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The BULLETIN

of the

VANCOUVER MEDICAL ASSOCIATION

Vol. XVII JULY, 1941 No. 10

With Which Is Incorporated
Transactions of the

Victoria Medical Society

the

Vancouver General Hospital

and

St. Paul's Hospital

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ANNUAL MEETING OF BRITISH COLUMBIA MEDICAL ASSN.,
1941 — SEPTEMBER 16, 17, 18.

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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. XVII JULY, 1941 No. 10

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VANCOUVER HEALTH DEPARTMENT

STATISTICS—MAY, 1941

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	264	11.4
Japanese deaths	4	5.4
Chinese deaths	16	25.8
Deaths—residents only	223	9.6
BIRTH REGISTRATIONS:		
Male, 244; Female, 240	484	20.9
INFANTILE MORTALITY—	May, 1941	May, 1940
Deaths under one year of age	11	9
Death rate—per 1,000 births	22.7	20.6
Stillbirths (not included in above)	7	8

CASES OF COMMUNICABLE DISEASES REPORTED IN THE CITY

	April, 1941		May, 1941		June 1-15, 1941	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Scarlet Fever	5	0	3	0	3	0
Diphtheria	0	0	0	0	0	0
Chicken Pox	36	0	73	0	62	0
Measles	349	0	204	0	20	0
Rubella	132	0	133	0	32	0
Mumps	5	0	16	0	1	0
Whooping Cough	1	0	23	0	3	0
Typhoid Fever	0	0	0	0	0	0
Undulant Fever	0	0	1	0	0	0
Poliomyelitis	0	0	0	0	0	0
Tuberculosis	21	16	36	16	10	
Erysipelas	1	0	2	0	1	0
Meningococcus Meingitis	6	0	5	2	1	0
Paratyphoid Fever (Carrier)	0	0	1	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
Syphilis	--	--	--	--	37	30	67
Gonorrhœa	--	--	--	--	58	23	81

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Such conditions as delayed puberty, menopausal disorders, pruritus vulvæ, senile vaginitis, vulvo-vaginitis in children, secondary amenorrhœa and sterility with dysmenorrhœa associated with uterine hypoplasia will be found to respond to oral administration of Stilboestrol B.D.H.

In certain patients, however, it is found that stilbœstrol gives rise to gastro-intestinal disturbances upon administration, these disturbances being characterised by vomiting and a marked feeling of nausea. Such cases should receive continued treatment with the natural œstrogenic hormone, Oestroform, which, being a substance that is normally generated in the body, is incapable of provoking a reaction and is readily tolerated in all cases.

Stocks of Stilboestrol B.D.H. are held by leading druggists throughout the Dominion, and full particulars are obtainable from:

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BRIEF HISTORICAL NOTES ON MEAD'S CEREAL AND PABLUM

HAND in hand with pediatric progress, the introduction of Mead's Cereal in 1930 marked a new concept in the function of cereals in the child's dietary. For 150 years before that, since the days of "pap" and "panada," there had been no noteworthy improvement in the nutritive quality of cereals for infant feeding. Cereals were fed principally for their carbohydrate content.

The formula of Mead's Cereal was designed to supplement the baby's diet in minerals and vitamins, especially iron and B_1. How well it has succeeded in these functions may be seen from two examples:

(1) As little as one-sixth ounce of Mead's Cereal supplies over half of the iron and more than one-fifth of the vitamin B_1 minimum requirements of the 3-months-old bottle-fed baby. (2) One-half ounce of Mead's Cereal furnishes all of the iron and two-thirds of the vitamin B_1 minimum requirements of the 6-months-old breast-fed baby.

That the medical profession has recognized the importance of this contribution is indicated by the fact that cereal is now included in the baby's diet as early as the third or fourth month instead of at the sixth to twelfth month as was the custom only a decade or two ago.

In 1933 Mead Johnson & Company went a step further, improving the Mead's Cereal mixture by a special process of cooking, which rendered it easily tolerated by the infant and at the same time did away with the need for prolonged cereal cooking in the home. The result is Pablum, an original product which offers all of the nutritional qualities of Mead's Cereal, plus the convenience of thorough scientific cooking.

During the last ten years, these products have been used in a great deal of clinical investigation on various aspects of nutrition, which have been reported in the scientific literature.

Many physicians recognize the pioneer efforts on the part of Mead Johnson & Company by specifying Mead's Cereal and PABLUM.

Pablum is a palatable mixed cereal food, vitamin and mineral enriched, composed of wheatmeal (farina), oatmeal, cornmeal, wheat embryo, beef bone, brewers' yeast, alfalfa leaf, sodium chloride, and reduced iron.

Effective treatment of Peptic Ulcer...

"Because, according to Mutch, the antacid power of Hydrated Magnesium Trisilicate is sustained for hours even in the presence of excess acid, because its absorptive power lasts even for a few days, because it has strong antipeptic powers, because even in large doses it causes neither constipation or diarrhoea, and because it cannot produce alkalosis by absorption of unused excess, I consider this an ideal antacid for use in patients with peptic ulcer . . . My results have been so gratifying that I am replacing other alkalis with this preparation."

Kraemer, M.: Am. J. Digest. Dis. **5**:422 *(Sept.)* 1938.

No. 937 "TRICEPIOL"—a palatable preparation containing, in each average teaspoonful, 35 grains of hydrated magnesium trisilicate in a base composed of medicinal glucose, sucrose and pectin.

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THE EDITOR'S PAGE

The natural tendency of humanity is to take good work for granted, and withhold comment, and especially favourable comment: if anything is amiss, we hasten to express our unfavourable opinion. This, as Kipling says, is "wunnerful good for the prophet" —but one sometimes thinks that a prophet who is doing good work might like an occasional sign that his work is appreciated, and that it is doing the good he hopes it may do.

During the past two or three years there has been some very remarkably good work done in this Province by one particular department of the Provincial Board of Health, namely, the Venereal Disease Division. The moving spirit of this Division is its Director, Dr. D. H. Williams, and while excellent work is being done by all the men on his staff, he is yet the man chiefly responsible for what is a monumental improvement in conditions in this Province.

Venereal disease is slowly, but surely, being mastered, and its terrible power for evil, for economic loss, for loss of health, for moral degradation and injury, is being gradually controlled and will some day be broken. That this is so is largely due to the indomitable courage and plain speaking of Dr. Williams, backed up as he has been so loyally and well by his Departmental Chief, Dr. G. H. Weir, Minister of Health for B. C. We have had the opportunity of seeing letters, and reading published statements, made by outstanding Public Health authorities, commending and praising the work that is being done in British Columbia, and holding it up as a model for other parts of the continent —and the figures of reduction in venereal disease and commercialised vice speak for themselves.

We make a point of this for several reasons. We do not do it to exalt Dr. Williams, who would be the last man to want such publicity or praise. But we do not think medical men as a group know enough of the progress being made—and we believe that if they did, and if they realised how very important a piece of work is being done, they might contribute their influence, and often their valuable assistance, towards aiding and reinforcing the work of Dr. Williams and his Division. This is a matter of *health,* and is not merely or mainly a moral question. It has, decidedly, moral implications with which every decent citizen is concerned—but fundamentally, it is a question of health, and of economic values. With the latter we are only concerned so far as every citizen and taxpayer is concerned: with the former, we are deeply concerned: and we should do all in our power to back up Dr. Williams and his co-workers, and the Department of Public Health, which has exerted all its powers for reform so strongly and so efficiently, against great and growing opposition, against public ignorance and apathy, against influences of a subversive nature, sometimes even in high places.

A second reason for dealing with this now is by nature of a warning. We tend to an inertia which may well be fatal. We see this work being done, we see progress being made, we even applaud, and then we forget. We forget one thing, especially, and that is that there are powerful forces working against this reform. The work of Dr. Williams and his associates means positive gain for the community. It means added safety for our women and children, for our soldiers and sailors and airmen in training—it means economic gain to the community, it means better health. But it also means positive loss to certain groups in the community, who make money and acquire profit from human weakness and folly. And these groups are watching the work of Dr. Williams, and are his sworn foes. They will get him if they can, because they are losing money through his efforts. They will, we may depend, bring every influence to bear that they can possibly do, through political pressure, and in other ways: and unless the community as a whole, and its leaders in matters of health, economics, and moral and ethical values, awaken to this danger, and take definite steps to avert it, we shall see the undoing of

much of the good that has been done, the loss of much of the progress made, the reversion to a poorer state of health in the community, physical, economic, and moral: and with it the discouragement and disillusionment of men who are giving us of their very best for our own profit and advantage.

"Eternal vigilance is the price of liberty": and if we are to win and keep our freedom in this matter, if we are going to maintain our gains, consolidate our victories, and ensure continued advance towards better things, we shall have to be vigilant. As members of a profession on which the public must depend for all its knowledge and security in health matters, we owe an especial duty here, to keep watch and ward: to support those who are doing this work—and to keep all with whom we come in contact informed as to the necessity for watchfulness.

This is not a mere philosophical essay. The remarks we have made here, the warnings we have expressed, are justified by an existing threat to the progress being made by the Venereal Disease Division, one of the departments of the Provincial Health Department. We must do what we can, individually and collectively, to fight reaction: to strengthen the hands of those who are supporting this work, and to resist the subversive work of those who would undermine it. When one reads how the military authorities in Seattle went to the City Council, urging control of prostitution, for the sake of military efficiency, one realises that this is only one small argument for the work that is being done, and there are countless others. This is a time for ruthless eradication of anything that wastes money, that threatens physical health, that weakens moral fibre, and destroys efficiency, and we, as doctors, as exponents of health, and as good citizens, must do our share.

CORRESPONDENCE

June 16, 1941.

Dr. J. H. MacDermot,
Editor, The Vancouver Medical Association Bulletin,
203 Medical-Dental Building,
Vancouver, B. C.

Dear Doctor MacDermot:

The Directors asked me to thank the Editorial Board for its support in the promotion of the M-S-A and for the valuable space you have given to the Plan. We feel that your help has been of inestimable value in acquainting the Professional Members with our progress.

We would also like to convey our thanks through you to Mr. Macdonald, the Business Manager, who has always been most helpful.

The Provisional Directors retire from office at the Annual General Meeting and in turning over the direction of the Plan to their successors they feel confident that they will have your continued co-operation.

Very truly yours,

A. L. McLELLAN,

Secretary-Treasurer.

NEWS AND NOTES

Dr. and Mrs. H. A. MacKechnie are receiving congratulations on the birth on June 14th of a daughter.

* * * *

Congratulations are extended to Dr. and Mrs. G. F. Kincade on the birth of a son on June 2nd.

* * * *

The profession extends sympathy to Dr. A. J. MacLachlan in his recent bereavement, his mother having passed away.

* * * *

Dr. and Mrs. W. L. Turnbull are receiving congratulations on the birth on June 16th of a daughter.

* * * *

Congratulotions to Dr. Paul Phillips of Princeton upon his marriage to Miss Edith Louise Stewart of New Westminster, on June 5th.

* * * *

Dr. and Mrs. John McCaffrey are receiving congratulations on the birth of a daughter, on May 27th.

* * * *

Dr. B. J. Hallowes of Alexis Creek visited the office while in Vancouver recently.

* * * *

Dr. and Mrs. Hermann M. Robertson of Victoria are at Harrison Hot Springs for a short period.

* * * *

Doctors C. C. Browne and E. D. Emery of Nanaimo and Dr. C. E. Davies of Vancouver spent a week cruising on S.S. *Ann*, up the Gulf Islands. En route they saw Dr. John McLean at Bowen Island also on a cruise. Fishing was good and the sun-tan excellent.

* * * *

A reception was held recently for Dr. G. A. B. Hall of Nanaimo prior to his leaving to reside in Victoria.

* * * *

Dr. and Mrs. A. H. Meneely of Nanaimo are on vacation. Doctor Meneely attended the Annual Meeting of the Canadian Medical Association at Winnipeg while en route to Rochester.

* * * *

Capt. J. A. Ireland, R.C.A.M.C., has been transferred from Canadian Infantry Holding Unit in England to be Assistant Radiologist at No. 15 Canadian General Hospital.

* * * *

Dr. W. H. White of Penticton is attending the C.M.A. Meeting at Winnipeg.

* * * *

Dr. H. McGregor is holidaying in New Brunswick and Nova Scotia and expects to attend the C.M.A. Meeting at Winnipeg.

* * * *

Dr. M. J. Swartz, formerly of Cranbrook, has left for Montreal. He will enter the Royal Victoria Hospital, Department of Urology, as an interne.

* * * *

Dr. F. W. Green of Cranbrook is away on a short holiday at his summer home at Mirror Lake on Kootenay Lake.

Dr. W. J. Endicott of Trail is away on a holiday motor trip.

* * * *

Doctors F. L. Wilson and E. S. Hoare of Trail had a very successful fishing week-end at Watchan Lakes recently.

* * * *

Dr. L. W. MacNutt of Vancouver was a recent visitor in Trail.

* * * *

Doctors A. W. Hunter, R. E. McKechnie and C. W. Prowd of Vancouver, and W. J. Knox and L. A. C. Panton of Kelowna have returned from their annual fishing trip to Beaver Lake near Kelowna.

* * * *

Dr. and Mrs. C. H. Hankinson of Prince Rupert left for Winnipeg to attend the C.M.A. Meeting.

* * * *

Dr. Karl J. Haig is now with the R.C.A.M.C.

* * * *

Dr. N. Bathurst Hall of Campbell River has joined the R.C.A.M.C. Arrangements have been made whereby Dr. T. J. Agnew, formerly of Courtenay, where he was associated with Dr. P. L. Straith, will carry on the practice there.

* * * *

Dr. F. A. Olacke, who has been associated with Dr. J. H. Black at Wells, is now located at Ashcroft.

* * * *

Dr. H. E. Hamer is relieving at Revelstoke while Dr. G. L. Watson is on holiday.

* * * *

Congratulations are extended to Dr. H. S. Hamilton of Alert Bay upon his marriage to Miss Catherine M. Campbell.

* * * *

Dr. T. W. Walker of Victoria is expected to be "back on the job" at the beginning of July, after a serious illness.

* * * *

Dr. W. H. Moore of Victoria has been away for a month's holiday. Dr. V. W. Smith, late of St. Joseph's Hospital, has been looking after his practice.

* * * *

Doctors L. W. Bassett, E. H. W. Elkington, O. C. Lucas and D. B. Roxburgh of Victoria have just returned from two weeks at military camp.

* * * *

Dr. William Leonard of Trail visited the office while in Vancouver, recently.

* * * *

Congratulations to Capt. Brock M. Fahrni, R.C.A.M.C., upon his marriage to Miss Margaret Morton of Winnipeg.

LIBRARY NOTES

RECENT ACCESSIONS TO LIBRARY

Medical Annual, 1941.

Collected Papers of the Mayo Clinic and the Mayo Foundation, 1940.

Industrial Medicine, by A. J. Lanza and Jacob A. Goldberg.

The Library has been the recipient recently of a complete original set of "Deutsches Archiv für Klinische Medicin." This was presented by Dr. B. D. Gillies, and is a valuable addition to our collection.

A number of reprints from the Lahey Clinic have been received in the Library and include such articles as:

"Carcinoma of the Thyroid," by Frank H. Lahey and Hugh F. Hare.
"Esophageal Diverticula," by Frank H. Lahey.
"The Use of Oxygen in Demonstrating Posterior Herniation of Intervertebral Disks," by James L. Poppen, Department of Neurosurgery, Lahey Clinic.

ANNALS OF SURGERY

Symposia on Surgical Preparedness

In its May and June issues, Annals of Surgery presents "Symposia on Surgical Preparedness," including a valuable collection of articles on the care of various war injuries —plastic surgery, amputations, etc. It also deals with organization for evacuation and treatment of war casualties, and treatment of air raid casualties, cases of shock, etc.

Symposium on Gastrointestinal Surgery

The second part of the June issue is devoted to a Symposium on Gastrointestinal Surgery, composed of abstracts of papers presented before the Central Surgical Association, at Ann Arbor, Mich., February 28th to March 2nd, 1941.

SPECIAL NOTE

During the summer months, the Library will be open from 9:00 a.m. to 5:00 p.m., instead of the usual hours from 10:00 a.m. to 6:00 p.m.

SUMMER SCHOOL, VANCOUVER MEDICAL ASSOCIATION JUNE, 1941

If the Committee in charge of the Summer School had any doubts or misgivings prior to the holding of this year's school, they must have been very pleasantly disappointed by the result. There have been more expressions heard this year, of satisfaction and commendation, than usual. The prevailing opinion of this year's Summer School is that it is easily one of the best ever held, and we hereby tender to the Summer School Committee our heartiest congratulations and thanks for an admirable piece of work.

The attendance was excellent. There were 235 registrations, of whom 47 came from points outside Vancouver. This means that 178 Vancouver men attended, which is good, but not quite good enough. Those who failed to attend missed a great deal. After all, it is not the attendance that makes a Summer School, it is the quality of the lecturers, and there can be no complaint on that score this year. Each one of these men was an authority in his line, and gave of his best. One hesitates to singularize—but there can be no doubt that the work of Dr. Long was the highlight of the meeting. His gift of humour, his friendliness, his amazing versatility, were all incidental to a complete mastery of his subject, and there was never any doubt that we were listening to an authority.

The round table panel discussion on the Sulphonamide group of drugs was an innovation, and a most successful one. We were able to secure a stenographic record of it, and hope to publish it in the Bulletin later.

The actual mechanics of the meeting were all that could be desired. The Hotel Vancouver provided an ideal meeting place, comfortable, and with excellent acoustics, and Mrs. Craig, our librarian, saw that everything ran smoothly. To her, with her assistant, Miss Smith, must go a large share of the credit for a well run affair.

Owing to the reduction of the fee from $7.50 to $5, there will, we are told, be a small deficit—but we do not think this will distress anyone—this School is well worth paying for, and when happier times come back, it will be time to think in terms of financial profit. Till then, there can be no question that as long as the Summer School Committee maintains these standards, as they have done this year, we must go on holding the Summer School.

British Columbia Medical Association

(Canadian Medical Association, British Columbia Division)

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Executive Secretary ..... DR. M. W. THOMAS, VANCOUVER

A MESSAGE FROM THE PRESIDENT

Once a year for many years now, the doctors of the province and their wives meet together for, I believe, a triple purpose. First, to discuss the affairs of organized medicine in general and our immediate problems in particular. Secondly, from a scientific standpoint, to hear outstanding guest speakers in a carefully arranged programme, and finally, to gather together, men and women in a spirit of fellowship in order that we might know each other better.

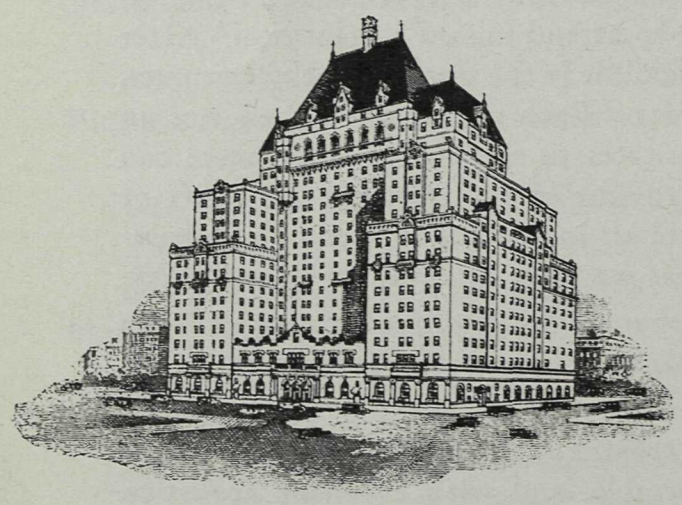
The scientific end of the progremme is well under way, and I know that that committee under the experienced hands of Dr. Strong will supply a well-balanced scientific programme. A later copy of the BULLETIN will carry a detailed programme.

The social side will, I sincerely hope ,be up to standard. We are going to really try to entertain you, not in any profuse or expensive manner but by the very sincerity of our welcome to you and yours.

The ladies are already busy with their plans and, I know, will do everything in their power to make the visit of the ladies a memorable one. So be sure and come along yourself and please bring the ladies.

MURRAY BLAIR.

* * * *



1941 ANNUAL MEETING
VANCOUVER
HOTEL VANCOUVER

September 16, 17, 18

THREE DAYS—FULL OF FINE FEATURES

Make Your Plans and Reservations Early

Dr. Murray Blair, President, and Mrs. Blair extend an invitation to the members and wives to come.

Again we are fortunate in having Dr. G. F. Strong as Chairman of the Committee on Programme. The Committee on Programme is preparing for another splendid Annual Meeting.

The Canadian Medical Association party will consist of Dr. G. S. Fahrni of Winnipeg, President; Dr. T. C. Routley of Toronto, General Secretary, one speaker under the gis of the Department of Cancer Control, and we are glad to announce that Dr. Lennox . Bell of Winnipeg, Professor of Medicine, University of Manitoba, and Dr. F. G. IcGuinness of Winnipeg, Professor of Obstetrics, University of Manitoba, will be resent.

Doctor Thomas Addis of San Francisco, who is well known through his outstanding ork on Nephritis, is Professor of Medicine at Stanford University School of Medicine ill also participate very generously in our programme. His subjects will be: "Treatnent of Medical Diseases of the Kidney" (1) Practical Methods for Diagnosis and Treatment in the Doctor's Office; (2) The Theory of the Treatment of Bright's Disease; (3) The Results of Treatment.

Other speakers are being arranged for and will be announced later.

* * * *

Lectures - Conferences - Special Features - Clinical Sessions

Demonstrations - Annual Business Meetings - Luncheons

Annual Dinners - Golf - Ladies' Entertainment

COMMITTEE ON ARRANGEMENTS

Programme
Registration and Reception
Press and Publications
Arrangement and Housing
Clinical Sessions
Entertainment
Golf
Transportation
Commercial Exhibits

* * * *

The Ladies' Committee is already planning for the comfort and entertainment of doctors' wives.

Drives — Reception and Tea — Ladies' Dinner — are each being arranged by special committees.

UPPER ISLAND MEDICAL ASSOCIATION

The regular semi-annual meeting of the Upper Island Medical Association was held at Qualicum Beach on April 23rd. After an afternoon of golf a large attendance of members were entertained at a banquet at the Qualicum Beach Hotel. Following a short business meeting, with President Dr. R. W. Garner in the chair, a very instructive index of "Pediatric Diseases and Treatment" was given by Dr. E. J. Curtis of Vancouver. Dr. J. R. Naden of Vancouver then gave a comprehensive and interesting lecture on "Injuries of the Knee" and was unfortunately limited to only a few words on "Low Back Pain." Dr. M. W. Thomas of the parent association was also a guest. A vote of thanks was moved by Dr. G. K. McNaughton of Cumberland and heartily endorsed by the members with the amendment that while the instructive ability of the visitors was greatly appreciated, they themselves needed some lessons at golf.

CANADIAN MEDICAL ASSOCIATION

ANNUAL MEETING — WINNIPEG

The following members of the British Columbia profession attended the meetings of the Canadian Medical Association in Winnipeg:

Dr. L. H. Appleby	Vancouver
Dr. W. E. Austin	Hazelton
Dr. Murray Blair	Vancouver
Dr. E. W. Boak	Victoria
Dr. F. M. Bryant	Victoria
Dr. W. A. Coghlin	Trail
Dr. G. A. Davidson	Vancouver
Dr. W. F. Drysdale	Nanaimo
Capt. Brock M. Fahrni	Vancouver
Dr. V. Goresky	Castlegar
Dr. E. R. Hall	Vancouver
Dr. C. H. Hankinson	Prince Rupert
Dr. E. K. Hough	New Westminster
Dr. W. S. Huckvale	Kimberley
Dr. M. J. Keys	Victoria
Dr. D. M. Lineham	Vancouver
Dr. Thomas McPherson	Victoria
Dr. Herbert McGregor	Penticton
Dr. A. J. MacLachlan	Vancouver
Dr. G. A. McLaughlin	North Vancouver
Dr. Jack Margulius	New Westminster
Dr. A. H. Meneely	Nanaimo
Dr. Bernhard Meth	Britannia Beach
Dr. H. H. Milburn	Vancouver
Dr. J. A. Montgomery	Vancouver
Dr. G. F. Murphy	Vancouver
Dr. J. R. Naden	Vancouver
Dr. A. B. Nash	Victoria
Dr. R. A. Palmer	Vancouver
Dr. W. M. Paton	Vancouver
Dr. Stanley Paulin	Vancouver
Dr. W. L. Pedlow	Vancouver
Dr. D. E. Saxton	Ocean Falls
Dr. G. D. Saxton	Ocean Falls
Dr. J. M. Swartz	Cranbrook
Dr. M. W. Thomas	Vancouver
Dr. Ethlyn Trapp	Vancouver
Dr. S. E. C. Turvey	Vancouver
Dr. G. L. Watson	Revelstoke
Dr. W. H. White	Penticton
Dr. Wallace Wilson	Vancouver

Winnipeg gave the Annual Meeting of the Canadian Medical Association a warm welcome—the meeting was largely attended—the programme of excellent quality and well arranged.

The registration from British Columbia reached 40. Sessions of General Council were well attended, British Columbia being represented by: Doctors Murray Blair, President; C. H. Hankinson, First Vice-President; W. M. Paton, Honorary Secretary; E. W. Boak and Thomas McPherson of Victoria; A. H. Meneely of Nanaimo; A. J. MacLachlan, H. H. Milburn and Wallace Wilson of Vancouver, and M. W. Thomas, Executive Secretary.

Dr. H. H. Milburn attended the meetings of the Executive Committee as representative from British Columbia.

Dr. Murray Blair was elected as representative of British Columbia on the new Executive Committee of the Canadian Medical Association.

Dr. Wallace Wilson, Chairman of the Committee on Economics of the Canadian Medical Association, presided at the session on Medical Economics, which followed the stag dinner on Thursday evening, and was attended by 225 members. This session was favourably commented upon and an increasing interest shown.

All meetings were well attended, despite the ambitious ascent of the mercury column.

Dr. W. F. Drysdale of Nanaimo was present to receive Senior Membership, which was conferred upon him at the ceremonial on Wednesday evening.

Doctors E. W. Boak, F. M. Bryant, Thomas McPherson and A. B. Nash were not disposed by the heat.

Dr. Lyon Appleby thinks that Winnipeg temperatures are not conducive to good racing by B. C. horses—however, Harry Milburn was able to replace the lost hat on the last race. We think that Dr. Appleby has very fine ponies in Swift Heels, Little Dee and Build-Up.

We saw Lt. C. E. Gould, who is with No. 8 Canadian General Hospital, and also Capt. B. M. Fahrni, who contributed an interesting study before the Section on Military Medicine.

We saw Bill White of Penticton visiting with W. S. Huckvale of Kimberley.

Mrs. Eric Boak was happily surprised when her son, Eric, turned up en route West on leave. Mrs. Boak thought that he was somewhere on the Atlantic.

Drs. W. E. Austin of Hazelton, F. M. (Wood) Bryant of Victoria, W. A. Coghlin of Trail, G. A. Davidson of Vancouver, V. B. Goresky of Castlegar, G. A. Leroux of Fernie, H. McGregor of Penticton, G. A. McLaughlin of North Vancouver, Jack Margulius of New Westminster, W. L. Pedlow of Vancouver, G. D. and D. E. Saxton of Ocean Falls, S. E. C. (Ward) Turvey of Vancouver, G. L. (Jerry) Watson of Revelstoke, all graduates of Manitoba, were visiting with old friends.

Dr. C. H. Hankinson of Prince Rupert, First Vice-President of the British Columbia Medical Association, was accompanied by Mrs. Hankinson. In that the 1942 Meeting of the Canadian Medical Association will be held at Jasper and the Annual Meeting of the British Columbia Medical Association will be held at the same time, Dr. Hankinson is already doing some long-range planning on building a large attendance from British Columbia at the Jasper meeting. Dr. A. E. Archer of Lamont, Alta., is the new President-Elect of the Canadian Medical Association. He, too, is planning for the 1942 meeting at Jasper.

Dr. and Mrs. Gordon Fahrni are to be congratulated upon the excellent arrangements for the Winnipeg meeting, and they should be gratified by the success which crowned their efforts. Winnipeg did itself very well.

WAR RELIEF FUND

* * *

Dominion of Canada

DEPARTMENT OF NATIONAL WAR SERVICES

THE WAR CHARITIES ACT, 1939

I, the undersigned, Minister of National War Services, the registration authority under the provisions of The War Charities Act, 1939, do certify that

THE BULLETIN FUND FOR CONTRIBUTION TO THE WAR RELIEF FUND OF THE BRITISH MEDICAL ASSOCIATION OF GREAT BRITAIN

situate at 925 West Georgia Street, Vancouver, in the Province of British Columbia, is a Fund duly registered under said Act.

Dated this 17th day of June, 1941.

J. T. THORSON,
Minister of National War Services.

S. W. STAPLEFORD,
Director of Voluntary Services.

The setting up of the "BULLETIN War Relief Fund" has started a similar move across Canada! At the annual meeting in Winnipeg the C.M.A. made arrangements to set up "The Canadian Medical Association War Relief Fund" for the purpose of collecting funds for the B.M.A. War Relief Fund. Preparations are already being made to set up local funds in the other divisions of the C.M.A. and all the funds collected in each province will be sent forward to the contral C.M.A. fund for transmission from time

to time to England. This is a splendid move and will give to many hundreds of doctors across Canada the opportunity they have been looking for—an opportunity of helping in a tangible way to lessen the terrific burdens so many of the British medical men have to carry in thes edays of their stress and strain. So many of the doctors remaining in Canada realize that, under the circumstances, this is the least we could do and the fund should be a great success.

This fund has got off to a good start, but has temporarily slowed down. It has been authorized by Ottawa and registered under the name of The Bulletin Fund for Contribution to the War Relief Fund of the British Medical Association of Great Britain.

The need is desperate, and we are sure every medical man in British Columbia, if he realized how desperate it is, would want to help. There are hundreds of medical men in Great Britain who have lost everything they had: practice, homes, all their belongings. They need help and they need it badly, and they need it now. Every dollar we can contribute will help greatly, and we urge all our readers, who have not yet contributed to this fund, to send in what they feel they can afford. The fund is open to every medical man in British Columbia, and we shall feel honoured to accept and acknowledge contributions.

Please make cheques payable to the Vancouver Medical Association and write on cheque, "For Bulletin War Fund." A special account has been opened, and money will be sent forward as fast as possible. Names of contributors, etc., will be published in the BULLETIN, unless a request to the contrary is received.

Last number of the BULLETIN contained the names of those whose subscriptions had been received up to that point. A fresh list appears in this issue.

So please send in your contributions immediately, so that we may be able to make a worthwhile contribution as soon as we possibly can.

Anonymous	$20.00	Martianoff, I. F.	$15.00
Anonymous	10.00	Nelles, T. R. B.	10.00
Archibald, M. G.	25.00	Saunders, E. H.	50.00
DeMuth, O.	25.00	Seldon, G. E.	50.00
Dunlop, Frederick C.	20.00	Yip, K. G.	10.00
Lockhart, W. T.	25.00		

COMMITTEE ON THE STUDY OF CANCER

Cancer is a disease that is known to have existed as far back as the Mesozoic period. Down through the ages it has been recognized and many and varied methods devised to combat its growth. Prayers, incantations and signatures were of no avail. Queer prescriptions were numerous, such as vaginal douches of pig's bile and lime made from oyster shells was used in cancer of the uterus. Surgery in varied forms was tried. Fire and escharotics were the favourites, but we also find Celsus describing the amputation of a malignant breast with removal of the pectorla muscles and dissection of the axillary glands, a procedure that sounds strangely modern for those times.

In spite of the multiplicity of therapeutic methods used against cancer, we find an Egyptian surgeon in 1500 B.C. tesrely stating in reference to cancer of the breast, "There is no treatment." Again, a thousand years later, a Hippocratic writer, in writing of occult (non-ulcerated) cancers said, "It is better to omit treatment altogether, for if treated the patients soon die, whereas, if left alone they may live a long time."

This hopeless attitude was justified until the beginning of the Twentieth Century. At that time pathology had developed as a science, owing to the discovery of the microscope; and it was found that cancer originated as a purely local lesion that could be readily removed with complete cure. Add to this discovery the rapid strides in surgery and radiotherapy, and for the first time in the history of mankind a cure for cancer was found.

Thus, the cancer problem today is not, "Where is a cure for cancer?", because we have a cure for cancer. The problem is to overcome the folklore, the old wives' tales, the myths and the teaching that have fixed cancer in the minds of the laity and the physician down through the ages as a fatal disease consisting of large tumors that had to metastasize and cause secondary anemia before the disease could be recognized.

CANCER CAN BE RECOGNIZED EARLY, BUT IT DOES NOT LOOK LIKE LATE CANCER. Thus, let us concentrate our efforts on trying to diagnose cancer early, so early that our present clinical criteria are insufficient and we have to learn new ones. Then we will save many lives of cancer patients.

M-S-A ANNUAL MEETING

The First Annual General Meeting of the Medical Services Association will be held at 8 p.m. on Friday, July 4th, 1941, in the Auditorium of the Medical-Dental Building, 925 West Georgia Street, Vancouver, B. C. It is requested that all Members attend.

Order of Business:

1. Directors' Report.
2. Election of Directors.
3. Appointment of Auditors.
4. New Business.

Each Member present in person shall be entitled to vote, provided that when electing the Directors, each Member shall vote only for the Director representing the class of members to which he belongs. The Provisional Directors retire from office and of the four Directors to be elected, two shall be elected by the Employee Members and one by the Professional Members and one by the Employer Members.

FIRST ANNUAL REPORT
MEDICAL SERVICES ASSOCIATION

Directors' Report

To Our Members:

Your Provisional Directors submit herewith the Balance Sheet and Financial Statement from Incorporation to May 31st, 1941.

We are assured by our Members and prospective members that the Plan has been well conceived —it fulfils a long felt want—it preserves normal patient-physician relationships. In bringing together along industrial lines those interested—employees, employers and doctors, it is evident that our Plan has the personal interest so necessary in a plan budgeting for medical care which includes early attenton and treatment.

For the seven months of operation the estimates of cost have been adequate to discharge our obligations and to set aside a reserve for contingencies of 12 per cent of the dues. Claims for medical, surgical and hospital care in the amount of $2,177.00 have been paid.

We have found the subscribers are pleased with the plan and are happy to report that there has been no cases of dissatisfaction with the services or system of payment. Members have gone freely to doctors of their own choice. Doctors from all areas included have given service.

Apart from the 10 per cent for administration expense charged against dues and the registration fees, organization expense has been met from advances. As the plant grows this organization expense will be liquidated as is customary from registration fees.

Our growth has not been rapid but in comparison with similar plans in other cities we have made good progress. Our 500 subscribers compares with the 600 which was the enrolment of the Associated Medical Services Incorporated of Toronto for six months. This plan after three and a half years of operation now has 24,000 subscribers, and we understand that it is growing at the rate of 800 a month. The California Physicians' Service and the Michigan Medical Service have had a similar experience. The latest information we have is that the enrolment is 23,000 and 130,000 respectively. Experience has shown that with a new development of this kind, progress at the start is slow but after a fair number of groups have been enrolled the plans gathered momentum. The known value of a plan and the "mouth to mouth" recommendations of its participating members increases the volume. We find that our best prospects are those who have talked to an employee or employer member or their own doctor. The plan is gradually being extended to the whole Province.

The increased payroll deductions and higher living cost leave little for the payment of medical care and may result in the neglect of health. The more deductions we have the more it is necessary to budget for health services.

Continuity of the plan is assured. In a plan of this kind it is necessary that the members have assurance that contracts will be fulfilled. This plan has that assurance in that the plan is underwritten by the medical profession of British Columbia.

The Committee on Economics and the Council of the College of Physicians and Surgeons and its officers and staff have devoted an immense amount of time and effort in the development of the plan and have been ever ready to lend assistance. Their attitude has always been fair and reasonable.

In retiring from office your Provisional Directors wish to express appreciation of the co-operation of the College of Physicians and Surgeons and its officers, without whose help and encouragement the plan would not have been possible. The Executive Secretary of the College, Dr. M. W. Thomas, has always been helpful. We wish also to thank our Director of Medical Services, Dr. S. Cameron MacEwen, for the services he has so freely given us. We hope that the plan will soon have sufficient members to pay him for his services.

Our relations with all members have been on a high level and we feel confident that our successors will enjoy the same measure of co-operation.

By Order of the Board.

J. T. MYERS,
President.

MEDICAL SERVICES ASSOCIATION
BALANCE SHEET AS AT MAY 31, 1941

ASSETS

CURRENT ASSETS:		
Cash in Bank	$1,465.71	
Cash in Hands of Trustees	2,050.00	
		$3,515.71
FURNITURE AND FIXTURES, less Depreciation		364.82
DEFERRED ORGANIZATION AND ADMINISTRATIVE EXPENSES, ETC.:		
Insurance Unexpired	$ 10.44	
Deferred Organization and Administrative Expenses (Exhibit B)	4,311.43	
		4,321.87
		$8,202.40

LIABILITIES

CURRENT LIABILITIES:		
Accounts Payable	$2,033.03	
Demand Notes Payable	5,400.00	
		$7,433.03
DEFERRED CREDIT TO INCOME:		
Members' Contributions Unearned		17.00
RESERVES:		
Medical, Surgical and Hospital Care	$ 302.00	
Contingencies	390.72	
		692.72
EXCESS OF INCOME OVER EXPENDITURES, ETC. for the period from April 16, 1940, to May 31, 1941 (Exhibit A)		59.65
		$8,202.40

AUDITORS' REPORT

To the Members
Medical Services Association:

We have made an examination of the books and accounts of the Medical Services Association for the period from date of incorporation, April 16, 1940, to May 31, 1941, and have obtained all the information and explanations we have required. We report that, in our opnion, the above Balance Sheet as at May 31, 1941, is properly drawn up so as to exhibit a true and correct view of the state of the affairs of the Medical Services Association, accordng to the best of our information and the explanations given to us and as shown by the books of the Association.

PRICE, WATERHOUSE & CO.,
Chartered Accountants.

Vancouver, B. C.
June 23, 1941.

Exhibit A

MEDICAL SERVICES ASSOCIATION

STATEMENT OF INCOME AND EXPENDITURE

From Date of Incorporation April 16, 1940, to May 31, 1941

INCOME:			
Members' Contributions			$3,256.00
Deduct—			
EXPENDITURE:			
Provision for Medical, Surgical and Hospital Care		$2,480.08	
Provision for Contingencies		390.72	
Operating Expenses	$4,636.98		
Less—			
Deferred	4,311.43		
		325.55	
			3,196.35
Excess of Income over Expenditures, etc., for the period carried to Balance Sheet			$ 59.65

Exhibit B

MEDICAL SERVICES ASSOCIATION

DEFERRED ORGANIZATION AND ADMINISTRATIVE EXPENSES

As at May 31, 1941

Salaries	$3,310.00
Printing, Stationery and Supplies	1,016.60
Telephone	85.12
Postage	74.71
Insurance	14.56
Equipment, Rent and Service Charges	107.50
Interest and Bank Charges	107.71
Depreciation of Furniture and Fixtures	40.53
Travelling Expenses	13.10
Legal Expense	176.11
Rent	198.04
	$5,143.98
Less—	
Registration Fees	507.00
	$4,636.98
Less—	
Charged to Current Operations (Exhibit A)	325.55
Balance Deferred, Carried to Balance Sheet	$4,311.43

PROVISIONAL DIRECTORS

J. T. MYERS A. L. McLELLAN M. W. THOMAS, M.D. JOHN YOUNG

Vancouver General Hospital

CYSTOMETRY

By L. G. Wood, M.D.

Cystometry was introduced by Rose in 1927 to estimate changes in intravesical pressure incident to fluid distention of the bladder. It measures the resisting pressure (tonus) of the detrusor muscle and is recorded in terms of pressure and capacity. Departures from the normal cystometric curve are due to hypertonia or hypotonia of the bladder-wall. Cystometric data may or may not support clinical findings, or may disclose unsuspected alterations in muscle-resistance and furnish a clue to their causes. They must be interpreted in conjunction with clinical and cystoscopic findings.

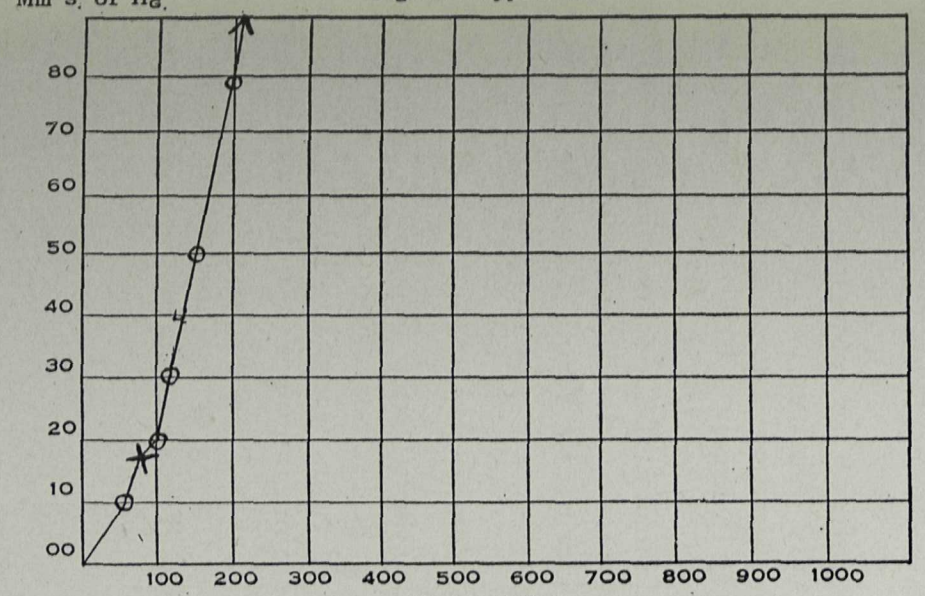
Technique:

The cystometer consists of three parts: An irrigating jar, a Y-connector, and a manometer, these being connected by tubing interrupted by a three-way stopcock. The irrigating jar is filled with water. All air must be expelled from the system by manipulating the stopcock. A soft-rubber catheter (No. 22F for adults) is introduced and the urine evacuated, after which the cystometer is connected and the bladder slowly distended. The resisting pressure of the bladder wall is estimated by operating the stopcock. The pressure data are recorded against the amount of fluid in the bladder. Of particular importance are the readings when the first desire to void is noted, when discomfort incident to distention first appears, and when this becomes severe. The final record is made with the patient straining to void. In the absence of this voluntary effort, changes in the intracystic pressure are entirely involuntary, and the recorded pressure is dependent upon the bladder muscle alone. The voluntary effort to void produces an upper or voluntary pressure line.

Interpretation:

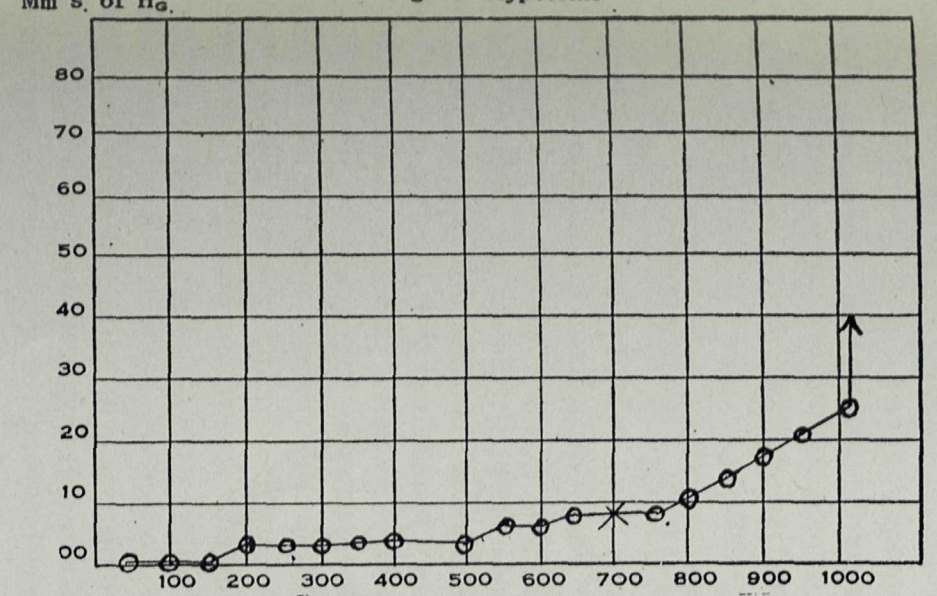
The normal cystometric curve shows a gradual increase in pressure, and the first desire to void appears when 125 to 175 c.c. of water has been put into the bladder and the intracystic pressure is 5 to 15 mm. of mercury. As more fluid flows in, the pressure rises more rapidly until a sensation of discomfort occurs at a pressure of 40 to 65 mm. of mercury (amount of fluid 300 to 400 c.c.). This denotes that the normal limit of stretch of the wall of the bladder has been passed, and at this time the fluid may be expelled around the catheter. By instrucing the patient to void at the conclusion of the test, one may determine the maximum voluntary pressure, which is from 60 to 80 mm. of mercury. The normal cystometric curve is constant and departures from it are due either to hypertonia or hypotonia of the detrusor muscle. (See Figure 4.) The hypertonic curve is characterized by a shift to the left of the first desire to void, a high intracystic pressure is reached rapidly, and there is a high voluntary pressure. (See Figure 1.) The hypotonic resistance is characterized by flattening of the curve, a shift to the right of the first desire to void, a low maximum intracystic pressure, and a low voluntary pressure. (See Figures 2 and 3.) Irritative and destructive lesions of the filling (sympathetic) and emptying (parasympathetic) mechanisms cause changes in the cystometric curve which in most instances are recognizable as of neurogenic origin. Such changes afford comparatively little aid, however, in determining the nature or site of the central lesion. Cystometric findings must be interpreted in the light of neurogenic and cystoscopic data. The hypertonic, neurogenic bladder is much rarer and more difficult to identify by cystometric methods than the hypotonic type, and especially so in the presence of vesical lesions such as cystitis or stone, giving rise to irritability of the bladder. Nevertheless, one suspects a neurogenic origin of hypertonia when there is no

Fig. 1. *Hypertonic*



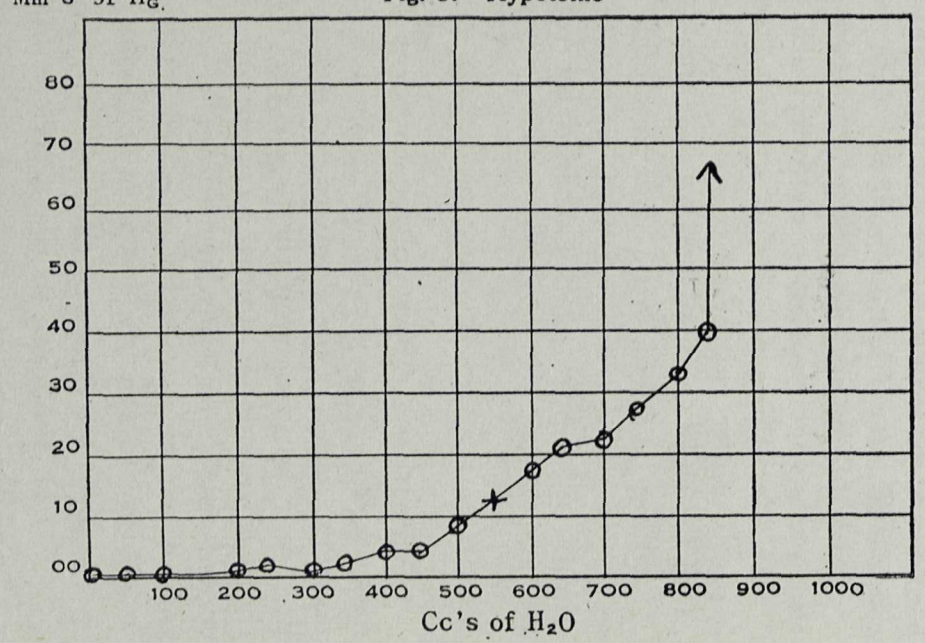
+ = First desire to void.

Fig. 2. Hypotonic



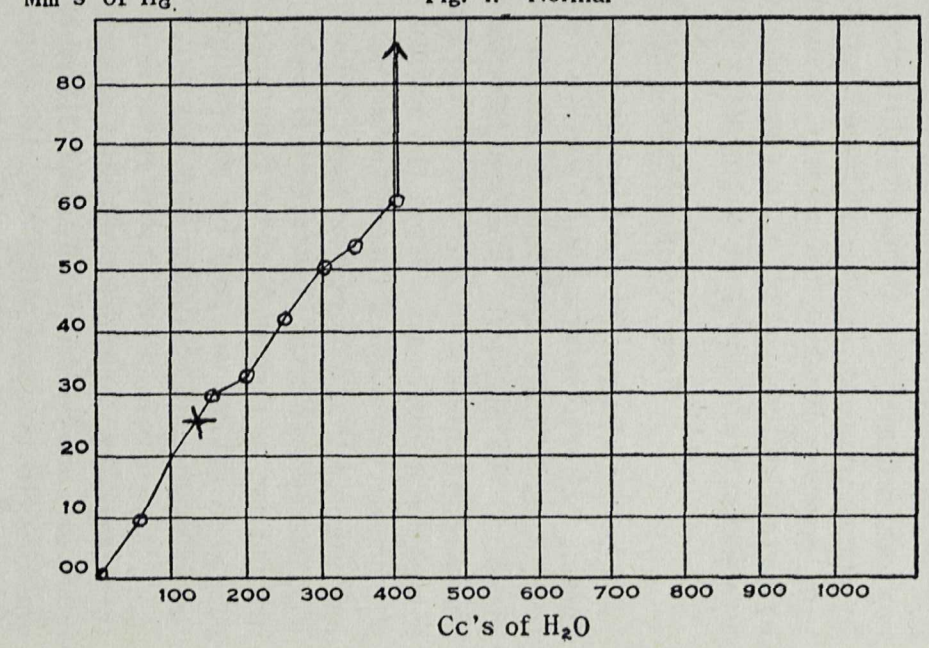
+ = First desire to void.

Fig. 3. Hypotonic



+ = First desire to void.

Fig. 4. Normal



+ = First desire to void.

demonstrable disease of the bladder, and the same is true when hypertonia persists despite the subsidence of local vesical irritation. Cystometry is far more important in the identification of neurogenic hypotonia in which the characteristic curve is mimicked only by that obtained in vesical diverticulosis, cystocele, marked hydro-ureter with reflux, and certain postpartum bladder disturbances. Spinal and sacral anæsthesia produce the hypotonic picture. It is said by Muschat that in uncomplicated chronic urinary retention, however marked, the normal cystometric curve is maintained, thus permitting the important differentiation of uncomplicated obstructive uropathy from that occurring in association with lesions of the central nervous system.

The Neuro-Muscular Mechanism of the Bladder:

The innervation of the bladder is derived from three principal sources: (1) sympathetic, (2) parasympathetic, and (3) somatic. The sympathetic fibres arise from the first, second, third and fourth lumbar segments, and pass by way of the hypogastric plexus to the bladder. The sympathetic impulses contract the internal sphincter, relax the detrusor muscle in the wall of the bladder, and cause retention of urine. The parasympathetic fibres arise from the second, third and fourth sacral segments, and pass to the bladder by way of the pelvic nerves. The parasympathetic impulses relax the internal sphincter and contract the detrusor muscle, producing emptying of the bladder. The parasympathetic innervation is much more active and stronger than the sympathetic innervation as regards bladder function. Somatic impulses to the external sphincter and perineum are transmitted by the pudendal nerves and arise from the third and fourth sacral segments. Sensory impulses from the bladder are carried by all three systems.

The neuro-musclar system governing the function of the bladder in adults functions to a large degree under volitional control. It comprises centres in the spinal cord and cerebrum, connected by intraspinal association pathways, together with various afferent and efferent nerves which serve as connecting links between the vesical musculature and the cord centres. There is in addition to the foregoing a nervous mechanism in the bladder walls which when dissociated by injury or disease from central influence may control bladder function reflexly.

Both filling and emptying of the bladder in infants are automatic, since the brain and intraspinal association pathways are structurally immature.

Bladder filling remains in adults an automatic function, but emptying of the viscus is partly under voluntary control. That the latter is largely a habit mechanism is indicated by the fact that it functions during sleep.

Filling and emptying are controlled by inhibitory and excitory impulses to the sphincter and detrusor muscles, originating in response to various cerebral and peripheral stimuli but emptying is governed by volition. During the filling phase the sphincters are contracted, the detrusors relaxed. The reverse occurs in the emptying phase.

Sympathetic (Filling) Mechanism:

Sympathetic fibres collect to form a plexus (the superior hypogastric or inferior mesenteric). This plexus continues downwards to the promontory of the sacrum as the presacral nerve. The sympathetic plexus is derived from branches originating from the first four lumbar sympathetic ganglia, which transmit impulses to and from the lower thoracic and upper lumbar segments of the cord. The sympathetic mechanism is concerned chiefly with bladder filling, hence the term "filling nerves" is used to distinguish them from parasympathetic or "emptying nerves." The function of the presacral nerve in relation to the bladder is as follows:

(1) Excitator to the internal sphincter.
(2) Inhibitor to the detrusor muscle.

Stimulation of the presacral nerve with Faradic current causes:

(1) Closure of the ureteral orifices;
(2) Contracture of the trigonal muscle, and
(3) Contraction (increased tonus) of the internal sphincter muscle.

Parasympathetic (Emptying) Mechanism:

The fibres are derived from the second, third and fourth sacral nerves and join the hypogastric ganglia. Efferent fibres from these ganglia carry both filling and emptying nerves. Sensory fibres from all coats of the bladder are likewise tributory to these ganglia. The function of the parasympathetic mechanism, the control of which lies in a cord centre located in the second, third and fourth sacral segments, is as follows:

(1) Inhibitor to the internal vesical sphincter muscle,
(2) Excitator to the detrusor muscle,
(3) Bearer of sensory impulses concerned especially wiht bladder sensations having to do with the micturition reflex,
(4) Possible bearer of impulses from the deep urethra.

Somatic (Volitional) Nerves:

Somatic nerves (the internal pudendal nerves) are of spinal origin and furnish motor control of the external vesical sphincter muscle and extrinsic urethral muscles (bulbo-cavernous, levator ani, compressor urethræ), and supply sensory fibres to the deep urethra.

It is well established that either the internal or external sphincter muscle alone, if normal, will serve to retain the urine in the male, so that incontinence does not follow operative destruction of the internal sphincter provided the external sphincter and its nerve supply are intact.

Normal Micturition:

Normal micturition occurs in response to stimuli derived chiefly from rising intra-cystic pressure incident to increasing accumulation of urine. That it is not solely a mechanical problem is evident from the varying amount of urine necessary to inaugurate the desire to void. Whatever may be the source or the type of the initiatory impulses, emptying of the bladder is dependent primarily upon inhibitory impulses transmitted to the sphincters coincidently with the transmission of excitator impulses to the detrusor. The internal sphincter muscle is then relaxed. Excitator impulses cause contraction of the detrusor muscles which, aided by increased intra-abdominal pressure incident to fixation of the diaphragm and contraction of the abdominal muscles, succeed in emptying the bladder completely in normal individuals.

The Neurogenic of Cord Bladder:

Interference with the normal discharge of impulses controlling the vesical musculature leads to disordered vesical function, and to definite physical changes in the bladder. The condition is usually dependent upon lesions of the spinal cord, but it may occur as the result of diseases of the brain, and in certain systemic diseases, such as diabetes mellitus and pernicious anæmia. The term "cord-bladder" should therefore not be used indiscriminately. Destructive lesions of the central nervous system lead to vesical hypotonia while irritative ones cause hypertonia of the musculature of the bladder. Certain lesions which are primarily irritative end in destruction of tissue, thus altering the cystometric as well as the clinical picture.

The changing clinical picture is well illustraetd by progressive tabes dorsalis. Its early stages may be attended by slight urinary difficulty and moderate retention which increase until almost complete retention ensues, perhaps to be finally succeeded by true incontinence. In other instances, partial true incontinence is an early symptom of the disease.

Cystoscopic Findings in the Neurogenic Bladder:

Every patient presenting himself with symptoms of cord-bladder should be cystoscoped. This was not possible in the series of cases presented here due to the limited use of the cystoscopy room for ambulatory patients.

On cystoscoping a patient with cord-bladder, some very striking points are noted:

(1) The bladder may appear normal in all respects.
(2) The commonest finding, however, is the case in which the cystoscope passes through the urethral sphincters with little or no resistance. There is retained

fluid which comes away in a forceless manner. The capacity of the bladder is almost always increased, sometimes the increase being as much as 1000 c.c. above normal. The next thing noted is the appearance of a fine trabeculation throughout the entire bladder excepting the trigonal region. This trabeculation is always even throughout, as opposed to the trabeculation noted in long standing cases of obstruction due to prostatism or stricture. In these cases the trabeculation is irregular, and in some cases sacculations appear. Another point of differentiation is the cystogram. The neurogenic bladder shows a spherical outline with a smooth margin, whereas the cystogram of a long-standing mechanical obstruction reveals a "christmas tree" formation with a jagged margin.

Clinical Features of the Neurogenic Bladder:

The various lesions productive of the neurogenic bladder may be grouped into three classes:

(a) Those causing incomplete dissociation of the voluntary (cerebral) and involuntary (cord) mechanism,

(b) Those causing complete dissociation of the voluntary (cerebral) and involuntary (cord) mechanism,

(c) Peripheral lesions.

1. Lesions causing incomplete dissociation:
   (a) Tabes Dorsalis,
   (b) Neoplasms of the brain,
   (c) Neoplasms of the spinal cord,
   (d) Subacute combined degeneration of the cord.

2. Lesions causing complete dissociation:
   Complete dissociation of the voluntary (cerebral) and involuntary (cord) nervous mechanism occurs suddenly following traumatic section of the cord, or it may be somewhat delayed in the case of traumatic injuries which merely bruise the cord without sectioning it, the dissociation being completed by progressive myelitis.

3. Peripheral lesions:
   Acute retention of urine due to spasm of the sphincters occurs reflexly after operations upon the rectum and other contiguous organs. It may also be due to detrusor weaknes following neuritis or the hypogastric nerves, to pressure on these structures by pelvic tumours, or to surgical injury or trauma incident to childbith.

NUTRITIONAL REQUIREMENTS OF THE GROWING CHILD

Dr. P. C. Jeans

Delivered at Summer School of Vancouver Medical Association, June, 1940.

Let us enquire into what controls our choice of foods and then determine after that if that choice adequately meets the nutritional needs. There is a large variety of foods from which we make our choice and a certain amount of selection is not only permitted but is practised by everybody. The diet of the average family is determined in part by the availability of food, personal preference and the cost of food, to some extent at least. To some extent instinct and preference play a very large part.

There have been various studies of racial tribes in the world and these are most interesting, for instance, in Africa, where two neighbouring tribes will differ very much in their diet customs—one of these lives largely on cereal foods and the other on meat and animal foods, and the physique and general health of those on animal foods was far superior to those on the vegetable and cereal diets. There are many other instances recorded of similar observations. When it comes to animal observations, this is on record in the classical literature. Dr. Sherman, using rats, kept a colony for many generations and these had thrived and the offspring also. The diet was wholly adequate. He supplemented the diet with some milk and there was a very marked difference. They matured at a more rapid rate; they matured earlier; they had a longer period of adult life. That kind of an experiment shows that your Bible is not a good criterion. The same is true for the human being. Some of this may be illustrated by taking growth as an example. We know that growth is controlled by a number of factors. There is, no doubt, a hereditary factor which is concerned with endocrine balance. We can do very little as physicians about this. There is also an environmental angle. It is well known that chronic disease of almost any kind can interfere seriously with growth on many occasions. It is well known that nutrition also plays a very prominent rôle. Of these various factors it is only the nutritional factor over which we have had any considerable control, and it is with that factor that we are dealing tonight.

One encounters children who are grossly dwarfed, extremely malnourished, wholly because of the inadequacy of food. Sometimes we consider these as endocrine disorders. We try to give them pituitary and other products. The food intake is one-third or one-quarter what it should be. It is difficult to see how any endocrine preparation can be of any use when the food intake is so small. We encounter obesity, also, due entirely to errors in nutrition, and here too at times consider endocrine disturbance as a factor.

All of you are acquainted with tables of growth, the height, age and weight tables, and there are different authors of these tables. The ones we are most familiar with are those of Baldwin and Wood and there have been some by Hornfelt and in 1933 by Stewart. The striking thing about these tables is that they show a gradual increase in the stature and size of our children with the passing of time. Hornfelt shows a more rapid growth than does Baldwin. I think this is not exclusively due to nutritional factors. More is being learned of what good nutrition is, and better application is being made of this knowledge. These tables give us only an incomplete picture of growth and development and there are so many factors that are not reflected in those tables at all. There is the eruption of the teeth, the rate of eruption of the teeth, the amount of muscle tissue that exists in the body. All of these are nutritional factors, and there are several more which are important and which are not reflected in any way in growth tables.

Now, these are illustrations of the fact that nutrition is gradually improving but we have not yet reached our objective. The best example of this very important point of view, and one with which you may not agree, is the example of dental caries. It is our belief that this is dependent upon nutrition, and if the nutrition is what it should be there would be no dental caries. If it is recognized that 90%, more or less, of our children have tooth decay, then it becomes obvious that the nutrition of our children is far from what it should be.

Our knowledge of nutrition is changing very rapidly, particularly in certain fields —in some of the vitamin fields—and certain scientists are developing knowledge at a slightly greater rate than a good many of us are able to keep up with. There is always a lag between the development of new knowledge and the practical use of that knowledge. This is shown by several things in the past. There was a time when no one thought of giving cod liver oil or orange juice to a baby, but now it is a matter of routine. I have at least hinted that I believe that the average diet is defective and the things in which it is most likely to be defective are, perhaps, calcium and vitamin A to some extent, vitamin B_1 to some extent, vitamin D almost certainly to a considerable extent, and there is a good deal deal of danger of there being a deficiency of protien. Bread, meat and potatoes form the basis of most of our diets. They are not complete. Those which supplant this basic diet are spoken of as protective foods—milk, eggs, fruit and vegetables—so that most of us are accustomed to the emphasis being placed on the so-called protective foods in order to supplant the basic diet.

To take up some of these materials once at a time, let us first consider vitamin A. This perhaps does not belong strictly to this category because an ordinary good diet does supply an ample amount of vitamin A. Vitamin A is fairly well distributed so that even an average diet will contain a sufficient amount. Because of this fact, the appearance of vitamin insufficiency has been doubted by a number of people. Vitamin A, of course, speaking broadly, occurs in green vegetables, in the green leaves and in the yellow ones, also in milk and butter and eggs. The vitamin A that occurs in our foods consists of the Keratins and, to a very slight extent, to the vitamin A itself. There are times when a distinction needs to be made for the purpose of discussion. In the fish oils we have vitamin A rather than the keratins. Vitamin A deficiency does occur in spite of the fact that even an average diet seems to contain an adequate amount for the human need. The causes of deficiency may be considered as two in general: (1) A deficiency of intake, which is not very common. However, it can occur at very low economic levels. It is very difficult to devise a diet that is complete in everything else and deficient in vitamin A. We have done this for experimental purposes, and the experiment points out that if any individual is deficient in vitamin A, the vitamin A is not the only thing he is deficient in. (2) A much more common cause is a utilization defect—inability to utilize the vitamin A of the diet. In the first place, vitamin A is one of the fat-soluble vitamins and there must be bile in the intestinal tract. There are not many who are lacking in this and this cause is not a very common one. In liver diseases keratin cannot be converted into vitamin A. It is known also that mineral oil will dissolve keratin and it is possible to administer mineral oil in such a manner that keratin is drained away in a serious manner. So that one need not fear such a disturbance, but as far as experimental work goes, it may have a very detrimental effect. This has been done with young rats. Even if vitamin A is administered in only such amount as will permit resumption of growth, these rate are segregated and one lot given mineral oil; then those rats will die regularly and in a relatively short time of vitamin A insufficiency. If to these rats are given valuable amounts of vitamin A, then we don't get these fatal effects. The most important cause of vitamin A deficiency is infections of various sorts and particularly upper respiratory infections. These have played a frequent and highly important role in most of the children with vitamin A deficiency.

You are all familiar with the changes that accompany severe vitamin A deficiency. There are changes in the epithelium and various parts of the body. This has been spoken of as an anti-infective vitamin and perhaps erroneously. It is not a good term to apply to it. Changes are in the epithelium, in the nose and throat and the eyes, so that vitamin A may be considered as an anti-infective material. There has been much discussion as to the relation between vitamin A deficiency and the common cold. I don't think it is desirable to review these observations here but to summarize it by giving my own point of view. In the case of the common cold, we have a disease which is caused by a virus and I doubt if any of you would expect to prevent a specific infectious disease by any of the vitamins. What one might expect, however, would be to decrease the secondary

effects, decrease the complications, cut short the period of illness. This is what is accomplished by vitamin A.

There has been much discussion as to the relationship between vitamin A and kidney stone, and if there is any relationship, vitamin A is only one of many factors responsible for the formation of kidney stone. Night blindness has been considered to be relatively rare. Routine ophthalmic examinations can not detect night blindness. Night blindness in its relationship to vitamin A depends upon the vitamin A content of the body, and there is a direct relationship between the amount of vitamin A in the body and in the retina and the ability of the person to adapt himself to night vision.

There have been a number of instruments devised and by the use of these instruments one can get a very good idea of whether or not the individual is deficient in vitamin A. There are several types of these instruments—those which show a bright light into the eye and then measure the time required for recovery, so that the subject can see the test object at a fixed illumination. There is another type in which a bright light is shone into the eyes and a curve is taken. At the very beginning a good deal of light is required, and as time elapses less and less light is required. These various types of instruments are useful for the small child or baby. By means of these procedures one can determine whether dark adaptation is normal or not. The instrument with which we have been working is one of a type which permits the plotting of recovery time after the shining of the bright light. We have been satisfied with this instrument. However, it has received some unfavourable criticism, so that I will speak of that for a moment. There are three criteria which I think we have favoured in the use of this instrument. One can get results with the normal individual. The curves all follow within a relatively normal range. When abnormal individuals are found, one can restore them to normal by the administration of vitamin A. One can use volunteer subjects and deplete them of vitamin A and they parallel closely the degree of depletion. All of these points seem to indicate that the test is dependent on the measure of vitamin A. There has been shown to be quite a bit of lack of insight in making these criticisms. By means of such a test as this, one can make surveys if one wishes, and apparently vitamin A deficiency varies greatly in its incidence.

One hundred and twenty school children were examined in the fall of the year. We found only one subnormal individual and five who had borderline test results. In the winter in this same group, there were five subnormal individuals and 15% more of them had borderline results. The next spring, when the same group was observed, there were no subnormals in the group at all and there was only one borderline case. So it makes a great deal of difference when the group is examined. There is an essential incidence, but I don't think this depends upon content of vitamin A. I think it depends upon infection. In one group in which we worked, there were normal results throughout the entire year. As further evidence of the rôle that infection plays in vitamin A deficiency, I might cite just this one type of observation.

Here is a child who gives an abnormal test result with the instrument and because of that abnormal test result this child was given vitamin A in rather generous amounts, and about the same time this child developed a cold and instead of giving better tests with the ingestion of vitamin A, the tests became worse, and with the continuance of vitamin A and as soon as the cold became better, the results became entirely normal. This illustrates the effect of infection. It also illustrates the false judgment one might make. One might find a child giving poorer and poorer results in spite of the ingestion of vitamin A.

What is the need for supplementing the diet of the average child with vitamin A? For the child in good health there is no need. An ordinary good diet would contain about 5,000 units of vitamin A. This is considered ample for the needs of a child. If one uses this as a criterion, then deficiency is not shown above 1,500 units a day and it takes an extremely poor diet to bring the vitamin A content down to that level. Supplementing vitamin A for that reason would be unnecessary in the great majority of cases. In the case of a child with chronic infection or with repeated respiratory infection,

there is very likely to be vitamin A deficiency and there is much more definite indication for the ingestion of vitamin A. It would be given to these children with colds and infections not because it is an anti-infectious vitamin, but because there is a defect in these children.

Now we consider vitamin B_1. Here the situation is very much the same as in vitamin A. We are much more to the borderline of the ingestion of minimal amounts but much the same factors enter into the vitamin B_1 deficiency—illness, infections and various difficulties that lead to poor utilization. In the case of vitamin B_1, however, there is a smaller proportion of the requirement being ingested. This has been brought about by the refined food. Something like 25% of the total calories represents refined cereal. In former times this same type of diet would have supplied 600 untis of vitamin B_1. At the present time the same materials will supply approximately 50 units of vitamin B_1. It puts a rather large burden on the so-called protective foods to bring up the vitamin B_1 to an amount that is needed. This condition has been getting progressively worse. At the present time there has been started a programme of restoration to foods and I hope it grows. For example, flour that has been milled to a refinement may now have added to it vitamin B_1 and colcium and iron also, back to the content of the original wheat, so that we may have a flour that is restored in these details without changing the keeping qualities of the flour, or its taste or its cooking qualities. We hope this programme grows. It is definitely needed.

It is difficult to say how much vitamin B_1 deficiency there is. There are whole districts in which the disease Pellagra exists. There are large areas in which vitamin B_1 deficiency does definitely exist because of low diet intake. Vitamin B_1 is known to be concerned with appetite. In the animal, when the animal is deprived of vitamin B_1, the appetite is decreased. There is an attempt to transfer this idea to the human being and no doubt it holds there, too, but in the case of the child with poor appetite, the chances are that we are dealing with multiple factors again. In the majority of instances, at least, the difficulty is one of training a child in feeding habits. There may be a vitamin B_1 deficiency. What is needed is re-training of feeding habits.

We know in the animal that vitamin B_1 is concerned with the tone of the bowel. One encounters the idea that vitamin B_1 is a very good thing to give to children with constipation. I am not sure, but I wonder if that fact is due to vitamin B_1, because wheat germ and similar materials are laxative even though one has destroyed the vitamin B_1 in them. There is something more than in the effect of bowel tone. It is very definite that clinically there is a laxative effect in most instances from the use of these preparations.

Now the subject of vitamin C. I will restrict my remarks to the application to the young infant. We know that infants ordinarily will not develop scurvy if they receive 10 mgs. of vitamin C a day. It is desirable not to restrict the intake to that amount and with most of them it seems desirable to give amounts larger than those which will just prevent scurvy. If one converts this into terms of orange juice and considers the average orange as containing 50 mgs., then we will see that infants normally get their vitamin C. There has been a rather strong tendency to use smaller amounts of orange juice than this and to start them somewhat later. It is so often the custom to give a teaspoon of orange juice after the baby is one month of age and increase gradually a teaspoon at a time and then stop at an ounce as an intake. It seems to me that there are no dangers in orange juice and that for nutritional purposes one can consider that as our guide. It is our own custom to give an ounce of orange juice each day as soon as the baby comes under pædiatric care; at 2 or 3 months of age to give 2 or 3 oz. of orange juice a day. No harm is done and it is more nearly the theoretical nutritional requirements.

We don't need to discuss vitamin D. Milk is an excellent source and we hope that all our babies and children get an ample supply of milk. It is present also in vegetables but milk is the most important factor. If an abundance of milk is taken and if green vegetables and other fruits are eaten, we don't need to worry about it. There are other

vitamin D factors about which we know far too little. In most parts of this continent we don't need to worry very much about it.

There is another factor that in the rat seems to control the presence or absence of hair. Whether this has any application to the human being is not known. We have often considered that cirrhosis of the liver may be caused by alcohol. It is now becoming somewhat more evident that these materials are not the direct cause but they are the direct cause of a deprivation of certain numbers of the vitamin D content and it is this which leads to these difficulties in the liver. Alcohol does no damage in these respects, as might be thought.

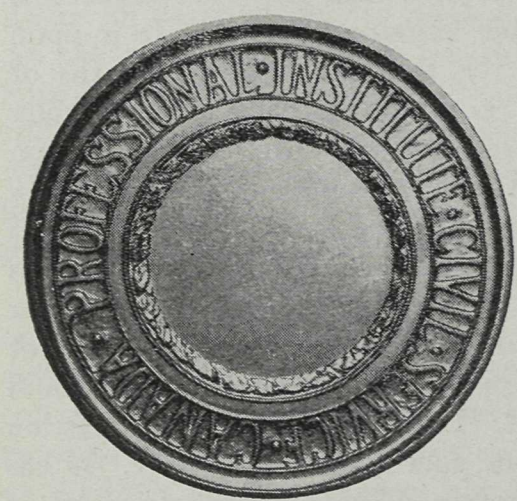
As to the iron intake of the infant—we don't concern ourselves very much with the iron intake of the older child but it is highly desirable with the infant. When the infant is born, he has 22 gms. of hæmoglobin for each 100 c.c. of blood. This hæmoglobin is broken down to 12 gms. This breakdown leads to the loss of considerable amounts of iron. Some of this is lost and a considerable amount is stored. It is upon this storage of iron that most of the infants depend for the first 5 or 6 months of life and this storage is adequate if the baby is not ill. So often the baby is not wholly well during that period and the storage is used up more rapidly. Then, a store if iron is a normal thing and why should one deplete it at any time? So keep up the iron supply after his first couple of months. There are various ways of doing this. The best way is by means of food. Here it is desirable to give small quantities of iron. The quantity is extremely small: 5 mgs. per day is enough in the first 6 months of life—10 mgs. for the remainder of the first year. This amount of iron would be supplied by a teaspoon of 1% solution of iron ammonia citrate. In the case of supplying it with foods, one would consider egg yolk and fruits and vegetables as important. This brings about the question of feeding cereal as baby's first solid food. This custom goes back a long way. It has come down all through the ages since the Roman Empire. The feeding of cereal as baby's first solid food is founded on custom. It certainly is not through any nutritional knowledge. What is it that the baby needs in this early time that he is not getting in the milk formula, in orange juice and in cod liver oil? When even whole grain cereals are compared to fruits and vegetables and egg yolk as a source of vitamin B_1, they are not good competitors. Of course, there are cereals which have been fortified with vitamin B_1 and this is a good thing, but it is only a custom and not based on sound nutrition. If one is using natural foods, the egg yolk and fruits and vegetables are definitely superior to the cereals.

THE PROFESSIONAL INSTITUTE MEDAL

[The BULLETIN received this news item from the Professional Institute, and while adding its congratulations to those already showered on the distinguished medallist, Dr. Frederick S. Burke, is glad and honoured to publish the following.

This medal is one of the highest laurels a man of science can win in Canada, as is evidenced by the fact that it is the fourth presented by the Professional Institute, and by the list of those already so honoured, a truly distinguished company. This is not the first outstanding contribution made by Dr. Burke to the national well being of Canada, as our readers will see. Such work, painstaking and conscientious, adds to the sum of human knowledge and of human happiness, and Dr. Burke has lived up to the highest standards and ideals of his profession, and there are no higher. —ED.]

The Professional Institute Medal, awarded annually for outstanding contribution in "research, administration, or industrial organization by any member of the professional services of the Provincial or Dominion Governments," was recently presented to Dr. Frederick S. Burke, of the Department of Pensions and National Health. The presentation was made at the annual luncheon of the Professional Institute of the Civil Service which precedes the business meetings of the organization opening here. The award was made to Dr. Burke for his outstanding study, over a number of years, of the mortality among war pensioners, particularly those suffering from tuberculosis, and the valuable



findings and suggestions made by him which have had far-reaching influence on the medical conduct of the present war.

The study of the subject of deaths among war pensioners was an entirely new departure not previously attempted in Canada or elsewhere. It was not undertaken because of the present war but was finished before its declaration, so that the conclusions reached were the result of cold reasoning. Its timeliness is obvious.

Dr. Burke is a native of Fergus, Ontario, graduated in medicine in 1911 from the University of Toronto, and saw extended service overseas during the first Great War. He was twice mentioned in despatches. He was Director of Medical Services in the Toronto Health Department, prior to joining the Department of Pensions and National Health. Dr. Burke has three hobbies: the Professional Institute, mechanics and fishing. His connection with the Institute has been extensive, having served as second vice-president in 1938, and having been chairman of a number of important committees. Dr. Burke has an inventive streak in his make-up and the government has adopted an improved type of mechanical ankle joint for artificial limbs, perfected by him. Among other things he has invented a folding trailer for automobiles.

This is the fourth medal presented by the Professional Institute for outstanding contributions. Former awards were made to Dr. J. H. Craigie of Winnipeg for his work in solving the grain rust problem, to Mr. H. L. Seamans of Lethbridge for his discovering a method of controlling the Pale Western Cutworm, and Mr. Herbert Marshall of Ottawa, for his study of the Canadian Balance of International Payments. The judges of this year's submissions, which were more numerous and of a higher calibre than ever before, consisted of Dean C. L. Mackenzie, Acting President of the National Research Council; Dr. Augustin Frigon, Assistant General Manager of the Canadian Broadcasting Corporation, and Mr. Vernon Knowles, prominent journalist and Publicity Director of the Canadian Bankers' Association.

Acknowledgement of the importance of Dr. Burke's findings and suggestions have been received from outstanding members of the medical profession in Canada, the United States, the United Kingdom and even Australia. It has also been praised by life assur-

ance companies and the Actuarial Society of America. An article appearing in the *Journal of the Canadian Medical Association,* based on Dr. Burke's findings, estimates the eventual total cost of pensions for conditions that could have been diagnosed by X-ray, "and much of it eliminated from the pension budget," at the astonishing total of $500,000,000.

As a result of the lessons learned from this study undertaken by Dr. Burke, the National Defence Medical Services have put into effect, along the lines suggested, measures which have already saved vast sums, and will continue to save even greater amounts. From the humanitarian or public health point of view the gain is equally great. Tuberculosis is detected very early, when chances of cure are good. Cases are removed from contact with others, thus protecting the army and the public. Furthermore, early detection followed by early treatment gives the sufferer an almost normal expectancy of life and efficiency.

Further, if the lessons learned from the study are followed, and steps in that direction have already been taken, Canadian boys under twenty will not be subject to the rigours of front line service, and the enhanced diet or rations will greatly aid the efficiency of the young soldier and prevent the breaking down of many through deficiency diseases.

In his study of deaths among war pensioners, Dr. Burke had revealed the fact that "the death rate from disease indicated that the after-effects of war service had a less adverse influence on the seasoned men of 30 years and over than on those of 24 years and younger." Dr. Burke further revealed that "it therefore seems reasonable to assume, in the absence of other proof, that with the country on a war footing, the army ration as provided during the Great War, while otherwise adequate, may have been deficient in the protective elements, and as a result contributed to the loss of man power by permitting the physical breaking down of many in the younger age groups, and by increasing the difficulty of all ages to ward off infections."

In his survey of mortality of war pensioners, Dr. Burke discovered that those surviving the immediate post-war period and as a result of "excellent medical care and another element of greater importance, partial if not total freedom from financial worry . . . are thrown into ages in which their mortality is more favourable in comparison with the mortality of Canadian males."

It is the belief of the Medical Group of the Professional Institute of the Civil Service of Canada, expressed in a summary of Dr. Burke's presentation, "that the revealing facts, as demonstrated in Dr. Burke's paper, have been the means of giving us a better army for this present war, as well as saving the Canadian taxpayer staggering sums of money. Thus work of this nature reflects directly on the financial and the health aspect of every Canadian citizen, and, as a result, is worthy of encouragement."

The Medical Group feels that in all fairness to Dr. Burke it should draw the attention of the judges to the Standard Morbidity Code for Canada, which Dr. Burke originated and developed during the course of his work as chief of the Division of Medical Investigation of the Department of Pensions and National Health. Without such a Code, says the Medical Group in its summary, "medical studies of this nature would have been well nigh impossible. The chief and most important feature, however, was that he had the Code, together with an Appendix for war illnesses and injuries, in such a complete form that the Army Medical Services were able to adopt it for use within a few days of the outbreak of war and as a result of its timely preparation it has been accepted as both Morbidity Code and Standard Nomenclature for the Army Medical Services.

"This was immediately followed by its adoption by the Canadian Pension Commission and the Treatment Branch of the Department of Pensions and National Health. This means that the same Code numbers indicating illness or injury are carried through from the Army to Pensions to Treatment, and we believe that this constitutes the greatest advance yet made towards uniformity of Army Medical Records."

St. Paul's Hospital

CASE REPORT

R. C. WELDON, M.D.

By E. CHAMBERS, M.D.

In the following paragraphs, we are submitting a case report, which we think may be of interest to some of your readers:

About February 25, 1940, a white, married female of 23 years of age, contracted a common cold, which was followed by general aching, malaise, and extreme prostration. Symptoms were those of influenza. Temperature of the patient was around 102° F. She states that she had nausea and vomiting and also some epistaxis. At this time, she also suffered diarrhœa of three days' duration. Since that time, she has had a general feeling of malaise, loss of appetite, and some abdominal tenderness. Past history reveals the fact that the patient had had a boarder who had had typhoid fever and recovered.

Patient was admitted to the hospital March 17, complaining of general weakness and general prostration. Temperature was 99 when she entered, and went up to 103^3 that evening. She continued with cough, feeling of general malaise and prostration, and a spiked temperature, varying from 99 to 104 until March 23, when she was given a blood transfusion, 500 c.c., after which time her temperature came down to normal and remained same. The donor of the blood had been immunized for typhoid fever with three shots in 1940, and with one shot in 1941. Patient had some clay-coloured stools the first four or five days. Spleen was enlarged three fingers below the costal margin and there was evidence of slight abdominal tenderness. Remaining physical examination was negative.

LABORATORY EXAMINATIONS:

March 19, 1941—

B. typhosus ..... Flagellar "H" antigen—agglutination to dilution 1:160
Somatic "O" antigen—Titre to follow

B. paratyphosus A ..... Negative

B. paratyphosus B ..... Some agglutination to dilution 1:160

Br. abortus ..... Negative

March 20, 1941—

B. typhosus ..... Flagellar "H" antigen (titre) Agglutination to dilution 1:1280
Somatic "O" antigen (titre) Agglutination to dilution 1:2560

April 3, 1941—

B. typhosus ..... Flagellar "H" antigen—agglutination to dilution 1:640
Somatic "O" antigen—agglutination to dilution 1:2560

B. paratyphosus A ..... Agglutination to dilution 1:80

B. paratyphosus B ..... Agglutination to dilution 1:80

Br. abortus ..... No agglutination in 24 hours. If after further incubation agglutination occurs, a subsequent report will be sent.

Urinalysis—Sp. Gr. 1015; Reaction—acid; Albumin—plus 1; Sugar—negative;
Microscopical—Pus cells—plus 1; Pus in clumps—plus 1; Few epithelial cells.

Blood Count—

	Hæmoglobin 15.36 gms. 100%	R.B.C.	W.B.C.	P.M.N.	Eosin	L. Lymphs
Mar. 17—	54%	2,800,000	3,000	36		64
Mar. 24—	73%					
Apr. 9—	80%					

Mar. 17—Anisocytosis plus 1; Poikilocytosis plus 1
Mar. 19—Icterus Index 4.5
Mar. 19—2 specimens sputum: No T. B. found
Mar. 22—Bl. Culture: (4 p.m.) 72 hours no growth
Mar. 24—Culture stool rec'd 19/3/41: No B. typhosus, B paratyphosus A or B found
Mar. 26—Stool culture: No. B typhosus found
Apr. 3—Stool: No B. typhosus found
Apr. 12—Stool: No. B typhosus found
Mar. 17—Sedimentation rate: 11/55
Mar. 22—Mr. J. D Jones—matched and compat.
Patient group A4.
Lungs were x-rayed and found negative.
Patient was given Phenobarbital grs. iss to sleep, Blands compound gr x one t.i.d and haliver oil capsule b.i.d.