * *

We publish in this issue several very interesting things. The first is "Soviet Medicine" by Dr. D. M. Baillie of Victoria. All of us who have the honour and pleasure of knowing Dr. Baillie know him as a sturdy and courageous fighter, not for lost causes, but for causes that need sturdy and courageous supporters. Such a cause is the C.C.F., of which Dr. Baillie has long been a valued member: such a cause is the Soviet political philosophy, which Dr. Baillie seriously respects and admires. Most of us, nowadays, thanking God for the amazing courage and heroism of our Russian allies, are inclined to think that Dr. Baillie was right all the time: but the credit to him comes from the fact that he saw, long before this war, the germ of potential greatness and power that lay in the seed sown by the Soviets in the Russian people. Many of us had a sneaking sympathy for the Russians: few of us had the courage and faith to voice and implement our convictions.

Dr. Baillie's paper is intensely interesting. It makes a good paper to read (even to read two or three times, in page and galley proof and in MSS.). It shews one of the reasons why there are no fifth columnists and traitors in Russia today—because the people feel that they have something better than pieces of gold to work and live for, and look forward to. Because the leaders are honestly working to ameliorate the suffering and the loss of sickness: and doing it in their own way, with their own doctors and nurses and feldshers and other servants of the State, that is, of their brother-man.

Russia *rediviva* has astounded the world, by her realism, her stark courage, her devotion and loyalty to her duty, her generosity. She may yet blaze the way to a greater, more effective, medicine, and healing of human sickness and suffering. Dr. Baillie is to be thanked and congratulated for his paper.

* * * *

We suggest that our readers read carefully and thoroughly the article in this issue by Dr. Kitching, of the Metropolitan Health Board. This article, "Current Trends in Communicable Disease Control," is most timely just now. It is rather dismaying to read of the gradual increase in diphtheria, for instance, just when we began to think we had this dread menace, to child life especially, under almost complete control. Every medical man will find much of value in this paper, and we owe it to our Public Health men to support and endorse their constant, increasing efforts to improve and maintain the community's health..

* * * *

A paper that will be of special interest to the medical profession in Vancouver is the "Methods for the Diagnosis of Nutritional Deficiencies," contributed by Dr. Eleanor Riggs, whom we all know so well in Vancouver. Dr. Riggs has gone steadily upwards in her profession, and is now clinical assistant in the Department of Nutrition, School of Hygiene, of the University of Toronto.

The particular paper met with great approval at the meeting held at McMaster University in Hamilton, in March of this year. Lectures on "Nutrition for Victory" were given by leading men, including Dr. Lionel B. Pett, Director of Nutrition Services of the Department of Pensions and National Health of Canada. We congratulate Dr. Riggs on her excellent contribution.

NEWS AND NOTES

Dr. William Hackney, formerly of Calgary, is now in Victoria and is associated with Dr. M. J. Keys, 625 Fort Street, and confines his practice to Eye, Ear, Nose and Throat.

* * * *

Dr. and Mrs. W. E. Austin of Hazelton are receiving congratulations on the birth of a son.

* * * *

Major Alan Beech, formerly of Salmon Arm, is now serving with the R.C.A.M.C.

* * * *

We regret to announce the passing of Mrs. Joseph Milburn at Peterborough. She was in her 101st year. Drs. H. H. and J. A. Milburn of Vancouver are sons.

* * * *

Flying Officer James Durkin, R.C.A.F., was married in Toronto.

* * * *

Dr. Anthony Becker of Chemainus was married in May.

* * * *

Dr. and Mrs. H. S. Hamilton are receiving congratulations on the birth of a daughter.

* * * *

A daughter was born to Capt. Lorne G. Wood, R.C.A.M.C., and Mrs. Wood on June 18th.

* * * *

Capt. Wood is stationed at Debert, N.S.

* * * *

Dr. Gordon A. McCurdy, Capt. D. B. Roxburgh and Major G. W. C. Bissett of Victoria attended the spring meeting of the Pacific Northwest Society of Pathologists at Portland.

* * * *

Dr. W. H. Moore of Victoria had a week's fishing at Great Central Lake.

* * * *

Dr. C. W. Duck of Victoria was also fishing at Great Central Lake.

* * * *

Dr. J. S. Daly of Trail has just returned from a meeting of the American College of Physicians and Surgeons at St. Paul.

* * * *

Dr. E. Therrien of West Vancouver has been holidaying on Vancouver Island.

* * * *

Dr. and Mrs. R. V. McCarley of North Vancouver and Dr. Claire M. Onhauser of West Vancouver attended the C.M.A. meeting at Jasper.

* * * *

Dr. D. M. Black and Dr. L. A. C. Panton of Kelowna were at the Jasper meeting.

* * * *

Beaver Lake, near Kelowna, was visited by Drs. R. E. McKechnie and C. W. Prowd of Vancouver, W. J. Knox and L. A. C. Panton of Kelowna, on their annual fishing party.

* * * *

It is reported that Lloyd Wilson of Trail did catch a nineteen-pound Kamloops trout on his recent fishing expedition.

SUMMER SCHOOL

September 15th to 18th, inc.

The annual Summer School will be held in September this year on the above dates, at the Vancouver Hotel.

The following speakers will participate:

Dr. Walter C. Alvarez, Professor of Medicine,
The Mayo Clinic, Rochester, Minn.

Dr. Simeon T. Cantril, Tumour Institute of the Swedish Hospital,
1211 Marion Street, Seattle, Wash.

Dr. Wm. Fulton Gillespie, Professor of Surgery,
University of Alberta.

Dr. John W. Scott, Assistant Professor of Clinical Medicine,
University of Alberta.

Lt. Colonel W. P. Warner, R.C.A.M.C., Inspector of Hospitals,
Department of Pensions and National Health, Ottawa.

A son was born to Dr. and Mrs. H. Dumont of Vancouver.

* * * *

Dr. and Mrs. D. A. Steele are receiving congratulations on the birth of a son.

* * * *

Victoria had a large representation at the Jasper meeting: Dr. P. A. C. Cousland and wife, Drs. W. T. Barrett, F. M. Bryant, E. W. Boak, William Hackney, George W. Hall, M. J. Keys, J. W. Lennox, T. McPherson, A. B. Nash, R. C. Newby and H. M. Robertson.

* * * *

Dr. C. T. Hilton of Port Alberni was also present at the Jasper meeting.

* * * *

Latest reports show that Dr. P. A. C. Cousland and Mrs. Cousland have not as yet returned to Victoria.

* * * *

Dr. A. B. Nash of Victoria attended the American Medical Association meeting at Atlantic City and returned via New York, Montreal, Toronto to the Jasper meeting.

* * * *

Dr. F. M. Bryant travelled to Winnipeg after the meeting to visit his mother.

* * * *

Dr. Fulton Risdon of Toronto addressed the Victoria Medical Society on Wednesday, June 24th. His subject was: "Facial Fractures and Burns of the Body." Dr. and Mrs. Risdon spent several days at the Coast.

* * * *

A number from Eastern Canada visited the Coast after the Jasper meeting. Quite a large party travelled from Jasper via Prince Rupert. They included Dr. and Mrs. J. G. Cunningham of Toronto; Dr. and Mrs. Gray, Sarnia, Ont.; Dr. and Mrs. Williamson, Ottawa; Dr. Moorehouse of Fredericton, N.B.; Dr. and Mrs. Duggan, Niagara Falls;

Dr. and Mrs. King, Bralorne; Dr. and Mrs. A. W. Bagnall, Vancouver; Dr. Hunter, Professor of Biochemistry, University of Alberta; Dr. and Mrs. Greene, Smithers; Dr. and Mrs. Keenberg, Winnipeg.

* * * *

The doctors at Prince Rupert, the home town of Dr. Hankinson, who has been the President of the British Columbia Medical Association during the past year, entertained the party before sailing for Vancouver. Mrs. Hankinson was assisted by Mrs. L. W. Kergin, who poured, and Mrs. R. G. Large and Mrs. J. J. Gibson. This proved to be a very happy evening.

* * * *

Squadron Leader W. R. Brewster was in Vancouver last week.

* * * *

Capt. G. D. Saxton, R.C.A.M.C., his wife Dr. Dorothy Saxton and Susan, the three-year-old daughter, were visiting in Vancouver last week.

* * * *

Drs. F. M. Auld of Nelson, D. A. Campbell of Creston, T. J. Sullivan of Cranbrook, R. R. M. Glasgow of Michel, all from the Kootenays, were present at the Jasper meeting.

* * * *

Drs. E. G. Hollies of Pouce Coupe and L. L. Giroux of Dawson Creek in the Peace River Block were at Jasper and had an opportunity to meet their colleagues from other points in British Columbia.

* * * *

Dr. L. Giovando of Nanaimo flew to Montreal and did some postgraduate work, and renewed old acquaintances.

* * * *

Dr. C. C. Browne of Nanaimo has just returned from a cruise of the Gulf on his sloop, "Anne." He is looking very tanned and very fit.

* * * *

Dr. Alan Hall of Nanaimo is at present in the East doing postgraduate work.

* * * *

Medical officers who attended the meeting at Jasper included: Surg.-Commander A. G. LaRoche, Wing-Commander E. E. Day, Lieut.-Col. H. A. DesBrisay, Major George H. Clement from Calgary, Capt. T. Dalrymple, Surg.-Lieut. H. G. Farish, Major S. K. Kenning, Capt. J. C. Poole, Fl.-Lieut. Neil A. Stewart, Surg.-Lieut. W. A. Morton,

* * * *

The following names of successful candidates of the Medical Council of Canada in recent examinations will be recognized by you: John R. J. Angus, Victoria; John W. Arbuckle, Vancouver; John S. Archibald, Kamloops; William C. Gibson, Victoria; Janet M. B. Hardy, Victoria; Hubert M. Frost, Vancouver; Arne K. Mathisen, Sidney; Hugh J. O'Brien, Grande Prairie, Alta.; William H. Sutherland, Vancouver; John W. Whitelaw, Vancouver.

* * * *

Drs. H. A. Jones of Tranquille, J. G. Smillie of Kamloops and W. J. Ball of Oliver were at Jasper.

* * * *

From New Westminster and the Fraser Valley the following were at Jasper: Drs. A. W. Bowles, J. Freundlich, J. Margulins, G. S. Purvis, George T. Wilson of New Westminster; A. O. Rose of Langley Prairie; G. A. C. Roberts and A. R. Wilson of Chilliwack.

* * * *

The Vancouver contingent in attendance at Jasper: Drs. A. W. Bagnall, F. C. Bell, Murray Blair, Harold Brown, Gordon Burke, W. B. Burnett, H. H. Caple, John Christie, C. E. Davies, J. C. Farish, G. E. Gillies, W. L. Graham, J. E. Harrison, F. S. Hobbs, A. W. Hunter, R. P. Kinsman, G. E. Langley, G. H. Lee, W. T. Lockhart, A. J. Mac-

Lachlan, Lachlan MacMillan, A. Y. McNair, J. McNichol, A. B. Manson, G. O. Matthews, M. Morrison, D. F. Murray, J. R. Naden, K. D. Panton, G. A. Petrie, Lois Stephens Poole, Gustav Schilder, G. E. Seldon, A. H. Spohn, D. E. Starr, G. F. Strong, J. A. Sutherland, Douglas Telford, J. C. Thomas, Ethlyn Trapp, S. E. C. Turvey, D. H. Williams.

* * * *

Major B. H. Cragg, formerly of New Westminster, now serving with the R.C.A.M.C. overseas, was married last month.

* * * *

SPECIAL LUNCHEON ON JUNE 24th

Brigadier R. M. Gorssline, D.G.M.S., Ottawa, Colonel Duncan Graham and Lieut.-Col. Wallace Wilson, D.M.O., M.D. No. 11, addressed a Luncheon on June 24th. Over one hundred and fifty heard these speakers.

Brigadier Gorssline told of what he had seen in Great Britain and of the completeness of the medical set-up. Those who served during the last war were much interested in the changes which have been made.

LIBRARY NOTES

RECENT ACCESSIONS TO LIBRARY

Transactions of the Section on Ophthalmology, A.M.A., 1941.
Transactions of the Section on Laryngology, Otology and Rhinology, A.M.A., 1941.
Epilepsy and Cerebral Localizations, 1941, by Wilder Penfield and Theodore C. Erickson.
Year Book of General Medicine, 1941.
Year Book of General Surgery, 1941.
Year Book of Neurology, Psychiatry and Endocrinology, 1941.
Year Book of General Therapeutics, 1941.
Surgery of Modern Warfare, 1941. Edited by Hamilton Bailey.
Collected Papers of the Mayo Clinic and Mayo Foundation, vol. 33, 1941.
Medical Clinics of North America, Symposium on Gastro-intestinal Diseases, New York Number, May, 1942.
Handatlas der Anatomie des Menschen, 1939, 3 vols. (Gift of Department of Pensions and National Health.)
Time and the Physician, The Autobiography of Lewellys Barker, 1942.
The Baker Memorial: A Study of the First Ten Years of a Unit for People of Moderate Means at the Massachusetts General Hospital. 1941.

STATE JOURNALS

As stated in the June issue of the BULLETIN, a sample index of the various State Journals received in the Library will be published each month in order to acquaint members with the type of material published in these periodicals. This month the contents of *Minnsota Medicine* for June are given:

Health and Safety of War-time Workers: Leverett D. Bristol, M.D., Dr.P.H., New York, N.Y.
Legal Aspects of First Aid by Lay People: C. J. Potthoff, M.D., and Paul Carroll, Judge District Court, Minneapolis, Minn.
The Prevention of Automobile Accidents: Maurice N. Walsh, M.D., Rochester, Minn.
Mechanism of Uveitis: Erling W. Hansen, M.D., Minneapolis, Minn.
Nasal Sinusitis and Orthostatic Albuminuria in Children: W. Ray Shannon, M.D., St. Paul, Minn.
Medico-legal and Sociologic Aspects of Diabetes Mellitus: Archie H. Beard, M.D., Minneapolis, Minn., and John A. Layne, M.D., Great Falls, Montana.
Histaminase in the Treatment of Urticaria and Other Dermatoses: Carl W. Layman, M.D., Minneapolis, Minn.

College of Physicians and Surgeons

President ..... Dr. W. A. Clarke, New Westminster
Vice-President ..... Dr. F. M. Bryant, Victoria
Treasurer ..... Dr. H. H. Milburn, Vancouver

Members of Council—Dr. F. M. Auld, Nelson (District No. 5); Dr. F. M. Bryant, Victoria (District No. 1); Dr. W. A. Clarke, New Westminster (District No. 2); Dr. Thomas McPherson, Victoria (District No. 1); Dr. H. H. Milburn, Vancouver (District No. 3); Dr. Osborne Morris, Vernon (District No. 4); Dr. Wallace Wilson, Vancouver (District No. 3).

Registrar ..... Dr. A. J. McLachlan, Vancouver
Executive Secretary ..... Dr. M. W. Thomas, Vancouver

We print, herewith, an announcement to its employees by the Kootenay Engineering Co. Ltd., one of The Consolidated Mining and Smelting Company of Canada Limited companies, which speaks for itself. Here the Company and its employees, after careful examination, have entered into an arrangement with The Kootenay Lake General Hospital to provide hospital care. A separate arrangement for medical and surgical care has been made with the Medical Services Association (M-S-A).

The management, employees and doctors in this area are to be commended on this forward step in guaranteeing to the individual his liberty in selecting the doctor of his choice. It is also pleasing that the agency—M.S.A.—to the development of which we have given so much thought and time, is recognized by the Company and employees whose welfare service and employer-employee relations are models of progress.

KOOTENAY ENGINEERING COMPANY LIMITED

BRILLIANT, B. C.

To Our Employees:

MEDICAL AND HOSPITAL CARE BY PREPAYMENT

After careful consideration and investigation of plans by which our employees may budget for the cost of Medical, Surgical and Hospital Care, we have entered into an agreement with the Medical Services Association to pay doctors' bills and The Kootenay Lake General Hospital Society to cover Hospital benefits not only for yourself but for your family.

This plan has been selected because it offers the most complete protection of this kind available and is of a character that you cannot purchase as individuals. It provides for early attention and treatment, home, office and hospital visits—consultations—X-ray—services of specialists, and for crippling costs—surgery or operations and hospital costs. You have free choice of physician and surgeon.

The plan is explained in detail in the following pages and is available to all employees.

After deducting the Company's contribution, your bi-weekly contribution (every two weeks) will be deducted from the payroll as follows:

Employees' Bi-weekly Contribution

Single employee	$1.04
Employee and wife	1.48
Employee, wife and children under 18	1.84

Plus an initial registration fee of $1.50 for each employee.

Please report at the office and make application for these benefits.

Services for Medical and Surgical and Hospital care commenced May 24th, 1942, for all employees on the payroll.

G. F. CHAPMAN, *Superintendent.*

DESCRIPTION OF MEDICAL AND SURGICAL CARE SERVICES ARRANGED BY M-S-A

1. Services include: (a) Medical and surgical care by any doctor of medicine in the Province, in the employee's home, in the doctor's office or in the hospital; (b) Consultation Service; (c) Medical and surgical services of specialists; (d) Use of X-ray, other diagnostic aids and laboratory examinations. When an operation is necessary all types of surgery are provided.
2. Medical services necessary to establish *diagnosis* for pulmonary tuberculosis, venereal diseases, mental disorders, drug addiction, self-inflicted injuries and alcoholism are included.
3. Treatment for acute attacks of any chronic disease or condition will be provided or when it is possible that recognized treatment may cure the condition.
4. Treatment is included for acute attacks arising from chronic surgical conditions known to exist at enrolment. When an employee does not know of the pre-existing condition, service is provided.
5. Obstetrical services are included when the mother has been enrolled for ten months, including pre-natal, confinement and post-natal care. ($35.00 paid the doctor and acceptable to general practitioner for maternity care.)

6. Medical and surgical care include professional services or doctors of medicine, but not the furnishing of medicines and drugs, or appliances except those for which no charge is made by the doctor.
7. Liability for services rendered to any one person in any twelve-month period shall not exceed $500.00. Liability for the care of an accident during the first six months of a contract shall not exceed $50.00. (This $50.00 limitation does not apply to sickness and is removed for all employees 6 months after the group joins, irrespective of when they are employed.)
8. Doctors send their bills to the M-S-A—not to the employee.

Exclusions

1. No treatment is provided for known pre-existing conditions or chronic diseases or conditions unless they become acute and require urgent care.
2. Medical and surgical care does not include hospital care, dental (X-ray of the teeth permitted only when the doctor finds it necessary to complete a medical examination), nursing services, eye glasses and examination for glasses. Services do not include a periodic health examination. If, however, the member feels there is something the matter with his health, the service will be provided.
3. Services do not include *treatment* for drug addiction, self-inflicted injuries, alcoholism, defects present at birth, injury from war, or riot, or for diseases and conditions for which care is provided without cost or at a nominal charge by public authorities (for example, pulmonary tuberculosis, venereal disease and mental diseases), or for industrial accidents or occupational diseases covered by any Workmen's Compensation or similar law.

DESCRIPTION OF HOSPITAL CARE
KOOTENAY LAKE GENERAL HOSPITAL

1. (a) Accommodation and general duty nursing care in the public wards of the Kootenay Lake General Hospital when required on account of illness or injury and in operative and maternity cases, and such accommodation and care shall include the use of the operating room and case room.
   (b) The following laboratory service without charge:
   (1) Bleeding and coagulation time;
   (2) Two white cell counts in each case;
   (3) Urinalysis on admission, before and after operation and once a week while the patient is in the hospital and in maternity cases before parturition and after parturition and once a week while the patient is in the hospital.
2. All drugs listed in the British Pharmacopoeia in ordinary use without charge with the following exceptions:
   (1) Biological products not included among those provided without cost in the public health service;
   (2) Expensive drugs of any kind not ordinarily kept in stock at the Kootenay Lake General Hospital;
   (3) All proprietary medicines and preparations.
3. Ordinary general and local anaesthetic agents, listed in the British Pharmacopoeia except nitrous oxide, without charge.
4. Accommodation will be provided in private or semi-private wards, if available, upon payment in advance of the difference between the rates charged for said wards and the public wards.
5. The Society will not provide the services of special nurses, or their board.
6. The Society shall be under no obligation to provide benefits under this agreement in the following cases: (a) Pulmonary tuberculosis after diagnosis as such; (b) Venereal disease; (c) Alcoholism; (d) Insanity; (e) Disease or injury arising out of or resulting from the use of narcotic drugs or intoxicants; (f) Congenital or chronic conditions; (g) Any condition which is known to exist at the date hereof and which it is known requires hospital care.
7. No benefits shall be provided under this agreement in maternity cases for a period of ten (10) calendar months from the date of enrolment.
8. The Society shall be under no obligation to provide benefits under this agreement for more than a total of ninety (90) days in any contract year and one day shall be counted for each person if more than one are in the hospital at the same time.
9. Admission to the hospital will be granted only on the order of a qualified physician except in case of emergency.
10. Nothing contained in this agreement shall affect the right of the Society to require payment for any benefits for the payment of which the Workmen's Compensation Board may be responsible.

General

1. Identification cards will be issued to employees.
2. Services will terminate upon termination of employment but subject to payment of contribution will be continued during temporary layoff.
3. This announcement gives a brief but fair statement of the plan. All provisions of the plan are subject to the contracts between the Medical Services Association and the employer and The Kootenay Lake General Hospital and the employer, which contracts contain additional provisions to those outlined in this announcement.

British Columbia Medical Association

(Canadian Medical Association, British Columbia Division)

President ..... Dr. A. H Spohn, Vancouver
First Vice-President ..... Dr. P A. C. Cousland, Victoria
Second Vice-President ..... Dr. H. McGregor, Penticton
Honorary Secretary-Treasurer ..... Dr. G. O. Matthews, Vancouver
Immediate Past President ..... Dr. C. H. Hankinson, Prince Rupert
Executive Secretary ..... Dr. M. W. Thomas, Vancouver

THE JASPER MEETING

The shades are drawn on a scene which will linger long in the memories of those who were fortunate in attendance at the Annual Meeting of the Canadian Medical Association. Scenery and pleasing environs only enhanced the quality of this meeting.

The Alberta Division did not depend upon the setting for the success of all of the arrangements. The Jasper meeting will always be a high-spot in the story of Alberta's successes.

Of course it was all wonderful, but no one could have predicted its outstanding success. How often one heard it said that some paper or discussion was worth the trip.

Everyone ate too much, but then there was the exercise,—one walked and walked to the various locations that were marked on a cleverly designed map.

The Daily Bulletin was a cheery breakfast eye-opener.

Dr. Gordon Fahrni, President, and Mrs. Fahrni of Winnipeg; Dr. A. E. Archer, President-Elect, and Mrs. Archer of Lamond; Dr. T. H. Leggett, Chairman of Council and Executive, and Mrs. Leggett, made everyone feel that the C.M.A. is one big family.

Dr. Allan Dafoe was there too, and Dr. Hermann Robertson of Victoria. Dr. Robertson is a past-president. There was no better known figure at Jasper. And then there was Dr. M. J. Keys of Victoria. Everyone enjoys his real enjoyment of an Annual Meeting.

Dr. D. Sclater Lewis of Montreal was made President-Elect. The C.M.A. will meet in Montreal in 1943.

Dr. Frank Patch and his charming wife were there too. Dr. Patch is again the Honorary Treasurer.

Dr. A. G. Nicholls was not at Jasper, but he was not forgotten. His resignation as Editor-in-Chief of the *Journal* was accepted and with sincere regret. The well wishes of the profession were passed to him when he was made an honorary member.

It was nice to see Dr. Hugh E. MacDermot, the new Editor of the *Journal*. He is a brother of our own Editor, Dr. J. H. MacDermot. While the *Journal* has lost Dr. Nichols it has gained Dr. H. E. MacDermot. We know him for his scholarly writings.

It was good to see Colonel Duncan Graham and Dr. Roscoe Graham. It seems just right to have Dr. Wilfrid Graham and his brother Roscoe seen together at C.M.A. meetings.

It did not seem right to have such noticeable absentees as Dr. Primrose and Dr. Bazin.

Dr. W. B. Burnett was the recipient of honour as the nominee from British Columbia for Senior Membership in the C.M.A.

Dr. Murray Blair was re-elected to represent British Columbia on the Executive Committee of the Canadian Medical Association.

Dr. Cecil H. Hankinson, the Immediate Past President of the British Columbia Medical Association, was elected as alternate member from B. C. on the Executive Committee of the C.M.A.

British Columbia was represented at sessions of General Council, which were held on Monday and Tuesday, June 15th and 16th, by Drs. C. H. Hankinson of Prince Rupert; A. Y. McNair, Honorary-Secretary-Treasurer; F. M. Auld of Nelson; Murray Blair; E. W. Boak, Victoria; P. A. C. Cousland, Victoria; H. McGregor, Penticton; J. R. Naden, A. H. Spohn, G. F. Strong, D. H. Williams, H. M. Robertson of Victoria, and M. W. Thomas.

* * * *

The British Columbia contingent at Jasper foregathered at a most enjoyable late afternoon party when members from all parts of the Province had a social close-up. Many friends from other Provinces joined in the party and Dr. Hermann Robertson at the piano surrounded himself with a large chorus, and finally closed this happy event with God Save the King.

* * * *

BRITISH COLUMBIA MEDICAL ASSOCIATION ELECTIONS

At the Annual Meeting of the British Columbia Medical Association the following were elected:

President: Dr. A. Howard Spohn.
First Vice-President: Dr. P. A. Cousland, Victoria.
Second Vice-President: Dr. Herbert McGregor of Penticton.
Hon. Secretary-Treasurer: Dr. Gordon O. Matthews.
Five Directors-at-large are: Drs. G. F. Amyot of Victoria, Murray Blair, J. S. Daly of Trail, W. Ewart Henderson of Chilliwack and A. H. Meneely of Nanaimo.

* * * *

Dr. L. W. Kergin of Prince Rupert and Dr. E. J. Lyon of Prince George were at Jasper.

* * * *

The Jasper Meeting of the British Columbia Medical Association was held under the presidency of Dr. Cecil H. Hankinson of Prince Rupert.

* * * *

Dr. Lew Kergin is the representative on the Board of Directors of the Medical Society of Prince Rupert and District. It was good to have him there and he appeared to enjoy it all.

* * * *

Dr. Lyon of Prince George represents the Central Interior Medical Society on the Board of Directors. He and Mrs. Lyon were called back home, unfortunately, much to the disappointment of his many friends.

* * * *

And last but not least we were overjoyed to see "Pat" Routley, who accompanied Dr. and Mrs. Routley to Jasper and the Coast.

FURTHER CONTRIBUTORS TO BULLETIN WAR RELIEF FUND

Dr. L. W. Kergin, Prince Rupert	$10.00
Capt. G. D. Saxton, R.C.A.M.C., Victoria	10.00

CANCER SECTION

TREATMENT OF CANCER OF THE BREAST

The results of treatment of cancer of the breast have been improving slowly as the years roll by. The reasons for this improvement have been a more thorough understanding of the disease and the realization that perseverance and meticulous care of details in the treatment of each and every one of these patients is ncessary. No single method of treatment is adequate in all cases, the treatmennt being selected for the case, not the case for the treatment.

Having established the diagnosis of carcinoma of the breast (preferably so early that a biopsy is necessary) there are five courses open to us. The disease may be left absolutely alone, the tumour may be treated with radium, the tumour may be treated by x-ray, the tumour may be treated by surgery, or the tumour may be treated by a combination of surgery and radiation therapy.

In the first group, it is rare not to treat a case, even if only for palliative purposes. Only in the very aged and extremely infirm, when the patient is going to die before the lesion gets to the ulcerative or bothersome stage, should the condition not be treated. However, even though they are very infirm, radiation therapy alone will often control the lesion and allow the patient to live out his normal span of life, dying perhaps from some other complicating disease.

The second mode of therapy is by the use of radium, and although radium is an excellent means of therapy in some forms of cancer, it is definitely limited by the amount of radium available. In carcinoma of the breast, the areas to be treated are very large and there are few centres in the world where adequate radium is available to treat such large structures.

X-radiation has a very definite place in treatment of carcinoma of the breast. In the large, inoperable cases, where the lesion is too far advanced to be helped by surgery, palliative x-radiation helps greatly in preventing ulceration and the local breaking-down of the tumour. This is distinctly an advantage in many cases. In the preoperative treatment of carcinoma of the breast with x-radiation, the exact status is still a little uncertain and the general feeling at the moment is that we cannot say that it is of definite value in all cases. However, postoperative x-radiation is indicated in almost all cases and should be carried out where at all possible. It definitely prevents local recurrences and, in many cases, prolongs the life of the moderately widespread cases for many years. In other cases, it gives the added touch that effects the cure of the patient.

Surgery is the most common form of therapy for carcinoma of the breast. The generally accepted surgical procedure is the radical amputation of the breast with removal of the pectoralis major and pectoralis minor muscles and dissection of the glands of the axilla. This operation is a very detailed and meticulous one and should be carried out with great thoroughness. The incision should be adapted to the site of the tumour and either a right oblique or left oblique or a transverse incision should be carried out. Large areas of skin should be sacrificed in the immediate area around the tumour as the spread of the cancer is in the subcutaneous lymphatics. The fascia of the upper portion of the rectus muscle should be removed as should the fascia of the serratus anterior and the subscapular muscles. Of course, the axillary vein and axillary artery should be stripped and cleaned of all loose tissue and the lymphatic structures in this region should be removed with extreme care, remembering that the leaving of one cancer cell in this region will sacrifice the life of the patient.

The combination of radiation therapy and surgery is being used very commonly and has been discussed under x-radiation therapy.

The physician must remember, however, that notwithstanding heroic forms of surgery and million volt x-ray machines, more lives are saved by early diagnosis than by all other methods combined.

UPPER ISLAND MEDICAL ASSOCIATION—SPRING MEETING—QUALICUM

A well attended dinner meeting of the Upper Island Medical Society was held on May 27th, at the Qualicum Beach Hotel. Dinner was served in the Hotel, after which the members repaired to the comfortable Club Room for their scientific and business session. Some twenty doctors were present and all agreed that this meeting was one of the most pleasant and profitable in the history of the Society.

After a short business session, papers were delivered by Drs. Thomas McPherson and A. B. Nash, both of Victoria. Dr. McPherson dealt in a very practical way with the records and experiences with perforated peptic ulcer in Victoria, and he emphasized among other things the great desirability of early diagnosis and operation. Dr. Nash dealt with Caesarean section, its indications, etc., laying special emphasis upon the careful evaluation of all factors before embarking upon this spectacular but not undangerous operation.

At the conclusion of the addresses, Dr. Thomas, our genial general secretary, gave a short address, stressing the Jasper meeting. During the progress of the meeting, Dr. E. N. East of Qualicum Beach arrived with the news that he had just become the father of a fine baby boy. Dr. Glenn Simpson of Victoria was an interested visitor. At the conclusion of the meeting a hearty vote of thanks was extended to the speakers and to the general secretary, Dr. M. W. Thomas.

* * * *

NANAIMO MILITARY HOSPITAL

On June 22nd, 1942, at the regular clinical meeting at the Nanaimo Military Hospital, a very interesting address was given by Lieut.-Col. H. A. DesBrisay, on some of his experiences and impressions gained while overseas. The meeting was largely attended by the Medical Officers of the Military Camp and the practitioners of Nanaimo. At the conclusion of the meeting, Lieut.-Col. Lees moved a vote of thanks to the speaker, extending the appreciation of the audience for a most interesting evening.

THE KELLER OPERATION

By Donald E. Starr, M.D.

In general, bunions and hallux rigidus arise from several causes. The congenital type may be due to an excessively long first toe or may occur with normal bony structure but show an early tendency in childhood to hallux valgus with a secondary exostosis of the first metatarsal head. In the event of an absence of the second toe, there may also occur hallux valgus with subsequent exostosis of the first metatarsal head because of the lack of support afforded th efirst toe by the second. Far more common, however, are the adult types. These vary in degree from the simple exostosis with very little hallux valgus to the extreme degree of angulation of the great toe with a massive overgrowth of bone on the first metatarsal head along the medial border. This type may also produce bone in all directions of the joint, causing considerable enlargement in general.

In most cases, there is found to be a broadening of the metatarsal region with considerable dropping of the metatarsal heads and some tendency to dorsal contracture of the remaining toes. In some cases, the dorsal contracture may be a dominant feature; and in these usually the foot is short and extremely broadened with the great toe in about thirty degrees of valgus. It is not unreasonable to believe that this is often due to faulty footwear and short shoes during the growing age. Other deformities are the direct result of arthritic disease and apparently, where the metatarsal-phalangeal joints are involved, the first usually appears to be the earliest and most extensively destroyed.

Wherever an exostosis occurs, a bursa is usually found overlying, and this may be the primary complaint rather than the massive deformity. As already stated, the loss of other toes of the foot may be the primary cause of the deviation of the great toe and the broadening of the metatarsal region. This has also been described as a congenital factor.

The anatomy of the forefoot and especially of the metatarsal-phalangeal joint is such that with broadening of the metatarsal region and deviation into a valgus position of the great toe, the extensor tendon then does not cross the mid point of the first metatarsal head but tends to increase the deformity by bow-stringing the metatarsal-phalangeal joint. To augment this deformity, the adductor hallucis has a constant pull on the base of the proximal phalanx on the lateral aspect, and as the metatarsal heads separate, the adductor tends to pull the base of the great toe laterally. Since the hinge is through the metatarsal-phalangeal joint, the toe angulates into a valgus position.

The second stage is an overgrowth of bone on the medial aspect of the metatarsal head with overlying bursa formation and thickening of the skin. The extensor tendon gradually shortens as the deformity increases, thus preventing correction by anything but surgical means. Where the great toe is unusually long, the deforming factor caused by the shoes, and especially if short, is greatly augmented.

A word should also be said about hallux rigidus. This condition is one of advanced periarthritis and arthritis of the metatarsal phalangeal joint without deviation of the great toe. In this case the proliferated bone is usually thrown down on the superior surface of the joint so that it causes a bone block and prevents dorsiflexion. The limitation of dorsiflexion is far more disabling than that of plantar flexion, since with the ordinary course of walking and the take-off, weight must be borne on the first metatarsal head with dorsiflexion of the great toe. If this is impossible, the patient must walk around his great toe. In this case, if bursal formation is present, it is over the massive proliferated bone either on the dorsum or medial aspect or on all aspects of the metatarsal-phalangeal joint.

The Types of Operation

The procedure of choice in any bunion is directly proportional to the amount of deformity. There are very seldom any instances where the bursa alone should be removed since it is invariably present over exostosis and will recur should the exostosis not be removed. In the case of an infection of the bursa, no more than drainage can be attempted at the first exploration. The bursa should never be completely resected in any of the following procedures since this produces more scarring. Eventually, if the cause is removed, the bursa will subside and give no further trouble.

A simple exostosectomy may be the procedure of choice in a younger person or in any individual where the exostosis is the deforming factor and where there is no limitation of motion at the metatarsal-phalangeal joint and no hallux valgus.

Arthroplasties of the metatarsal-phalangeal joint are many, and usually comprise insertion of the capsule or of fascia taken from the thigh or of some other material such as amniotic membrane to produce a new moving joint in a previous arthritic one. Such procedures are usually associated with recurrent limitation of motion and extreme disability with pain.

Excision of the metatarsal head has been advocated by many operators, and does undoubtedly increase the amount of motion at the time.

Wedge resection of the metatarsal head has also been advocated, so that the angulation may be corrected through the metatarsal head.

Tendon transplants in an attempt to re-align the great toe are also described.

A combination of these procedures is often indicated for severe cases. In the case of a Silver operation, the circular flap of bursa is inserted into the joint after removal of the exostosis to produce an arthroplasty. The Mayo procedure advocates removing the head of the metatarsal and inserting a flap of fascia between the head and the base of the proximal phalanx. Porter advocates resection of a large portion of the metatarsal head and division of the extensor hallucis longus tendon with plication of the medial

capsule to re-align the great toe. Fowler's procedure is somewhat similar to Porter's except that he does a partial resection of the phalanx and of the head of the metatarsal and transplants the extensor hallucis longus tendon to re-align the phalanx in general. Girdlestone removes all the proximal phalanx except the base, which is then attached to the head of the metatarsal with a bone peg in general re-alignment of the great toe. The McBride procedure, which is somewhat difficult, depends entirely on a soft tissue plastic operation in which the lateral sesamoid is removed and the adductor hallucis tendon is resected from the base of the phalanx and transplanted into the lateral border of the head of the metatarsal. Lapidus believes that the deformity is primarily in the metatarsal-cuneiform joint and so re-aligns the first metatarsal in adduction and fuses the metatarsal-cuneiform joint with added bone chips.

The operation herein described was first advocated by Davis Colley in England but was not popular until reported by Keller in 1912 when he described it in the New York Medical Journal. The operation is indicated for severe hallux valgus and severe hallux rigidus, but may be attempted in any deformity where the hallux valugus and exostosis with limited motion of the metatarsal-phalangeal joint is found.

The operative procedure is based chiefly on the principle that freely moving metatarsal-phalangeal joints are essential to absence of pain following the operative procedure; and secondly, that the weight-bearing surface of the metatarsal head is not disturbed. The procedure is a simple one in which a straight medial incision is made, carrying sharp dissection down through the bursa to the region of the metatarsal-phalangeal joint, where a subperiosteal dissection is done to expose the exostotic head. The exostosis is removed so that slightly less bone is taken plantarwards than dorsally to preserve the weight-bearing surfaces of the metatarsal head and the sesamoid articulation. The proximal phalanx is then completely resected for a distance of three-quarters of an inch distally and here is divided transversely. No attempt is made to place any fascia in the joint and no skin or bursa is removed at the time of the operative procedure. Dressings are applied so that the great toe is held in moderate adduction, and no plaster is necessary. The patient is then instructed to exercise the great toe in a piston motion for two or three months following operation and commencing at the second day. The patient is also advised to wear a wide and straight last shoe to which, if necessary, a metatarsal pad is added. The end result produces a slightly short great toe but with a freely movable metatarsal-phalangeal joint, with little or no tendency to recurrent stiffness. The operation is chiefly advocated since most of the other plastic and reconstructive procedures eventually produce in part limited motion and recurrent pain. Due to the simplicity of the procedure and the lack of disturbance of weight-bearing surfaces, the patient is able to walk within two to three weeks and is usually rehabilitated within two months.

BIBLIOGRAPHY

1. Campbell: Operative Orthopaedics.
2. Keller: New York Medical Journal, 1912.

CURRENT TRENDS IN COMMUNICABLE DISEASE CONTROL

J. S. Kitching, B.A., M.D., D.P.H.
Assistant Senior Medical Health Officer,
Metropolitan Health Committee.

The War has sharply focussed our attention on the health of the armed forces and the civilian population. Human wastage due to preventable disease is a sign of the failure of the community to avail itself of specific measures designed to prevent disease. Physicians and Health Departments are the guardians of the Public Health and must, at all times, utilize and promote preventive measures to curb the spread of epidemic disease. Are we doing our duty in this regard and can we do more?

It is realized that we are living in abnormal times. The soil favourable to the spread of infection is being well cultivated; new communities are arising, populations are shifting. From past experience we know that epidemic disease follows in the wake of abnormal changes in community life. Already, since the outbreak of the War, three important epidemic diseases have shown signs of increase in the Vancouver Metropolitan Area—Meningococcus Meningitis, Diphtheria and Scarlet Fever.

Diphtheria.

For the first time in history, Vancouver (1940) was free from Diphtheria. The Health Department, during the past twelve years, has vigorously promoted the use of Toxoid and the gradual reduction in cases has been, in the main, attributed to the generous co-operation which the physicians of the Metropolitan Area have shown in this programme. About 70% of our school children have been given Toxoid and we do not fear a major epidemic. However, during 1941, one case of Diphtheria and one carrier were found in the Metropolitan Area. During 1942, to date, there have been eight cases and fourteen other carriers discovered. The signs are that Diphtheria is increasing, not only here, but in all parts of Canada. Dominion figures indicate that up to the end of March, 1942, 780 cases have been reported in Canada; 675 were reported over the same period in 1941 and the median figure for the same interval, 1937-41, was 558.

In Toxoid we have a powerful instrument to prevent diphtheria. Every baby during the first year of life should receive three doses of toxoid. A reinforcement dose of toxoid should be given to all children entering school, who have received toxoid more than four years previously. A suitable reinforcing dose of toxoid is 0.1 c.c., given subcutaneously. It is not necessary to do reaction or Schick tests in young children prior to giving this dosage, unless the history indicates a previously severe reaction to this product. For children over ten years of age and adults, it is preferable to perform a reaction test, or better still a Schick test, to gauge susceptibility and reactivity before giving toxoid. Even for the severe reactors, immunization may be carried out by the administration of "dilute toxoid." *It is unsafe to guarantee permanent immunity against diphtheria following the administration of toxoid.* The occasional case may develop, particularly after five years from the original inoculations, but it is felt that once a child receives the required dosage of toxoid it is less likely to develop the disease, even in adult life, than its unprotected neighbour. And again, a Schick test performed in later life, with reinforcement if necessary, will provide a continuance of immunity. We advise reinforcement of immunity against smallpox, which is commonly termed revaccination; why not also against diphtheria? It is both practical, profitable and health saving.

Physicians are urged to be on the lookout for diphtheria. Remember that diphtheria begins in the majority of instances with a sore throat or a running nose, particularly one showing a sero-sanguinous discharge.

Practical procedures regarding cases or suspected cases of diphtheria.

1. Take separate nose and throat cultures. The outfit for taking cultures may be

obtained from the Division of Laboratories, Provincial Board of Health, 763 Hornby Street, Vancouver, B. C.

2. Take cultures of family contacts.

3. Give antitoxin for treatment if in doubt, and for contacts a sound procedure is first to Schick test all family contacts as soon as a case is diagnosed or suspicion aroused. A preliminary 40-hour reading will determine the present immunity in the majority of cases and may obviate the necessity of giving prophylactic antitoxin, even if cultures are reported positive. The administration of prophylactic antitoxin should not, however, be delayed if clinical suspicion is aroused that the contact may be developing diphtheria. Daily visits should be made to watch contacts and under these circumstances the indiscriminate use of antitoxin may be avoided. The disease is one for which the attack rate is relatively low and the free use of prophylactic antitoxin only adds to the mounting toll of persons already serum sensitive. Always enquire before giving antitoxin if horse serum in any form has previously been given and if the subject is prone to eczema, hay fever or asthma. To such, antitoxin should be given *with caution.*

4. Notify the Health Department. Premises in which Diphtheria is found are quarantined. If the case or carrier is removed to Hospital, contacts are isolated until negative nose and throat cultures are reported. If thecase remains at home, all contacts are isolated until such times as the case ond contacts are shown to be negative. Breadwinners with negative cultures may work if separate quarters are available which are satisfactory to the Medical Health Officer.

Cases and carriers are isolated until *three successive negative* nose and throat cultures are obtained, taken not less than 24 hours apart. The present regulations governing isolation and quarantine for communicable diseases require only two negative cultures for release. Present experience makes it desirable to require three negative cultures and more at the discretion of the Health Department if persistently positive reports, or a succession of alternate positive and negative reports, are received.

5. Contacts who have been given prophylactic antitoxin should be urged to have toxoid, as passive immunity conferred by antitoxin is but temporary.

Meningococcus Meningitis.

Epidemic meningitis is sometimes called a disease of war. Certainly from past experience meningococcus meningitis has played havoc with both civilians and members of the armed forces during times of struggle. The same is true in the present war, although mortality rates have not been high, largely because of early diagnosis and the institution of adequate treatment with sulphonamide products. A recent article by Curtis[1] emphasizes the clinical angle and treatment. However, a glance at recent statistics portrays the extent to which this disease has developed.

During the first three months of 1942, 266 cases of meningococcus meningitis have been reported in Canada; in 1941 for a comparable period there were 573 cases and the median figures, for the period 1937-41, show but 38 cases. The following table illustrates the local incidence over the past few years.

EPIDEMIC MENINGITIS—VANCOUVER METROPOLITAN AREA

	Cases	Deaths
1938	0	0
1939	2	0
1940	11	0
1941	57	8
1942 (to May 12)	20	3

Ninety cases and twelve deaths. Fifty-nine per cent of cases and 50 per cent of deaths occurred between 10 and 40 years of age. Sixty-two per cent of cases and 75 per cent of deaths occurred in males. Only three females died, one aged 16 months, one aged 3 years and one aged 54 years.

Meningococcus meningitis has attacked all ages, with particular emphasis on the productive age groups. It has developed among all walks of life, its distribution in the area has been spotty and there has been no indication of localized concentration of cases at any given time. Secondary cases in families or groups have not been reported. However, we have reason to believe that the incidence of healthy carriers, and possibly abortive cases, has been high, especially among close contacts. It would appear that the average individual has a good chance of avoiding disease, if not infection, and many cases in the early stages recover spontaneously. Attention should be focused on the preliminary respiratory symptoms which often usher in the attack of meningitis. Symptoms referable to the nasopharynx, together with a fluctuating temperature, severe headache, nausea or vomiting should make one suspicious of early meningitis; rigidity of the neck and spinal column or the occurrence of petechiae should be cause for immediate spinal puncture and bacteriological examination of the suspect fluid. All cases should be hospitalized. Under early, adequate treatment, the majority do well and except for the few fulminating cases, the outcome is favourable.

A word about examination of the nasopharyngeal flora for the presence of meningococci. The presence of the meningococcus may be expected in the nasopharynx of immediate contacts and also among the population in general, during an epidemic. The fact that the virulence, or disease producing power, of the germ is relatively low, especially among home contacts, would seem to indicate the limited value of taking nasopharyngeal cultures for diagnostic purposes.

Cultures are difficult to take. The swab must not touch the mucous membranes of the mouth or oral pharynx. Meningococci live above the level of the palate in the nasopharynx and the contamination of a swab with saliva is apt to make difficult the detection of the specific germ. Also the culture must be *immediately* transferred to suitable media and incubated, if the organism is to be recovered. Meningococci do not live very long on a dry swab. Laboratory confirmation is also difficult. The germ must be differentiated from avirulent types, such as microccus catarrhalis, by cultural and sugar reactions, and the true virulence of the suspect germ should be determined by mouse inoculation. This all takes time.

We do not, therefore, recommend the taking of nasopharyngeal cultures as a practical measure in controlling the spread of the infection. The isolation only of those contacts showing positive cultures is again a dubious procedure because negative cultures would have to be obtained before release, and one cannot, with any degree of certainty, tell when the organisms will disappear, and certain persons might be isolated for terms equivalent to jail sentences, without sufficient justification. Such a practice tends to give a feeling of false security. Present regulations call for quarantine of home contacts for ten days following the discovery of disease.

The use of sulphonamide drugs as a means of prophylaxis and for treatment of "carriers" has gained some prominence. Fairbrother[2] gave carriers 4 gm. of sulphapyridine on the first and second days and 3 gm. on the third and fourth days. Nasopharyngeal swabs were collected before and after such treatment. It was stated that adequate treatment with the sulphonamide series is a satisfactory method of clearing meningococci from the nasopharyngeal mucosa.

However, the indiscriminate use of these drugs for such purposes is not recommended, except under carefully controlled conditions.

Epidemic meningitis is essentially a respiratory disease. The infection enters and leaves through the respiratory tract and direct droplet infection is believed to be the mode of spread. Therefore, it would seem most reasonable to emphasize the absolute necessity of covering the nose and mouth when sneezing and coughing, and of washing the hands frequently. This is sound health practice and is probably the most efficient way of limiting the spread of this and other diseases through respiratory tract discharges.

Other factors which contribute to outbreaks of epidemic meningitis are overcrowding in living or working conditions, over work, over fatigue and not enough rest, adequate food, recreation and outdoor life. The mass movement of peoples from one

part of the country to another adds another factor which makes for increased spread through healthy carriers. War workers especially should be protected. Plant physicians should, through educational efforts, be able to limit the spread of this and other communicable diseases.

Scarlet Fever.

During the past decade, scarlet fever has been relatively mild. There have been no deaths reported from scarlet fever in Vancouver since 1937, although in 1938 there were 485 cases—a big year. The disease has died down in the interval, but this year has again seen a considerable increase. Following are informative figures.

INCIDENCE OF SCARLET FEVER—METROPOLITAN AREA

Age Group (years)	Year 1941	1942 (up to May 12)
0 - 9	87	92
10 - 19	57	67
20 - 29	22	24
30 plus	11	21
Totals	177	204

There have been more cases during the first four months of 1942 than for the entire year 1941. Fortunately, the disease has been relatively mild, but future ill effects of present illness cannot be easily assessed. Seventy-nine per cent of cases occurred under 20 years of age. The single largest age group affected is under ten years of age. Scarlet fever would then appear to be a disease primarily of youth.

Over the years our conception of scarlet fever has changed. As Gordon[3] has said, "Scarlet fever becomes a streptococcus problem and not one of rashes." Two components exist, the invasive power of the streptococcus which produces the initial sore throat and bacterial complications, and secondly, the toxigenic power which results in a demonstrable rash and produces complications affecting the nervous system, myocardium, etc. In typical scarlet fever both factors are at work. It must be remembered that the streptococci associated with scarlet fever may, in certain individuals, particularly older children and adults, produce invasive symptoms and signs only—a sore throat without the development of a rash. These individuals are presumably immune to the toxigenic components of the germ. It is not inconceivable that such immunity may dveelop through stimulation of antitoxin-producing centres by repeated small doses of infection over a period of years. In the realm of specific resistance antitoxic immunity against disease may be more fimly established by artificial means than can antibacterial immunity. Our best example of this is diphtheria toxoid.

A high level of antitoxic immunity follows an infection with scarlet fever streptococci, but this initial infection does not produce an immunity against future invasion by the streptococcus. In other words, a child may have scarlet fever and yet not be immune against subsequent septic sore throat infections, or against puerperal sepsis in later life.

However, it is with the younger group that we are primarily concerned. We must accept the evidence that streptococcal rashes (scarlet fever) occur with greater frequency among children. Restrictive legislation requiring the isolation of an individual with scarlet fever for at least one month is perhaps unjustifiable, if others with similar infections without rashes are allowed to circulate. We look forward to the day when this discriminatory attitude will be changed and a broader view of the situation will develop. The only justification for the long term isolation of scarlet fever is to limit the spread of the infection, although Top[4] states that exposure to a case is likely to result in disease but once in about twenty times. Admittedly a huge reservoir of streptococcal infection is always with us and common sense dictates that individuals suffering from streptococcus infections, be they sore throats or scarlet fever, should be dealt with in accordance with the ability to disseminate infection. The routine taking of throat cultures for streptococci is not advised, unless this is followed through and correlated with clinical findings. Throat cultures should be corroborative and not diagnostic.

Considerable controversy exists regarding the use of scarlet fever toxin as an active immunizing agent against scarlet fever. The immunity produced is purely antitoxic. Some suggest that a community programme of immunization would result in obscuring the most valuable diagnostic sign of scarlet fever, namely the rash; and again future protection against the invasive power of the streptococcus could not be guaranteed. These arguments are not altogether valid. If we were sure that all cases of streptococcus infection were diagnosed early and segregated, it might not be wise to obscure a valuable diagnostic sign, but it is well known that all cases of sore throat are not brought to official attention and most are not isolated at all. It must also be realized that if an individual possesses an antitoxic resistance against streptococcic infection he will at least be protected to such a degree that the severity of the disease will be lessened. Scarlet fever of the toxic type is not infrequent. A pertinent objection to the use of scarlet fever toxin is the large number of doses required and the reactions which not infrequently occur. Our experience has been that a modified dosage of the antigen, particularly of the first three doses, will reduce the severity of reactions, and even in adults it is quite possible to complete the series.

While, at present, the disease is too mild to warrant a community-wide campaign against scarlet fever, yet it is felt that the procedure itself is sound. It would be unwise to refuse immunization against scarlet fever, particularly to young children. The Dick Test is a useful means of gauging immunity, particularly in children over ten and adults. Anderson[5] showed that Dick positive nurses had a thirty times greater incidence of scarlet fever than those Dick negative. He recommends active immunization of nurses. Others who deal with groups of children should also be immunized.

Physicians have a responsibility to the community in preventing disease. The Health Department inaugurates and carries through programmes designed to prevent the spread of disease, and specific protection afforded by immunization is the focal point of such programmes. Therefore, all whose duty it is to combat disease should work together in common effort and with a consistency of action. It is hoped that the following recommendations may be useful in co-ordinating this effort.

Every child during the first year of life should be protected against whooping cough, diphtheria and smallpox. Whooping cough vaccine is recommended after the fourth month of life—particularly to prevent or modify whooping cough during the first three years, which is the most dangerous span of early life.

Every individual should be revaccinated against smallpox every seven years. The majority of individuals will suffer no discomfort from revaccination at this time and immunity will be reinforced. Individuals revaccinated at longer intervals will suffer reactions in proportion to their loss of immunity.

Every child receiving toxoid more than four years previously should, on entering school, receive a reinforcing dose of diphtheria toxoid. Older children and adults may be given toxoid or reinforcing doses. A Schick test is recommended before this is given.

Scarlet Fever toxin may be recommended during the second year of life in an immunization time table. This is a measure designed to preserve the health of young children who have yet to pit their puny strength against the inroads of streptococcal infection.

Individuals exposed to typhoid or parathyroid fever, or those whose food, water and milk supplies are insecure, should be immunized with the triple vaccine. This may also apply to those who do much travelling. Reinforcement of immunity may be obtained by the giving of 0.1 c.c. of triple vaccine intracutaneously every two years. This small intracutaneous injection is effective[6] and renders negligible the danger of general reactions.

REFERENCES

1. Curtis, E. J.: Meningogococcus Meningitis, *Bull Vanc. Med. Assoc.*, 18:93, Dec., 1941.
2. Fairbrother, R. W.: Cerebro-Spinal Meningitis, The Use of Sulphonamide Derivatives in Prophylaxis, *Brit. M. J.*, 21:859, Dec., 1940.
3. Gordon, J. E.: Public Health Practice in Scarlet Fever, *Pub. Health Nursing*, 32:651, Nov., 1940.
4. Top, H. F.: *Handbook of Communicable Diseases*, C. V. Mosby Co., 1941, p. 68.
5. Anderson, G.: The Present Status of Scarlet Fever Prevention, *New England J. Med.*, 213:5, 203, August, 1935.
6. Longfellow, D., and Luippold, G. F.:Typhoid Vaccine Studies, Revaccination and Duration of Immunity, *Am. J. Pub. Health*, 30:1311, Nov., 1940.

METHODS FOR THE DIAGNOSIS OF NUTRITIONAL DEFICIENCIES

A. E. C. Riggs, M.A., M.D., D.P.H.
School of Hygiene, University of Toronto.

The recent rapid advances in our knowledge of nutrition, particularly in the field of vitamins, has made the problem of nutritional therapy a difficult one for the physician. There have been no adequate means of determining the status of a patient in regard to all these accessory food factors. As a result vitamin therapy has been administered by the physician on a purely empirical basis, and demanded by the public on no grounds whatsoever. This, of course, does not apply to the advanced stages of frank vitamin deficiency which are well marked and well studied clinical entities. These remarks are only applicable in cases of presumed subclinical deficiencies where the symptoms remain vague and the treatment of necessity somewhat haphazard.

To provide a sound basis for treatment we all realize the necessity for finding means of diagnosing these nutritional wants in an earlier stage than they can now be recognized by the usual clinical methods. This has led to a great deal of research with a view to the developing of specific tests. Much of this work has not proved very useful to date, but a number of special methods for detecting minor degrees of deficiency have reached a point where they may be found acceptable to the physician as aids to diagnosis.

Before mentioning these specialized procedures I would like to discuss the more general methods employed in seeking information on the state of an individual's nutrition.

The first and most obvious method of attacking this problem is the study of the patient's diet. This is not an easy matter as a rule, you have no means of keeping a person under observation for a long enough period to acquire a knowledge of his average normal diet. You must depend on the patient himself to supply you with this information.

The common practice of asking the patient what foods he eats and what quantities of these he consumes is, as you will all appreciate, very unsatisfactory. There is only one way to obtain an even reasonably accurate picture and that is to have your patient write down meal by meal all the food he eats during a given period.

There is so much daily variation in both the type and amount of food taken that the record of one day's meals cannot give you an accurate estimate of the average diet. It is necessary to take a longer period. It has been found that a week is the normal cycle, the food consumption over the week-end usually exceeding that of week days. So in order to get a true perspective the total food intake, for a whole week, preferably an average one, should be recorded. The simplest method of accomplishing this is to give your patient a booklet with a page for each day in the week and ask him to enter the kind and amount of each article of food consumed throughout the day. The use of such headings as breakfast, between breakfast and noon meal, noon meal, etc., remind him to record those often forgotten between meal snacks. Keeping such a record need not be an arduous task if ordinary household measurements be used in judging quantities. With the aid of a standard food table these quantities can be converted to grams and the diet calculated. The information gained will give you a reasonably accurate estimation of the total calories, protein, fat, carbohydrate, calcium, phosphorus, iron, vitamin A, thiamin, riboflavin and ascorbic acid content of the diet. Having obtained the amounts of these various factors, it only remains to compare them with standard nutritive requirements in order to see where your patient's diet is at fault. A very satisfactory standard is the table of Recommended Daily Allowances drawn up by the committee on foods and nutrition of the American National Research Council (*J.A.M.A.*, June 7, 1941).

In connection with the medical history and physical examination, there is little I need suggest to you except that it be complete. Some very useful information can be gained if particular attention is paid to all the signs and symptoms suggestive of

nutritional wants. Many of these are so often overlooked because their value is not appreciated. None of these are in themselves diagnostic, they are only indicative, but they may give a valuable clue to the condition, which an analysis of the diet and performance of special tests, where these are available, may confirm. For a complete list of these suggestive signs and symptoms, I refer you to the *Journal of the American Medical Association* for February 21st of this year.

There is one other point worth mentioning here. Broadly speaking, there are two main types of cases where the investigation of the diet is of real value. One is the chronic patient with many vague symptoms but no organic lesion. Frequently a correction of the dietary habits of such a person will produce very satisfying results without the aid of artificially added vitamins. The other type is one where an already diagnosed disease process is interfering either with the normal consumption of food or with its normal absorption or utilization, thus complicating the condition with a superimposed nutritional deficiency. In this connection, the chronic patient on a long standing restricted diet for therapeutic purposes is very liable to develop deficiencies due to the limitation or absence of some vital factor in the food. It takes an all around diet to provide the required amounts of all essential elements. There are cases where vitamin supplements are often of the most value.

Many of the special tests for dietary deficiencies being used extensively today are new, others are well known, time-honoured procedures with which you are all familiar.

The estimation of serum albumin by the Kjeldahl or biuret method may prove valuable in special cases where an analysis of the diet shows a consistently low protein intake.

The mineral content of the diet is unlikely to be wanting in essential elements except for iron, calcium and iodine. These are frequently found to be inadequate. For iron and calcium, estimations may be made. Calcium will be mentioned in connection with vitamin D. For detecting iron deficiencies the value of doing a routine hæmoglobin by a reliable method, you all realize. But hæmoglobin alone is not enough. To get a true picture of the blood a red blood cell count and a packed cell volume are advisable. This latter is easily obtained by centrifuging the oxalated blood in a capillary tube. The combination of the three determinations gives a much more comprehensive view—the distribution of hæmoglobin in the cells, their size, as well as their number. This is a more accurate means of estimating the size of cells and the cell content of hæmoglobin than can be obtained from the examination of a stained smear alone.

Three methods of investigating vitamin A deficiency have been in use. But in their present form none of these have proved very satisfactory.

The most widely used has been the adaptometer for the detection of night blindness or limitations in night vision. Its use is based on the essential part played by vitamin A in restoring the visual purple of the retinal rods and comes after it has been bleached by light. As night vision is dependent on the normal functioning of these organs, the level of the visual threshold in dim illumination should indicate the adequacy of the vitamin A supply in the body, where other factors influencing visual sensitivity have been eliminated. However, in actual practice, owing to technical difficulties, there is a lack of correlation between results obtained on different instruments. The introduction of correction factors for the various instruments might eliminate this error. But so far no standard for the normal has been universally accepted. The standards used are arbitary, usually determined by response to large doses of the vitamin, the normal being set at the point where vitamin dosage shows no improvement in the readings. One other objection to this test lies in the discrepancies between the adaptometer readings and the known amounts of vitamin A present in the diet.

The second method employed in determining the vitamin A status of an individual is the estimation of the blood vitamin A and blood carotene. Technically these determinations are quite satisfactory but as their true significance is not yet understood, they are not practical at the moment.

The most recent method of attempting to find early vitamin A deficiency is based on the epithelial changes known to occur where this vitamin is absent from the diet. It is an examination of the conjunctiva of the eye under the biomicroscope. Undoubtedly epithelial changes of the conjunctiva can occur in deprivation of this vitamin with the eventual development of xerophthalmia. The suggested early signs of vitamin A want are an extension and engorgement of the vascular network, with increasing degrees of thickening in the conjunctival layers producing variations in the density, and hence, the transparency of these layers. These alterations produce an epithelium which becomes translucent or even opaque. The thickening and piling up of these denser tissues produces grossly visible surface changes in the color and smoothness of the conjunctiva, one manifestation being localized raised opaque areas known as Bitot's spots. Such changes are quite apparent in a large portion of the persons examined but there is little evidence to associate them solely with vitamin A deficiency. In fact they are present in varying degree in most adults although vitamin A is rarely inadequate in their diets. There has been no confirmation of the report by Kruse, that these changes regress on long continued heavy vitamin A dosage. So for the present we cannot rely upon this test.

Of the many components of the vitamin B group only four have been proved essential to the human dietary: thiamin, riboflavin, nicotinic acid and biotin. As yet no means of determining nicotinic acid deficiency, other than the therapeutic test, has been devised, and there is no authenticated method for biotin.

For thiamin deficiency there has been no approved method in the past. But as Dr. McHenry suggested to you,* the estimation of blood pyruvic acid forms the basis for a logical test. This is still in the experimental stage but reports of such determinations carried out on large groups of persons, both healthy individuals and those known to be suffering from thiamin deficiency, appear to be very satisfactory. As a micro method, requiring only a few drops of blood, has been developed, the scope of this test is increased. The test itself is quite simple. After taking the blood sample to determine the fasting level of blood pyruvate, a test dose of glucose is given and blood samples taken at regular intervals. The results give a curve similar to that obtained for blood sugar, with an elevation of the pyruvate following the ingestion of the glucose. This gradually falls in normal persons, until the fasting level is reached. In cases of known thiamin deficiency the fasting blood pyruvate is found to be high and after glucose administration give a diabetic type of curve. If this method proves as successful as it appears to be, it should be a great boon to the practising physician, who will then have a sound basis for the therapeutic administration of this much abused vitamin.

The exact role of riboflavin in the physiological functions of the body is not yet completely understood, but it was early established that riboflavin is an integral part of an enzyme system which is essential to the transportation of oxygen in the tissues and thus riboflavin has a vital function in all cellular metabolism. Where the tissue is avascular, as in the cornea of the eye, the oxidative processes appear to be almost entirely dependent on this enzyme action.

The slit lamp examination of the cornea is the method now in use for detecting inadequate intake of riboflavin. The vascularization of the normally avascular cornea is now accepted as a criterion of this condition. The first changes nonted on examination with the biomicroscope are proliferaion and engorgement of the limbic plexus of vsesels with the production of fine capillary twigs extending in the direction of the cornea. These fine capillaries tend to anastomose forming loops. Several tiers of these loops may be present with one or more of these arcades penetrating the cornea itself. All stages of this process may be seen until practically the whole cornea may become

---

*The role played by thiamin is in the utilization of carbohydrate after it has been broken down to the pyruvic stage. Thiamin is an essential proportion of the ennzyme co-carbolylase which carries on the metabolism of CHO beyond pyruvate with the formation of energy by decomposition into CO_2 & H_2O or the synthesis of essential matters from the pyruvate.

vascularized. Accompanying this capillary penetration there may be superficial opacities of the cornea in isolated spots as well as along the course of the vessels. Administration of riboflavin will lead to disappearance of these opacities and diminution in the blood flow through the capillary bed. I don't believe that the capillaries once formed are ever completely obliterated but they become empty and shrunken so that they are often very hard to distinguish on examination.

Three types of tests have been used in assessing vitamin C or ascorbic acid deficiency. But only one of these is acceptable and even it has serious limitations. This method is the chemical estimation of plasma ascorbic acid. Accurate determinations can be made either by direct titration or the use of the photoelectric colorimeter. But owing to the rapid variations of the plasma level depending on the vitamin intake, it does not reflect the nutritive state of the body as a whole with respect to ascorbic acid. Another factor influencing the plasma level is the presence of ascorbic acid in the circulating leucocytes. This has led to attempts at estimating the ascorbic acid content of the whole blood. But so far a satisfactory method of doing this has not been obtained.

The estimation of ascorbic acid excretion in the urine, either over a twenty-four-hour period or following known doses of the vitamin, was tried as a means of determining the body equilibrium. But the results were so inconsistent and the rate of excretion so variable that the method was abandoned.

The other method which has been extensively used is also unreliable. This is based on the pronounced tendency to hæmorrhage due to capillary fragility, found in severe cases of ascorbic acid deficiency. The fragility of the capillaries is estimated by applying a negative pressure and counting the resultant petechiae. Too many factors, other than vitamin C, are involved, for this test to be specific. Besides in practice, the administration of large doses of ascorbic acid have failed to alter the number of petechiae produced.

Of the means of diagnosing vitamin D deficiencies I need say little as you are all familiar with these well established practices. The X-ray is a very reliable way of determining active and healing rickets in a stage undetectable physically. But so far the X-ray has not proved as useful as might be expected in showing up lesser degrees of demineralization of the bones. A moderate amount of decalcification must be present before the condition can be accurately detected.

Estimations of the balance of phosphorus and calcium in the blood plasma are also well known methods. Their chemical determination as well as the estimation of phosphatase, have proved very reliable.

The only other vitamin for which we can test specifically is K. The series of substances with vitamin K activity are all derivatives of naphtha-quinone and their activity is associated with the maintenance of normal prothrombin content in the blood. Deficiency of this vitamin is usually associated with liver damage as the majority of these substances require the presence of bile salts for their absorption from the intestine. Where the deficiency of this vitamin is suspected the estimation of blood prothrombin forms a satisfactory test.

Vancouver General Hospital

REVIEW OF THE WORK AT THE HEART STATION, VANCOUVER GENERAL HOSPITAL

The Heart Station at the Vancouver General Hospital owes its inception to the early interest in cardiology of the present Director, Dr. B. D. Gillies. Through his interest in this subject, one of the earliest Cambridge electrocardiographs was secured and the Heart Station was established in 1916.

In the early years the instrument was regarded as more of a curiosity than a clinical necessity and tracings were obtained in relatively few cases showing obvious cardiac abnormality, usually an arrhythmia. The increasing attention given to the subject has meant that at present an electrocardiogram is a routine part of a complete heart examination. The greatest increase in the demands for this service has occurred in the past few years. In 1923 there were 254 electrocardiograms, in 1933 this number had increased but only to 301, whereas in 1941 there were a total of 1500 heart tracings.

The original electrocardiograph continued in active service until the last few years. It lacked the advantage of portability and was supplanted by two portable instruments that enable us to secure the tracing from the patient in his bed, regardless of his location in the hospital.

The early interest in the arrhythmias has given way to a greater attention to the electrocardiographic changes associated with coronary artery heart disease. It is now possible not only to diagnose typical cardiac infarction, but to localize the infarct with a fair degree of accuracy.

During the last eight to ten years there has been an increasing recognition of the value of the fourth or precordial lead. This is of particular value in the detection of infarction. It has been included as a routine part of an electrocardiographic examination at the Heart Station since 1938, though it was used on selected cases before that time.

ANALYSIS OF 10,000 ELECTROCARDIOGRAMS AT THE VANCOUVER GENERAL HOSPITAL FROM MAY 18, 1923, TO SEPTEMBER 18, 1941

	2,001–4,000 18/5/23–27/7/31	4,001–6,000 27/7/31–29/4/36	6,001–8,000 2/5/36–21/10/38	8,001–10,000 21/10/38–13/5/40	10,001–12,000 13/5/40–18/9/41
Within Normal Limits	630	487	445	420	365
Left Axis Deviation	476	680	885	785	559
Right Axis Deviation	85	85	88	89	56
Tachycardia (100 and over)	456	487	250	277	263
Bradycardia (under 60)	43	83	190	143	313
Auricular Fibrillation	147	171	188	198	217
Paroxysmal Auricular Fibrillation	1	.....	2	2	$
Auricular Flutter	8	15	9	16	6
Ventricular Extrasystoles	190	184	169	162	182
Bigeminy	12	12	6	9	9
Multifocal	2	19	7	5	25
Paroxysmal Ventricular Tachycardia	.....	3	1	6	2
Auricular Extrasystoles	46	52	51	54	82
Bigeminy	4	4	2	7	7
Paroxysmal Auricular Tachycardia	1	4	1	4	4
Nodal Extrasystoles	2	1	1	2	1
Complete Heart Block	18	16	14	11	13
Partial Block (AV delay)	35	24	21	15	62
Intraventricular Block (delay)	26	27	28	16	16
Bundle Branch Block	51	33	15	24	85
Sino-auricular Block	1	1	3	1	1
Probable Cardiac Infarction	2	6	7	34	82
Cardiac Infarction	5	17	11	24	69

There were, in addition, several other diagnoses made, but these were too few to merit inclusion in the above. They are as follows:

Dropped beats—5.
Shifting pacemaker—4.
Congenital heart—2.
Nodal rhythm—2.
Ventricular fibrillation—2.
Dissociated A-V rhythm—1.
Paroxysmal nodal tachycardia—1.
Extra nodal origin of impulse—1.

The increasing use of this diagnostic method is further shown by the fact that the first 2,000 cases in this series covered a period of 8 years, 2 months; the second 2,000 covered 4 years, 9 months; the third, 2 years, 7 months; the fourth, 1 year, 7 months; and the fifth covered 1 year, 4 months.

St. Paul's Hospital

DESTRUCTIVE ARTHRITIS FOLLOWING RENAL INFECTION

Case Report by EARLE R. HALL, M.D.

The literature has very occasionally recorded cases of bone infection following urinary tract infection; of these, nearly all are osteomyelitis of the symphysis pubis, secondary to a long-standing cystitis.

We recently had a case of involvement of the right hip joint following infection of the urinary tract, this latter condition being bi-lateral renal infection.

CASE:—W. C., male, age 34, in January, 1942, came under my observation with the following history:—

Present Complaints: 1. Pain in the back. 2. Frequency.

History of Present Illness: For about eight months he had noticed that he had been having backache involving the left lumbar area, this being more noticeable toward the end of the day, after he had been at work and on his feet for some time. It was described as a dull ache—never sharp—never radiating—but always localized to the left lumbar region. He stated that after its onset he felt like sitting down and resting, which appeared to give some relief.

On Christmas night (1941) he had a sudden onset of sharp, knife-like pain commencing in the right lumbar region, more anteriorly and laterally, and finally radiating posteriorly to the right kidney area. It was a severe pain, described "as if a very sharp stick was being passed through that region." After being present steadily for about two hours, it gradually passed away. The next day he noticed a dull aching in the same location, gradually becoming sharp and knife-like. Relief was obtained by lying down and applying local heat. The pain finally disappeared altogether. He had no recurrence until three days later while riding to work in a street car, he noticed that the jolting of the car appeared to bring on the pain which appeared in the right lumbar area and became extremely sharp in character. He was forced to return home, where he went to bed and applied heat with gradual relief. For several days following this he had a dull aching with occasional sharp twinges, these often awakening him at night. He then consulted his physician, who examined urine and found pyuria. A flat X-ray, taken at the office of Drs. Whitelaw and McIntosh, showed a shadow resembling a calculus in the right kidney area. For about six months previously he had noticed that

he had been passing urine oftener than usual. This appeared most noticeable at night, and varied from one to two to three to four times. With the discovery of the pyuria he was placed on sulfathiazole and in a few days the urine showed only a few W.B.C. to the H.P.F., and this symptom was much improved. He was referred to me for cystoscopy and pyelography.

Cystoscopy and Pyelography, St. Paul's Hospitals The bladder was negative except for some slight œdema surrounding the right ureteral orifice. Catheters were passed without obstruction to both kidneys. There was good urine secretion from both organs. Pyelograms were made.

Report of Pyelography: "Marked hydronephrosis of the left kidney, and calculus in the right renal pelvis."—Dr. C. W. Prowd.

N.P.N.: 36 mgs.

Urine Report: Urine was obtained from both kidneys, each specimen showing some pus cells, but there was no growth an culture.

Jan. 21, 1942, St. Paul's Hospital. Avertin and ether anæsthesia. He had right pyelotomy for removal of calculus. He sustained this operation very well, though his renal function appeared to be somewhat taxed for about ten days following, and his N.P.N. went up to 47 mgs. His wound gradually healed and he ha dno more bcakache on the right side.

A further study was made of his renal function and it was decided that this man required as much of his renal tissue as could be sustained. It was pointed out to him that there would be a certain amount of damage in the right kidney on account of the amount of infection that had been present, and because it had been operated on, and as he had a left hydronephrosis, there would be a certain amount of loss of renal tissue on this side. The cause of this hydronephrosis appeared to be some obstruction at the uretero-pelvic junction. He was advised to have operation on the left kidney to correct this obstruction, and so relieve the hydronephrosis on this side.

March 14, 1942, St. Paul's Hospital. Avertin and ether anæsthesia. He hay pyeloplasty and re-iplantation of the ureter into the renal pelvis. At this operation there was a very large hydronephrosis found. The cause of this appeared to be a double S-shaped kinking of the first portion of the ureter. This could be clearly demonstrated at operation, and with the normal movements of respiration, the kinking of the ureter coming together in an accordion-like manner produced a complete block. Following the re-implantation of the ureter, the previous kinking was completely eliminated and with normal respiratory movements, peristalsis could be seen clearly, passing from the renal pelvis down through the ureter, so that the urine was expelled without any block whatever.

He sustained the second operation very well, and the post-operative course was uneventful until about three weeks following, when he commenced to complain of pain in the right thigh at the upper portion. His temperature, which had been normal for about a week, became elevated from 99 in the morning to 100 and 101 at night. His wound was entirely healed and there was no pain at the back whatever. Urine examination showed pyuria ++; culture showed B. Coli. The pain kept increasing in the right thigh and it was noticed that there was a general thickening in this region. Further urine examinations showed presence of B. Coli, and he was placed on the sulphonamides, and finally on one of the mandelic acid preparations. His temperature kept ranging from 99 in the morning to 100 and 101 at night, and finally an X-ray was taken of the pelvis, this showing "destructive arthritis of the right hip joint with involvement of adjacent bone."

This man was finally discharged from hospital on June 25th. An X-ray taken about ten days before his hospital discharge showed "destructive arthritis of the right hop. Progressive bony ankylosis."

Victoria Medical Society

President ..... Dr. E. W. Boak
Vice-President ..... Dr. R. B. Robertson
Honorary Secretary ..... Dr. L. W. Bassett
Honorary Treasurer ..... Dr. P. A. C. Cousland

MEDICINE IN SOVIET RUSSIA

Dr. D. M. Baillie

(Given before the Victoria Medical Society June 1, 1942)

I make no apology for introducing this subject to you tonight, a subject of which most of us know but little and perhaps care less. Nevertheless, it is a matter of paramount importance for us to have some understanding of how this vast country of some eight million square miles, covering one-sixth of the land surface of the world, and giving sustenance to nearly 200 millions of people, has organized its medical and public health activities.

In fact, I am very pleased that your executive accepted my suggestion of this as the subject for discussion tonight instead of that of "Upper Respiratory Infections" assigned to me. I regret that I have no first hand knowledge to impart, but I have been a close student of events in the Soviet Union for some fifteen years, particularly of their medical set-up. Many of you have dubbed me "communist" and "anarchist"—which has worried me not at all—but despite my awful reputation I shall really try to present to you as far as possible an unbiassed and objective account of Soviet medicine. A few important books have been written about it—the most noteworthy being those of Newsholme and Kingbury entitled *Red Medicine,* published about nine years ago, and of Professor Sigerist of Johns Hopkins University entitled *Socialized Medicine in the U.S.S.R.,* published five years ago, and from which I shall quote freely in this paper. These books are already very much out of date. In addition to these we have had a few articles by sundry observers in the *British Medical Journal, The Lancet,* the *Journal of the American Medical Association,* and occasional brief news memoranda. There has been a most notable absence of comment in the *Canadian Medical Journal.* In fact, information has been hard to come by, as journals of public opinion on this continent have, until recently, been particularly careful to exclude commendatory news about the Soviet Union. This scarcity would indicate the presence of a conspiracy of silence, a highly unscientific attitude. The events of the last eleven months, the remarkable achievements of the Red army and the unity and morale of the Russian people have jolted into active interest the consciousness of the democratic world; a feeling which can perhaps be best epitomized in the comment, "By God, there must be something in this bloody Russian business after all."

To appreciate fully the scale and quality of progress in Russian Medicine in recent years, we must understand something of the conditions that existed prior to the last war. Sigerist states, and I quote, "The history of Russian medicine is a tale of terrific plagues and famines, of some brilliant achievements in a few centres and of utter inadequacy in the open country. At the time of the Revolution of 1917 there were still large sections of the population that had never seen a physician but were treated in case of illness by medicine men and witch doctors." Russian medical organization, however, had been slowly developed from the beginning of the last century—mostly by foreign immigrants. It is interesting to note that the first president of the Medico-Chirurgical Academy (1800) was an Aberdeen graduate, Sir James Wylie (1768-1854), who wrote a number of monographs on contagious diseases and made a brilliant career in Russia.

"After the middle of the century, however, Russian medicine came of age and thereafter their leading medical scientists were Russians"—e.g., Pirogov, Botkin, Zakharov and the greatest of all, Pavlov.

There was thus a scientific tradition in Russian medicine before the Revolution, and some good universities turning out good physicians. The number of universities and physicians was hopelessly inadequate and quite out of proportion to the vastness of the territory. High mortality rates were the rule, and public health and sanitation amenities rarely came into the picture. All these grave disadvantages were increased and aggravated by the chaotic conditions that followed the Revolution, the Civil War and the Wars of Intervention that continued for some years thereafter. The condition of the country at that time must have seemed perfectly hopeless. After eight years of this, as Sigerist states, "almost all medical facilities of the country were broken down and famine and epidemics were ravaging the land with unheard-of violence." Indeed, experts in Europe and America freely stated that Russia would stew and simmer in a "hell's broth" for at least fifty years.

"The Soviets undertook the job of reconstruction, however, with full confidence in the ultimate success of their efforts." Why? "Because they were at the same time building a new social order and because they were guided by the philosophy of Marxism."

I am not going to attempt a discussion of this important philosophy but would suggest its study to those of you who are philosophically inclined, because it gives the key to the understanding of the present world situation, and to the extraordinary success of the so-called "Russian Experiment." It is essential to realize that Soviet medicine is not an isolated entity in itself, as Canadian medicine is, but bound up in and an integral part of the whole Russian way of life. The Soviet Union is a socialist country, and Soviet medicine is socialist medicine, being part of a carefully planned and integrated economy of the whole country. The whole medical effort, including therapeutic medicine, public health, dentistry, nursing, hospital administration, medical schools, the drug business, medical research, sanitary engineering, health resorts and spas, etc., is co-ordinated and planned so that the full weight of hundreds of thousands of people, who work in these several spheres, is thrown into the task of improving and maintaining the health of the nation. The medical services in the armed forces are also an important part of this vast activity and closely linked up with and part of the health activities already referred to. According to Sigerist the most characterisic features of Soviet health system are:

1. Medical service is free and therefore available to all.
2. The prevention of disease is in the foreground of all health activities.
3. All health activities are directed by central bodies, the People's Commissariats of Health, with the result that
4. Health can be planned on a large scale.

All this activity is financed by the State. Some eighty per cent of the population is made up of wage earners, collective farmers and their families. The former receive their wages from state enterprises or institutions, the latter get their money by selling their crops to the State. Both groups purchase whatever they buy from the State. All money therefore goes from the State to the population and back again to the State, which redistributes it every year. The surplus values, or profits, created in the course of production are controlled and distributed by the various social agencies and part of this surplus goes to finance the health work of the nation. In capitalist nations most of this surplus goes into the pockets of the private owners of industry.

In 1934, 28.1% of the population of Russia consisted of wage earners: industrial workers, agricultural workers on state farms, office and house employees. Their health service is financed primarily through social insurance, which is administered by the Trade Unions. This Social Insurance money is raised exclusively from enterprises and institutions (owned by the State) and by private people employing labour, the latter being comparatively few in number. The contributions are in a fixed proportion to

the amount of the wage bill. Under no conditions can they be deducted from wages. They are practically an addition to wages or part of the socialized wages of the workers. The rate varies according to the health hazards involved in the varied industries and ranges from 4 to 10.7% of the wage bill. (Sigerist.)

Year	*Number of insured*
1929	10,900,000
1932	22,600,000
1934	23,400,000

	Increase in Social Insurance Fund	
1929	1,327,000,000	roubles
1930	1,808,000,000	"
1932	4,400,000,000	"
1933	5,392,000,000	"
1936	8,500,000,000	"

Social insurance in the Soviet Union includes: (a) medical care; (b) benefits in case of temporary disabilities (sickness, accident, quarantine, pregnancy, childbirth, nursing a sick member of the family); (c) additional benefits for babies, funerals, etc.; (d) unemployment benefits; (e) invalidity pensions; (f) old age pensions; (g) pensions to families in case of death of the bread winner. "All insured persons are entitled to old age pensions of 50 to 60% of the last year's wages upon reaching the age of 60 (women 55), or 50 if they were employed in unhealthy or underground work. They must, however, have worked for not less than 25 years (20 years for women)."

This is a very comprehensive programme and indicates that the workers of the Soviet Union are, from this point of view, better looked after than their fellows in any other country in the world.

Health Administration: Illustrates Lenin's principle, "Centralized direction and decentralized activity." The supreme director is the People's Commissar of Health of the U.S.S.R., who has a seat in the Council of People's Commissars of the U.S.S.R., i.e., the Executive Government of the Union. From him directives go to the Commissars of the Constituent Republics and autonomous regions, in turn to the Commissars of districts, cities, towns, villages, trade unions, collective farms. The whole system is closely linked up and traffic goes both ways, from the top to the bottom and *vice versâ*. The setup is too complicated to go into in a short paper of this kind.

Medical Workers: The chief of these is the physician. After the Revolution there was a great scarcity of these and superhuman efforts had to be made to establish new medical schools, train medical teachers, build new hospitals, train new nurses, new dentists, pharmacists, pharmaceutical workers, etc. Of doctors, Russia had about 24,000 in the first World War—reduced to 20,000 after the Revolution: by 1940 the number was 120,000 (with some 10,000 graduating annually). For quite a number of years the majority of students have been women, as many as 60%. The fields of engineering, aeronautics, exploration, etc., offered more inducement and excitement to the young men. Latterly there has been a lessening of the relative numbers of women entering medicine. It is important to remember that in the Soviet Union there is no financial barrier to entry into medical schools. Students receive free medical education and a monthly wage sufficient to keep them while at college. Promotion is by merit alone. For example, a girl can join a hospital as a ward maid, be promoted to the nursing staff, and if she proves intelligent and hard working enough, get further promotion into medical college. Dumbells in the Soviet Union cannot go into medicine: it doesn't pay the State to give expensive education to poor quality brains. I doubt very much, however, if the quality of the average medical graduate is anything like that of his Canadian prototype. There just hasn't been time to develop the medical schools and medical scientists, but I have no doubt that as time elapses and the world settles down to peace once more, the Soviet medical graduate will more than equal his prototype in any other part of the world—for the reasons I have already given.

There are three courses for medical students: A therapeutic faculty, a pædiatric faculty and a faculty of hygiene. The first trains students in what we may term

"orthodox or curative medicine," the second the care of women and children and the third is self-descriptive. The three and a half year courses have recently been increased to five years. The ratio of students to each faculty is regulated according to the needs of the country. Every medical student is required to have a thorough knowledge of history, economics and sociology—the inference being, I suppose, that he is going to be, primarily, a social worker and a conscious builder of the new socialist society.

Brilliant students, who have shown special aptitude for scientific work, may be selected as research fellows upon recommendation of their professors. They receive a monthly salary of 3 or 4 hundred roubles and can join a scientific or research institute for three years. These men become the medical scientists and teachers of the future. There is a good deal of post graduate education. The R.S.F.S.R. has four special post graduate schools located in Leningrad, Moscow, Novosibirsk, and Kazan, giving advanced training to some 6,500 physicians every year. Whether this programme continues during the war is very doubtful, but it is interesting to note that P. G. instruction is free and salaries and expenses continue to be paid. They aim at 3 to 4 months every three years. Most of the other medical schools give 10-day courses in subjects which represent their specialties to about 200 physicians each, annually, e.g., tuberculosis, syphilis, malaria, etc.

Middle Medical Personnel: These workers are trained in institutions called "technicums," schools that stand beween the elementary schools and the universities, and consist of the following categories: feldsher, midwife, medical nurse, nursery nurse, laboratory technician, dentist and pharmacist.

The position of the feldsher (and his female counterpart) is a peculiarly Russian institution. The word is of German origin and literally means "field barber." These people are the successors of the mediæval "barber surgeons," but they occupy an important place in the medical economy of Russia and must be particularly useful during this terrific war. There are some 400,000 of them at present at work, and they fill a sphere of usefulness in the country districts and villages. Their course is one of three years' duration and so is that of feldsher midwives. They correspond to the assistant surgeons of the Indian Medical Service, some of whom I met in the last war in Mesopotamia, and who were very bright and useful fellows. The midwives serve an important function in attending confinements in the hundreds of thousands of villages and collective farms. In the cities and large towns pretty nearly all confinements are conducted in the hospitals. Nurses, as we know them in Canada, did not exist in the pre-revolutionary Russia. Two types of nurses are now trained, medical nurses and nursery nurses, and there is an ever increasing demand for them to staff the many new hospitals and creches that have been and are being built. So also in regard to lab technicians. Hospital orderlies, ambulance drivers, clerical staff, etc., make up the rest of the medical personnel.

All these people, doctors, feldshers, nurses, orderlies and so on, are organized into the Medical Sanitary Workers Union or Medsantrud, an institution that has no parallel in any other part of the world. This organization looks after the material interests of its members, such things as wages and working conditions. It also has an important part in co-operating with the public health authorities both locally and centrally, in the advancement of public health, better treatment for the public, in the formulation of health planning and in the carrying out of the plans made. For instance, the Jubilee Hospital here would be run by its own union composed of medical personnel, nurses, orderlies, cooks, ward maids, technicians, laundry workers, engineers, etc., who would appoint their delegates to the managing committee. In this way they would combine their full weight and interest into the efficient running of the hospital.

Doctors in Soviet Russia are paid on a salary basis. In 1936 this remuneration was quoted as from 350 to 900 roubles per month but salaries have risen, apparently, a good deal since that time. It is impossible to translate these figures into Canadian values. The most important aspect is that Soviet medical men and women have social and economic security, and haven't got to worry, as we have, about laying by a compe-

tence for old age or debilitating illness in an economic sphere that is admittedly very shaky and insecure. At the present time to them salaries mean but little. They are all joined together in a terrific struggle for survival in an economy geared for total, all-out war, in which the production of luxuries and non-essentials is ruthlessly eliminated.

It is just 10 years since the final report of the Committee on the Costs of Medical Care in the United States of America was issued. In this report, compiled after five years of study of medical conditions in America, a number of recommendations were made for the improvement of medical services. The first recommendation, signed by the majority of the committee, read as follows: "The Committee recommends that medical service, both preventative and therapeutic, should be furnished largely by organized groups of physicians, dentists, nurses, pharmacists and other associated personnel. Such groups should be organized, preferably round a hospital, for rendering complete home, office and hospital care. The form of organization should encourage the maintenance of high standards and the development or preservation of a personal relation between patient and physician." The Committee justly recognized that the chief difficulties in present medical practice were: "The lack of co-ordination between general practitioners and specialists; the isolation of some practitioners from helpful contact with their confreres and from hospitals and medical agencies; the lack of adequate supervision and control over the quality of some medical care, especially the lack of any effective control over specialization; the enforced idleness of many physicians, because of lack of patients; the difficulties experienced by patients in choosing qualified physicians; the unnecessarily large expenditures for overhead costs made by practitioners in individual private practice; and the incresing complexity of medical service which necessitates the use of ever-multiplying equipment as well as a larger number of subsidiary personnel."

Sigerist in referring to this statement has this to say, "The Committee submitting the majority report recognized, also, that individual practice is bound to be inefficient in a highly specialized industrial society, and, in suggesting that medical service be given to the population through organized health centres, it recommended the very form of medical practice realized in the Soviet Union. . . ." These health centres have various names. They are called dispensaries, polyclinics, ambulatoria, preventoria or prophylactoria. If they are directly connected with hospitals, they give complete medical service—preventive, diagnostic and curative. When health centre and hospital are separated, the hospital receives patients from various centres. Health centres are either attached to industrial plants, where they serve workers and their families, or they are located in definite districts where they serve all th inhabitants of the area. In cities every district has its health centre, and in addition all the larger enterprises have their own centres. The centre is responsible for the health of the people it serves. Every Soviet citizen registers with a health centre from which he receives medical service. The choice of a particular centre depends upon his occupation. If he works in a factory which has its own medical facilities, he obviously is served by its centre. If, on the other hand, he works in an office or smaller workshop, he receives medical service from the health centre of his district. If husband and wife work in different places, they may get medical service from different institutions. The significant fact, however, is that, regardless of a man's occupation, he is always in touch with an organized medical group responsible for his health. "In 1935," continues Sigerist, "when I examined its medical facilities, the Stalin Automobile Works in Moscow employed 30,000 workers. The factory had 15 first aid stations scattered throughout the plant in such a way that every worker could quickly reach one. All of them were inspected twice a month by the Surgeon-in-Chief of the plant. The factory also had six ambulatoria, each of which was a complete health centre in itself with a department for every specialty, with a woman's consultative bureau and a children's consultative bureau. In addition, the factory had a large central dispensary whose function was to supervise and co-ordinate the entire health work of the plant and to attend the more complicated cases. Such members of the staff as physicians-in-chief, etc., had their offices there. The medical per-

sonnel included 112 physicians and 18 dentists besides a large number of technicians and nurses. Physicians supervised the sanitary conditions of the factory constantly and some of them were permanently stationed in the kitchens. Every day doctors went through the work shops looking at the people. If they found a man who seemed indisposed or ill, they asked him to come for examination. Because every worker had had entrance examination, the dispensary had records of all the people employed and knew which ones required special supervision. As the factory worked in three shifts, the medical units were in operation day and night. Since 1935 the factory has been considerably enlarged and the medical facilities have been increased accordingly. The factory has no hospital of its own, as it seemed inopportune to have hospital patients in the immediate neighbourhood of a noisy machine plant. It owned its own wards, however, in three hospitals; accommodation for 200 medical and surgical patients in a city hospital and wards in the Clara Zetkin maternity home and in a children's hospital." This is a description of a health centre serving a particular industry or institution and there are many others of the same kind throughout the country. Other health centres serve an entire district and Sigerist describes a typical example in an industrial suburban district of Moscow and named "The Sokolniki Dispensary in the Name of Nansen." Before the Revolution this district was looked after by one physician. Now there are 140 physicians serving 60,000 people. About 2000 patients visit the dispensary daily. Service is complete, hospital, maternity home, night sanatorium are included and all the specialties are represented. The dispensary supervises and co-ordinates the work of the medical stations connected with the idustrial plants of the region. It is an excellent example of a well-managed district health centre. The purpose of the health centre is to supervise the people's health in order to prevent illness, and to encourage people to call at the dispensary whenever they do not feel well. Conditions in the country districts are admittedly not so good—owing to the vastness of the spaces and the still existing shortage of personnel and equipment ,but they are vastly better than before the last war. The increase in hospital accommodation in the Union during the last 12 years is staggering. The following figures are eloquent:

NUMBER OF HOSPITAL BEDS IN THE U.S.S.R. (*in thousands*)

	1913	1928	1932	1933	1937	1940
Total number of beds	175.6	246.1	405.8	442.8	618.1	840

NUMBER OF MEDICAL STATIONS IN THE U.S.S.R.

1928	1932	1933	1937
1,942	5,430	6,811	9,700

In Soviet cities today practically all deliveries take place in institutions. Leningrad, for example, has 18 maternity homes, and 12 maternity departments in general hospitals. Medical research is carried on vigorously in 265 research institutes, 26 of which are all-Union central institutes under the Commissariat. This outlook is, without doubt, one of the finest things in Soviet medicine, and funds are amply available. Research in medicine, as with other branches of national endeavour, is carefully planned and integrated to avoid waste and overlapping, and the frustration of doing work that has been already done in the Union and other parts of the world. Research is controlled by the State Planning Commission, the Academy of Science and the Maxim Gorky Institute of Scientific Medicine in Moscow. The latter institute is one of the largest medical research centres in the world and has branches in many parts of the country. It employs hundreds of scientists, who are among the best paid people in the country.

Now you may ask what about the doctors and their salaries? Sigerist says that salaries have been rapidly rising in the last eight years, and as far back as 1936 varied between 300 and 900 rubles per month according to experience and importance of work done. Since 1936 they have risen considerably with the yearly rise in the standard of living until last June. An interesting note is that, latterly, more men have been going into medicine—presumably because of the higher remuneration. It is also of interest to know that salaries of physicians in the northern district and in the far east are

considerably higher than those stated. Physicians have other perquisites; they have social insurance, get a month's holiday yearly on full pay and can retire on pension at the age of 60. They are on the same income level as the engineers who are among the highest salaried people in the Soviet Union. They also don't have to work as hard as we do. They have a seven-hour day and one rest day in six. And they haven't got to worry about sending out the monthly bills and paying heavy life insurance premiums and income taxes. It is well to remember that they have been living for many years under the stressful conditions that we live under today. The Soviet government has had to set aside a very large amount of the annual budget for defence purposes, for the last fifteen years, an amount which if expended in other directions would have made a tremendous difference to their living standards. They are suffering still more today. I imagine that, in the midst of this terrible struggle, few people in Soviet Russia are worrying about their salaries. The country is, fortunately for us, on a total war footing and there are no luxuries to buy.

In regard to drugs, the whole drug manufacturing industry is managed by the Commissariat for Public Health, and all pharmacies belong to the State. No patent medicine can be offered for sale until it has been passed by a medical body, and new drugs of all kinds must be checked in the State institutes and clinics before they are offered to the public.

I should have liked to be able to give you a brief review of war medicine in the Soviet Union especially since the attack by Germany in June, 1941, but I have found it almost impossible to get any but the scantiest of details. There seems to be more information in the lay than in the medical press. It isinconceivable to imagine that a brilliant organization like the Red Army would have a poor medical organization, and information gleaned seems to indicate that it is of very high order. They seem to have a very efficient aerial ambulance service, and many of the seriously wounded are rapidly transported from the battle areas to the big hospitals in this way. There are reports of the use of special tanks which go into exposed places, straddle the wounded, who are lifted into the tanks through a ventral trap door and conveyed to safety under the heaviest fire.

The efforts of the Army Medical Corps are ably assisted by the Red Cross and Red Crescent organizations, the membership of which runs into millions, and which work in close association.

The Russians claim a very low tetanus and gas gangrene rate. Most casualties occur as a result of bombing, trench mortar fire and hand grenades. The percentage of bullet wounds is comparatively small.

They have been doing splendid work with blood transfusion surgery which they have developed to a high degree. They are, also, according to Roscoe Clarke (*Lancet*, Sept. 9, 1941) doing a great deal of major surgery under local anæsthesia—particularly war surgery—and have devised a Soviet preparation of Percaine—called Sovkain—which is fully effective in a dilution of 1/10,000. It is guuested that it is safe to use 25,000 c.c. at this dilution if necessary. They are, also, very successful in their treatment of chest wounds and have devised new techniques.

Two other interesting developments in Soviet medicine are the special hospitals in the larger centres of population, and the advances made in hæmatology and blood transfusion technique. A good example of the special hospital is the Skliffasovsky Institute for Traumatic Diseases in Moscow of 700 beds and a medical staff of 200, which deals with most of the emergent conditions that occur in the city. By means of efficient organization most of these cases are brought by ambulance from sub-stations in the city in an average time of 8 minutes and are immediately dealt with by a team of surgeons waiting in readiness. It was in this hospital that Professor Judin inaugurated his famous cadaver blood transfusion. Within six hours after death the blood is drained by cannula from the jugular veins of the recently dead, who are placed in the Trendelenburg position. Six to ten pints of blood can be obtained in this way and added to the blood bank, where it is stored until autopsy and Kahn tests have excluded syphilis and

other diseases. It can be stored in this way without the use of citrate for twenty-eight days. An extraordinary feature about cadaver blood is that it reliquifies after clotting, a phenomenon which, so far, has remained unexplained. Large quantities of blood can be collected in this way without expense and with very little trouble, and no doubt this technique is proving a tremendous benefit in the treatment of the thousands of casualties on he Russian front. There should be no lack of cadaver donors.

In this hospital cadaver blood is the only blood used for transfusion and many thousands of transfusions have been given since the inauguration of the method in 1936.

The Russians were the first to establish blood banks and this was started in the Moscow Transfusion Institute—otherwise known as the Central Institute for Scientific Research in Hæmatology and Blood Transfusion, which has 600 branches throughout the Soviet Union and sends blood in thermos containers to all parts of the Union. Many of the methods of storing and treating blood were worked out in this hospital. The use of placental and retro-placental blood was originated in another Moscow hospital —the gynæcological wards of the Central Cancer and Tumour Institute—in 1936. Most of the blood used in this hospital is placental blood.

There are many other aspects of Soviet Medicine I could mention to you—their agencies for the health protection of women and children, the hundreds of thousands of creches, their school medical services, dietetic and food supervision, physical culture, their work against tuberculosis and veneral disease, their rest homes, their hydropathics and spas, etc., but time does not permit. Quite a number of years ago George Bernard Shaw said that the only good thing that came out of Great World War No. 1 was the Russian Revolution. I wouldn't be a bit surprised if he is right. The revolution did one fine thing for Russian medicine—it cleared out a lot of the old rotten superstitions and the time honoured shibboleths that still hamper to a great extent the scientific practice and social application of Canadian medicine today. There is, without doubt, much that is shoddy, naive and amateurish in Soviet medicine today but against that we can place a freshness of outlook, a breaking with the trammels of the past and a reaching forward to a happier future for mankind. I will close with a quotation from Dr. G. G. Sherriff of Edinburgh—from the *Lancet* of March, 1937: "The primary concern of the medical service in the U.S.S.R. is not with hospitals or with diseases or their cures but with the maintenance and improvement of the health of the community. The care of the sick and their disposal to hospital becomes a subsidiary function. In the public mind the emphasis has thus been shifted away from the idea of disease towards that of health, which in itself helps to promote a healthy society.

"Although the more enlightened members of the profession in this country (Great Britain) continually preach the need for the above change of emphasis, the *status quo* is little altered. All the power and glory still belong to the experts in disease. The higher degrees and diplomas so necessary for high preferment are based overwhelmingly on disease and the minute, even pedantic, study of its protean forms. Analysis flourishes but synthesis languishes, and exile from most curricula and syllabi, those cast iron portals on the path of progress. Until this radical defect is remedied the nineteenth century outlook will retain its predominant influence."