The . . .

BULLETIN

of the . . .

VANCOUVER MEDICAL ASSOCIATION

With Which Is Incorporated
Transactions of the

VICTORIA MEDICAL SOCIETY

the

VANCOUVER GENERAL HOSPITAL

and

ST. PAUL'S HOSPITAL

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BRITISH COLUMBIA MEDICAL ASSOCIATION
ANNUAL MEETING
SEPTEMBER 17, 18, 19
HOTEL VANCOUVER VANCOUVER, B. C.

UNIVERSITY OF
BRITISH COLUMBIA
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Published Monthly under the Auspices of the Vancouver Medical Association in the interests of the Medical Profession.

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

Vol. XXIII JULY, 1947 No. 10

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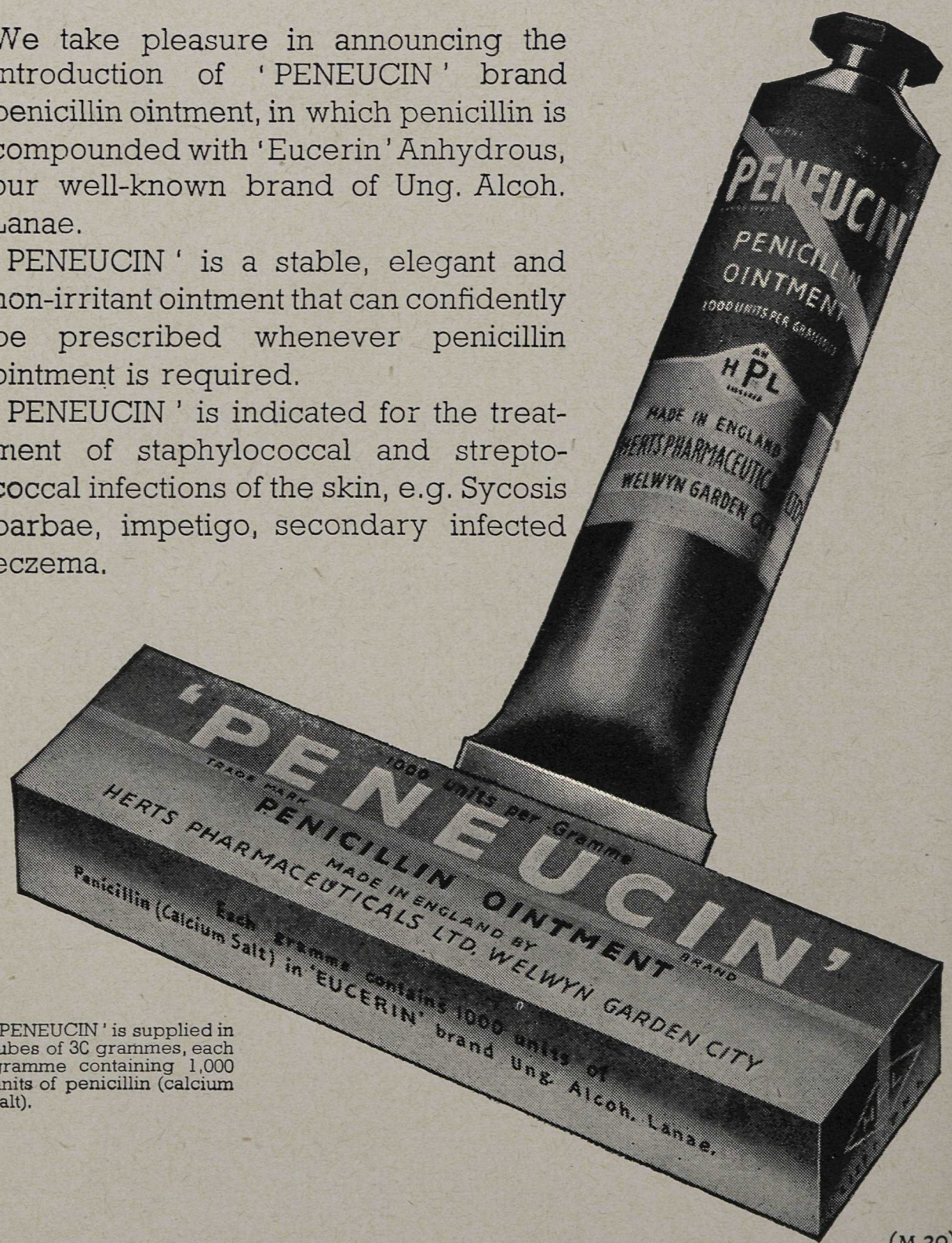

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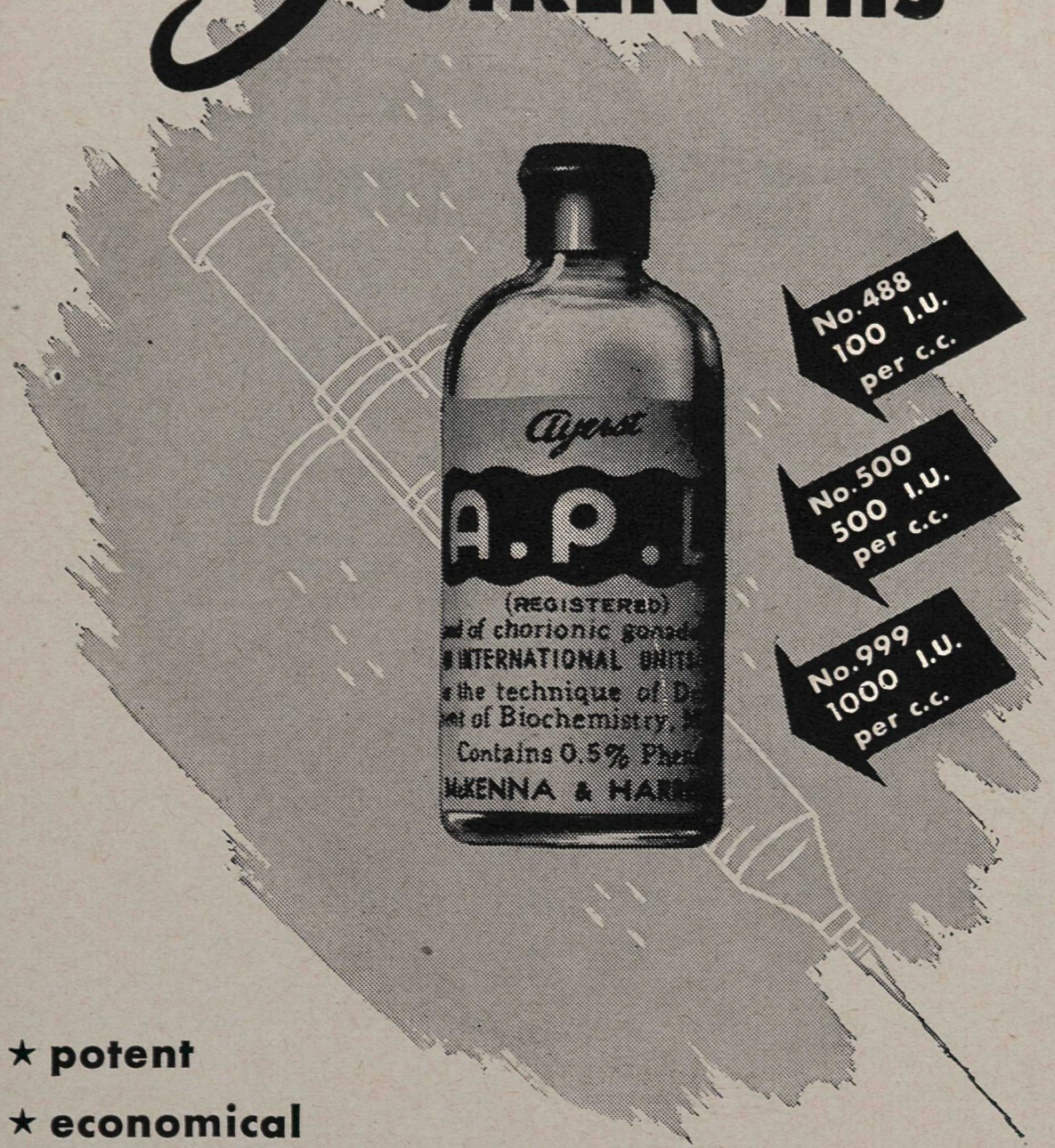

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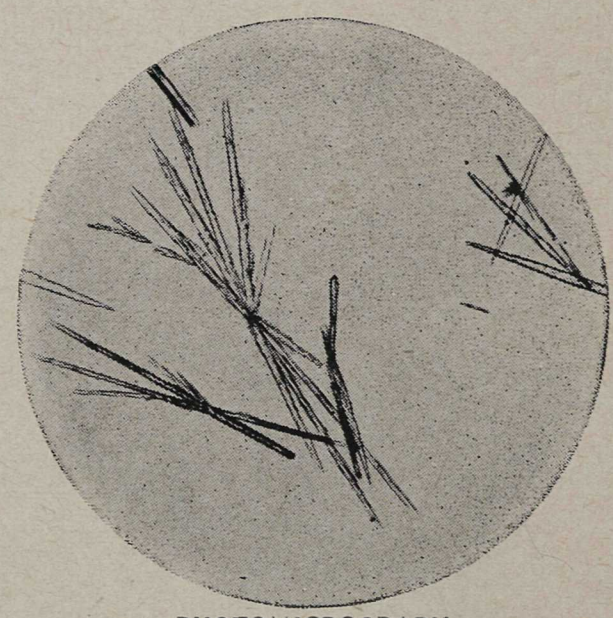

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VANCOUVER HEALTH DEPARTMENT

STATISTICS—MAY, 1947

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

	Number	Rate per 1,000 Population
Total deaths	368	12.8
Chinese deaths	19	37.3
Deaths, residents only	330	11.5
BIRTH REGISTRATIONS:		
Male	429	
Female	392	
	821	28.5

INFANT MORTALITY	May, 1947	May, 1946
Deaths under 1 yearof age	22	31
Death rate per 1000 live births	26.8	39.3
Stillbirths (not included above)	14	15

CASES OF COMMUNICABLE DISEASE REPORTED IN THE CITY

	April, 1947		May, 1947		June, 1947	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Scarlet Fever	11	0	11	0	7	0
Diphtheria	0	0	3	0	0	0
Diphtheria Carrier	0	0	0	0	0	0
Chicken Pox	100	0	64	0	64	0
Measles	373	0	87	0	29	0
Rubella	3	0	2	0	2	0
Mumps	300	0	175	0	80	0
Whooping Cough 0	73	0	107	0	70	0
Typhoid Fever	0	0	0	0	0	0
Typhoid Fever Carrier	1	0	0	0	0	0
Undulant Fever	1	0	0	0	1	0
Poliomyelitis	2	0	2	0	13	0
Tuberculosis	59	23	47	0	0	0
Erysipelas	4	0	2	0	0	0
Meningococcus (Meningitis)	0	0	0	0	1	0
Infectious Jaundice	0	0	1	0	0	0
Salmonellosis	4	0	4	0	18	0
Salmonellosis (Carrier)	0	0	0	0	1	0
Dysentery	0	0	0	0	0	0
Dysentery (Carriers)	0	0	0	0	0	0
Tetanus	0	0	0	0	0	0
Syphilis	105	1	93	0	0	0
Gonorrhoea	105	1	238	0	0	0
Cancer (Reportable)						
Resident	73	0	98	0	0	0
Non-resident	16	0	32	0	0	0

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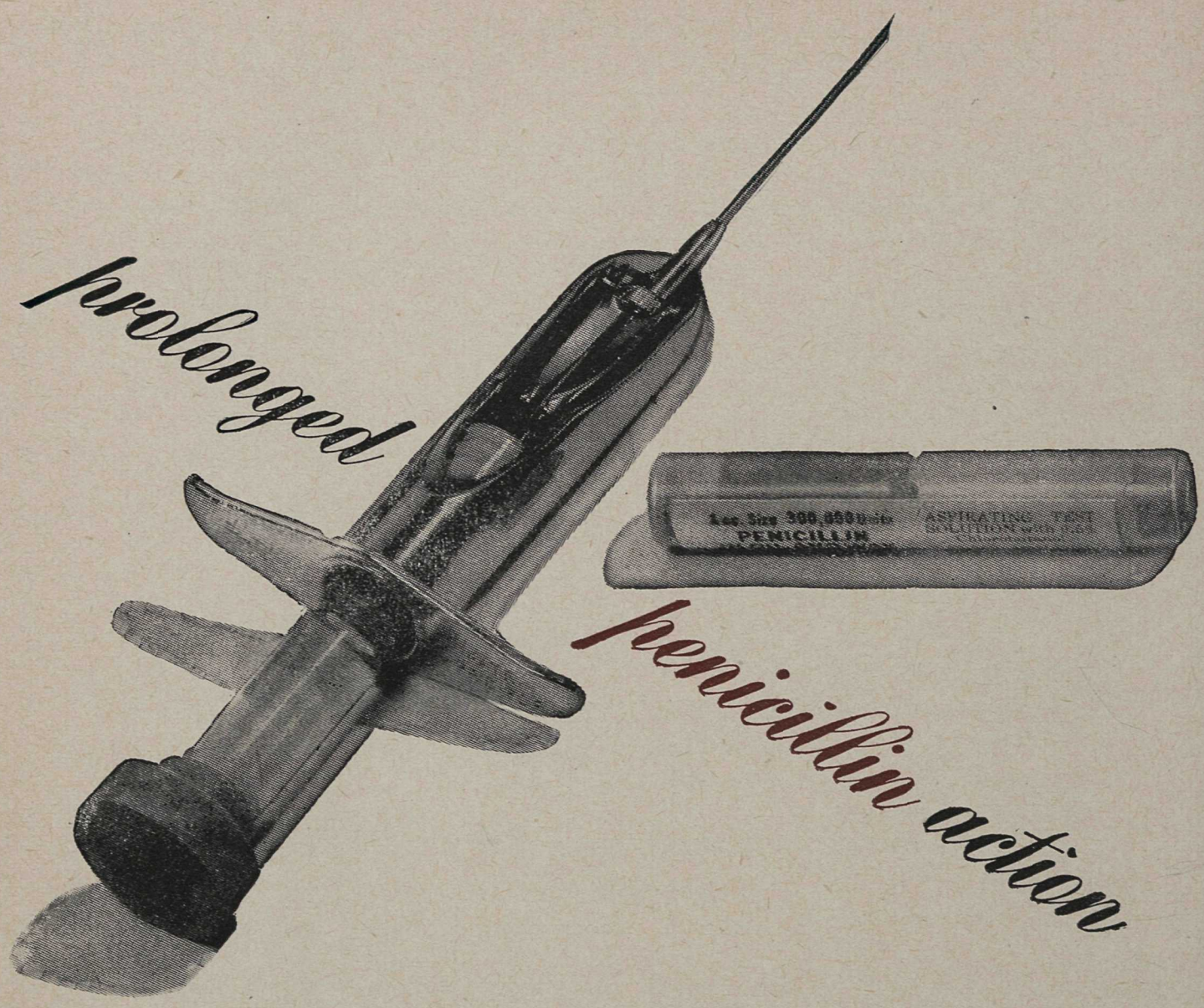

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1. Kirby, W. M. M.; Leifer, W.; Martin, S. P.; Rammelkamp, C. H., and Kinsman, J. M.: J.A.M.A. *129*:940 (Dec. 1) 1945. 2. Romansky, M. J., and Rittman, G. E.: Science *100*:196 (Sept. 1) 1944.

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The Editor's Page

This issue of the Bulletin contains the programme of the Annual Meeting of the B. C. Medical Association, to be held in the Hotel Vancouver from Sept. 17th to 19th inclusive. In accordance with the custom established some years ago, the reports of the various committees are published here, too. This is a good plan, we think, as it saves much time at the business meeting, formerly spent in reading these reports. They can be studied in advance, and members can come prepared to discuss them. So it works well in two ways.

Two or three of these reports are particularly worthy of study. The Committee on Medical Education's report is one of these. It gives an account of the progress being made in the matter of establishing a medical faculty in connection with the University of British Columbia. While this progress is slow, as compared with what many people would like to see, it is nevertheless sure, and is being made along definite lines. The Hamilton Report on the Vancouver General Hospital has done much to clear the air, and to give those working on the project a point from which they can work constructively. Reading the editorial comment of the various newspapers, one can see plainly that the plan suggested by Mr. Hamilton and his associates has awakened favourable interest of the public, at least as represented, and we think it is represented, by the press. It is a constructive plan and eventually the most economical and practical that has been presented . There are many points yet that require elaboration and elucidation—but the broad outlines of the evidence seem to be sound. The report is, and will soon be available to all who wish to read it. Meantime Dr. Milburn's excellent report is there to be read.

This same Dr. Milburn is responsible for the leadership of another committee of great importance, that of the Committee on Medical Economics: This report deals with many things, notably the question of fee schedules. Dr. Milburn rightly draws attention to the unremitting work of Dr. H. R. Mustard of Vancouver in this connection. This report will undoubtedly arouse great interest.

Prepared medical plans, too, are dealt with in this report, another matter of Old Age Pensioners and their medical care.

The Association owes a great deal of thanks to Dr. Milburn and his committees, and especially to Dr. Milburn. He has put in a tremendous amount of work on two of the biggest and most hard working committees we have—and his work has resulted in a solid, factual, presentation.

The report of Dr. Nash, chairman of the Committee on Maternal Welfare, also deserves earnest consideration—and is concise and to the point. Dr. D. H. Williams has brought in a very complete Report for the Committee on the Study of Cancer, and this report lays a foundation for very definite progress in the future.

These are just a few of the reports presented—and all should be carefully studied and fully discussed.

LIBRARY NOTES

SUMMER HOURS—

Until October 1st, the Library hours will be 9:00 to 5:00 daily, Monday to Friday, and 9:00 to 1:00 on Saturday. On October 1st, evening hours will be resumed three nights a week.

SPECIAL SERVICES—

Messenger Service:

Members in Vancouver whose offices are outside the Medical Dental Building are entitled to free delivery service. Requirements should be telephoned in before 11:00 a.m. if books are needed the same day. It is requested that books being returned to the Library be wrapped in the same or similar coverings.

Mailing Service:

Members outside Vancouver may request loans by mail. Packages are sent with return carriage prepaid.

Microfilm Service:

Microfilms or photostatic copies of articles may be obtained through the Library From the Army Medical Library in Washington. Delivery is usually made in from two to three weeks and the cost is absorbed by the Association.

RECENT ACCESSIONS TO LIBRARY—

The Diagnosis and Treatment of Diseases of the Peripheral Arteries, 1940, by Saul S. Samuels. (Gift of Dr. E. F. Christopherson).

Diseases of the Chest, 1946, by Robert Coope.

New and Non-Official Remedies, 1947, American Medical Association Council on Pharmacy and Chemistry.

A Bibliography of Aviation Medicine, 1942, by John F. Fulton. (Gift of Dr. Stanley Paulin).

The Answer is—Your Nerves, 1942, by Dr. Arnold S. Jackson (Gift of the Author).

Military Preventive Medicine, 1938, by George C. Dunham (Gift of Dr. R. J. Macdonald).

Rural Health Practice, 1936, by Harry S. Mustard (Gift of Dr. R. J. Macdonald).

An Introduction to Public Health, 1936, by Harry S. Mustard. (Gift of Dr. R. J. Macdonald).

Preventive Medicine and Hygiene, 1935, by Milton J. Rosenau. (Gift of Dr. R. J. Macdonald).

Occupational Diseases of the Skin, 1947, 2nd ed. by Schwartz, and Peck Tulipan. (Gift of Dr. D. E. H. Cleveland).

THE UNMARRIED MOTHER

[We publish a copy of a folder issued by the Family Welfare Bureau of the Vancouver Community Chest. It has been written to explain to the unmarried mother the nature of the services available to her.

Copies of this folder may be obtained from the Community Chest offices, 649 Seymour Street, telephone PAcific 2288.

Doctors who have to advise an unmarried mother will find this information useful and will be better able to help these patients. Any doctor would be wise to obtain a supply of these folders, which contain most valuable information and directions. Ed.]

* * * *

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If you require help in finding a place to live.

If you don't know how to get medical care, medicines, hospital care.

If you want information for counsel about boarding homes, adoption, or other ways you may plan for the care of your baby.

If you can't decide what to do about your family, your friends, your job.

If you are ill or unemployable and need financial assistance.

Or if you are simply worried, afraid, or lonely, and want someone you can talk to in confidence, or wish to leave home.

Information, counsel and practical help with such questions and problems are given without charge or expense to you. The agencies mentioned below can help you to work out necessary arrangements for your physical and personal well-being.

In privacy and strict confidence you may talk with a worker who has helped many others with a similar problem, and who is here for the purpose of helping you to find the answer to *your* individual problem.

You may receive practical help in using a variety of resources such as the following:

Living arrangements.
Medical and Hospital Care.
Maternity Homes.
Legal Counsel.
Financial Assistance.

You may come to one of the offices listed below, or you may save time by phoning in advance for an appointment. Simply say that you wish to speak with a worker about a private matter.

For Protestants:

Children's Aid Society,
Family Department,
1675 West 10th Ave., BAyview 3531.

Family Welfare Bureau,
1675 West 10th Ave., BAyview 3531.

For Roman Catholics:

Catholic Children's Aid Society,
1509 West 7th Avenue, BAyview 4636.

Catholic Family and Child Welfare,
650 Richards St., PAcific 7722.

For Jewish Girls:

Jewish Family Welfare Bureau,
2675 Oak Street, BAyview 8873.

British Columbia Medical Association

1947 ANNUAL MEETING
SEPTEMBER 17, 18, 19
HOTEL VANCOUVER
VANCOUVER, B. C.

Plan to attend your Annual Meeting.
Please make your reservations early.

SPEAKERS:

DR. F. G. McGUINNESS, Winnipeg, Man.
DR. F. A. L. MATHEWSON, Winnipeg, Man.
DR. K. R. TRUEMAN, Winnipeg, Man.
DR. E. J. WASHINGTON, Winnipeg, Man.
DR. A. W. BLAIR, Regina, Sask.
DR. G. LYMAN DUFF, Montreal, Que.

REPRESENTING CANADIAN MEDICAL ASSOCIATION:

DR. F. G. McGUINNEES, Winnipeg, President.
DR. A. D. KELLY, Toronto, Assistant Secretary.

SYNOPSIS OF PROGRAMME

Twelve lectures on three mornings.

Four clinics:
- Medical Clinic—Shaughnessy Hospital.
- Cancer Clinic—Vancouver General Hospital.
- Surgical Clinic—St. Paul's Hospital.
- Obstetrics and Gynaecology Clinic—Vancouver General Hospital.

Films daily—demonstrating latest medical developments.

Annual Meetings:
- College of Physicians and Surgeons—Wednesday, eptember 17th.
- The British Columbia Medical Association, (Canadian Medical Association, B.C. Division)—Thursday, September 18th.

Public Meeting on "Cancer"—Thursday, September 18th.

Official Luncheon—Wednesday, September 17th.
Speaker: Dr. F. G. McGuinness.

Annual Dinner—Friday, September 19th.
Speaker: Professor F. H. Soward.

Golf.

Entertainment for Ladies:
Includes Tea at Shaughnessy Heights Golf Club and Dinner at the Hotel Vancouver.

Commercial Exhibits:
A large number of commercial exhibits have been arranged.

PROGRAMME

WEDNESDAY, SEPTEMEBER 17

Morning Session

8:00 a.m. Registration.
8:15 a.m. Films.
9:00 a.m. Dr. A. W. Blair: Ten unusual cases, cancerous and non-cancerous.
9:45 a.m. Dr. G. Lyman Duff: The Pathology of Sulphonamide Sensitivity in Man.
10:30 a.m. Dr. F. A. L. Mathewson: Uses and Limitations of the Electrocardiograph.
11:15 a.m. Dr. G. Lyman Duff: The arterial circulation of the kidney in relation to essential hypertension.
12:15 p.m. British Columbia Medical Association Luncheon. Hotel Vancouver: Banquet Room. Speaker: Dr. F. G. McGuinness.

Afternoon Session

2:15 p.m. Medical Clinic—Shaughnessy Hospital Auditorium. Dr. F. A. L. Mathewson.
3:30 p.m. Cancer Clinic—Vancouver General Hospital. Dr. A. W. Blair.

Tea.

Evening Session

8:30 p.m. ANNUAL MEETING—College of Physicians and Surgeons of British Columbia. Hotel Vancouver Ball Room.

THURSDAY, SEPTEMBER 18

Morning Session

8:15 a.m. Films.
9:00 a.m. Dr. F. L. Mathewson: Management of the Cardiac Arryhthmias.
9:45 a.m. Dr. G. Lyman Duff: The genesis of Cancer.
10:30 a.m. Dr. E. J. Washington: Significance of Chronic Laryngitis.
11:15 a.m. Dr. K. R. Trueman: Diagnosis and Treatment of Cholecystitis.

Afternoon Session

1:30 p.m. Golf Tournament.
Please register for golf early.

Evening Session

8:30 p.m. ANNUAL MEETING—The British Columbia Medical Association. Hotel Vancouver: Salon "A".
8:00 p.m. PUBLIC MEETING—"Cancer". Hotel Vancouver: Ball Room.

FRIDAY, SEPTEMBER 19

Morning Session

8:15 a.m. Films.
9:00 a.m. Dr. A. W. Blair: Differential Diagnosis of Surface Lesions.
9:45 a.m. Dr. G. Lyman Duff: Arteriosclerosis in relation to diabetes mellitus.
10:30 a.m. Dr. K. R. Trueman: Essentials of pre-operative care.
11:15 a.m. Dr. E. J. Washington: Acute and Chronic Otitis Media.
12:15 p.m. Luncheon—Board of Directors, B.C.M.A., Hotel Vancouver: Salon "C".

Afternoon Session

2:00 p.m. Surgical Clinic—St. Pauls Hospital—Dr. K. R. Trueman.
3:30 p.m. Obstetrics and Gynaecology Clinic—Vancouver General Hospital—Dr. F. G. McGuinness.

Evening Session

7:00 p.m. ANNUAL DINNER (Dress Optional) Hotel Vancouver: Banquet Room. Guest Speaker, Professor F. H. Soward: The International Outlook.

British Columbia Medical Association

(Canadian Medical Association, Britsih Columbia Division)

President ..... Dr. Ethlyn Trapp, Vancouver
First Vice-President ..... Dr. E. J. Lyon, Prince George
Second Vice-President ..... Dr. L. H. Leeson, Vancouver
Honorary Secretary-Treasurer ..... Dr. J. C. Thomas, Vancouver
Executive Secretary ..... Dr. F. L. Whitehead, Vancouver

REPORT OF COMMITTEE ON CONSTITUTION AND BY-LAWS

During the past year the Committee on Constitution and By-Laws has been concerned with several suggested amendments to the By-Laws of the Association. A resolution embodying these proposed changes has been prepared and will be presented at the next Annual Meeting.

Respectfully submitted,

D. F. BUSTEED, M.D.,
Chairman.

* * *

COMMITTEE ON PROGRAMME AND FINANCE

As Chairman of the Committee on Programme and Finance of the British Columbia Medcial Association, I wish to report that the arrangements for the 1947 Annual Meeting have been completed. The meeting will be held at the Hotel Vancouver, on September 17th, 18th and 19th.

The following speakers will take part in the programme:

Dr. F. C. McGuinness, President of the C.M.A.
Dr. F. A. L. Mathewson
Dr. K. R. Trueman
Dr. A. W. Blair
Dr. G. Lyman Duff
Dr. E. J. Washington

The subjects of the addresses will be published in the programme which is, at present, in the hands of the printer.

There will be a public address on "Cancer" on Thursday evening, September 18th, a luncheon address will be given by Dr. F. G. McGuiness on Wednesday, and there will be a banquet on Friday at which Dr. S. H. Soward, Professor of History and Director of International Studies of U.B.C., will be the guest speaker.

The ladies' programme has been arranged by Mrs. Lavell Leeson and her Committee. All details of this programme will appear in the printed General Programme.

Some difficulty has been encountered in getting a golf course on which to play the annual golf tournament. To date we have been unsuccessful in getting any definite course but we hope, by September 18th, that this difficulty will be overcome.

In addition to preparing for the Annual Meeting of The British Columbia Medical Association, this Committee has undertaken to arrange for a panel of speakers to address meetings throughout the Province for the various medical groups. This panel contains a number of speakers from all branches of medicine and is available, at any time, to inland medical societies, hospital board meetings, etc., should they wish to have a team of speakers take part in their programms. Should a medical group desire guest speakers the Committee on Programm and Finance will submit a list of speak-

ers upon request. When the choice has been made this Committee will then contact the speakers and make arrangements for them to take part in the meetings.

Respectfully submitted,
L. G. WOOD, M.D.,
Chairman,
Committee on Programme and Finance

* * *

COMMITTEE ON LEGISLATION

No matters of importance were brought before the Committee on Legislation during the current year.

Respectfully submitted,
THOMAS McPHERSON, M.D.,
Chairman.

* * *

COMMITTEE ON MEDICAL EDUCATION

Dr. K. D. Panton in his report of the activities of this Committee, at Banff last year, presented a resume of the developments in regard to the establishment of a Faculty of Medicine at the University of British Columbia up to April, 1946, and in a supplemntary statement to the meeting dealt with:

I. Dr. C. E. Dolman's report, which was the result of an extensive survey on behalf of the University.

II. Dr. G. F. Strong's report, the result of his survey on behalf of this Committee.

Dr. Dolman, you will remember, advocated the location of the entire school, including a University Hospital, on the campus of the University, and Dr. Strong recommended a downtown location, somewhere in the neighborhood of the Vancouver General Hospital. Both stressed the point that the school should not be divided, contrary to the plan first presented to the Government in 1945, which advocated a divided school—pre-clinical year on the campus and the so called clinical years in a building in a down-town area, using the facilities of the existing hospitals for clinical teaching. Space does not permit comment on this particular scheme but, in the light of later developments, one can state that it was a little unfortunate that a plan should have been presented to the Government before a thorough survey had first been made. Both the University authorities and our own committee had collaborated in its formulation, and in the method of presentation to the Government. The Government accepted it apparently, and funds were provided to the University to set up a faculty of medicine.

Dr. Dolman, as previously mentioned, was authorized by the University of British Columbia to make an extensive survey of leading medical schools in Canada and the United States, and his very excellent report was submitted to the Governors of the University of British Columbia on May 3rd, 1946. This very materially changed the picture, both as to the character of the proposed institution and costs.

The University, at this stage, in order to obtain further information before embarking on a definite plan, invited a number of the leading experts on medical education on this continent to come to British Columbia, survey the situation and submit their views. These experts were:

Dr. Raymond Allen, President, University of Washington, (formerly Dean, University of Illinois School of Medicine).

Dr. L. R. Chandler, Professor of Surgery, and Dean, Stanford University School of Medicine.

Dr. Ray Farquharson, Professor of Therapeutics, Faculty of Medicine, University of Toronto, and President, Royal College of Physicians and Surgeons of Canada.

Dr. Ernest W. Goodpasture, Professor of Bacteriology, and Dean, Vanderbilt University School of Medicine.

Dr. Alan Gregg, Director of Medical Sciences, The Rockefeller Foundation.

Dr. Victor Johnson, Secretary, Council on Medical Education and Hospitals, American Medical Association.

Dr. J. J. Ower, Professor of Pathology, and Dean, Faculty of Medicine, University of Alberta.

Dr. Wilder Penfield, Professor of Neurology, McGill University Faculty of Medicine, and Director, Montreal Neurological Institute.

Dr. H. G. Weiskotten, Dean, Syracuse University College of Medicine, and Chairman, Council of Medical Education and Hospitals, American Medical Association.

Reports from all these various authorities were sent to each member of the Committee by the University and opportunities were provided for a small group of this committee to meet these experts in conference and present our views. Your Committe, during the past year, have studied these various reports carefully, and our services have been offered to the University authorities to assist them in establishing a Medical Faculty, which is no simple task in view of the numerous complications that have arisen during the past year.

The University site for the whole project seems definitely out, since the Government is unwilling to construct and maintain a University Hospital on the campus, and all the leading authorities consulted were definitely not in favor of a divided school —one part of it on the campus and the other part elsewhere. It was quite apparent, under these circumstances, that another solution must be found if we are to have a medical school in British Columbia in the not too distant future.

During the past few months the Vancouver General Hospital employed Mr. Jas. A. Hamilton and Associates, perhaps the leading hospital consultants on this continent, to make a survey and present a plan for reorganization and future development on the site of the present hospital. When this report was available our Committee secured several copies for study and a small sub-committee was formed to study its contents.

This same Sub-Committee formed part of a joint committee composed of representatives of the University of British Columbia, the Board of the Vancouver General Hospital, and the Committee on Medical Education of the British Columbia Medical Association, to study the report and find out if it offered any solution to the dilemma of starting a medical school. The report was released last month but not enough copies are yet available to make the information generally known.

One can briefly state that in it two plans are submitted:

Plan "A"—which provides 400 beds in a new unit of 800 beds for teaching purposes, and the almost complete reorganization of present buildings with other additions as well. It visualizes the establishing of a medical school in the area and the whole development to be in the nature of a health centre.

Plan "B"—is hospital development only without the addition of a medical school and necessary teaching beds.

We would urge the members of the profession to read this report.

Your Committee, after again studying all the reports so far made regarding the development of a medical school in British Columbia, and also studying the Hamilton Report, and being assured that the Government was not favorable to the building and maintaining a University Hospital on the campus, on May 27th, 1947, passed two resolutions:

I. That: "This Committee go on record as being strongly opposed to a divided Medical School."

II. That: "This Committee having studied all aspects of the situation in regard to establishment of the proposed Faculty of Medicine of the University of British Columbia, including all the reports available to this date and having due regard for the various sites suggested for this Medical School, go on record as being in favour of establishing a unified Medical School in connection with, and on the site of, the proposed new hospital development suggested in the Hamilton Report, provided that the Province of British Columbia and the City of Vancouver will financially implement this Report and that mutually satisfactory arrangements can be made between the University of British Columbia and the Vancouver General Hospital, from administrative and teaching standpoints."

On July 7th, 1947, representatives of the Board of the University of British Columbia, the Board of the Vancouver General Hospital and your Committee, met the Government in Victoria and submitted plan "A" of the Hamilton Report as a logical solution of many of our problems in establishing a Medical School in British Columbia.

Representatives of your Committee stressed before the Government the outstanding interest that organized medicine had in the development of a Medical Faculty here was the influence such an institution would have in the maintenance of a high standard of medical practice.

All of which is respectfully submitted,

H. H. MILBURN, M.D.,
Chairman,
Committee on Medical Education.

* * *

COMMITTEE ON ARCHIVES

Herewith the annual report of the Committee on Archives, for the British Columbia Medical Association, for the year 1946-47.

A small committee agreed to assist in the work, and something has been done towards compiling a history of the B. C. Medical Association. This comprises a review of events leading up to the formation of the Association, and also an account of the organization of the Society itself. A copy of the minutes of the earlier years of the Victoria Medical Association is also submitted.

I wish to thank Dr. Cousland of Victoria for his assistance as a member of the Committee.

Respectfully submitted,
G. E. KIDD, M.D.,
Chairman,
Committee of Archives.

* * *

COMMITTEE ON MATERNAL WELFARE

1. Arrangements are being effected to undertake, in co-operation with the Deputy Minister of Health, an annual study of maternal deaths within the Province, with a view to determining their causes and the means of their prevention where possible.

2. It is recommended that opportunity and time be provided at every Annual Meeting for an open discussion and analysis of these deaths under the auspices of the Committee.

3. It is desired to emphasize that in effecting the foregoing recommendations, it is proposed that the identity of the individual cases will not be disclosed to the Committee nor at the proposed discussions.

4. It is recommended that whenever location and local facilities permit, the Programme of the Annual Meeting should provide time for practical clinical demonstrations in Obstetrics.

5. It is recommended that commendation and appreciation be expressed to the Canadian Red Cross Society in having provided extensive facilities for Blood Transfusion, thus making an important contribution to the reduction of maternal death from haemorrhage, which at present constitutes the most prevalent single cause of maternal mortality.

All of which is respectfully submitted on behalf of the Committee.

A. B. NASH, Chairman,
Committee on Maternal Welfare,
B. C. Medical Association.

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COMMITTEE ON PUBLIC HEALTH, 1946-47

There is very little for the health committee to report. This year an attempt was made to cooperate with the health bureau of the Board of Trade in an endeavour to arouse public opinion in regard to the matters of health.

A Board of Trade luncheon at which the water supply was discussed and movies shown, was well attended by physicians. At long last Vancouver water is being chlorinated. The B. C. Medical Association did not receive any credit for their urgings of the past years, as the water board have announced in the press, that it was on account of some work being done at the intake that the change was produced. However, it is gratifying to know that with health conditions such as they are at present, the water supply of Vancouver and some of the outlying districts is being protected.

Practically all the beaches in Vancouver continue to be great public menaces, but the authorities have announced that they are giving the matter of sewage disposal and protection of the beaches their serious consideration. These matters are of vital importance to the community and of course the visitors within our gates need more protection than they are getting.

The dumping of oil from freighters and other large boats within the environs of the harbour creates a great nuisance. This is particularly so along some of the beaches of the North Shore, owing to the ocean currents.

All these points are of vital interest to the medical profession, but the rectifying of these conditions rests entirely with the Provincial Board of Health, the Greater Vancouver Board of Health, and the Water Board. It is hoped that our physicians will continue to use their influence, both with the authorities and with the public, to create a city which could be much safer than at present.

Respectfully submitted,
HOWARD SPOHN,
Chairman, Health Committee

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STANDING COMMITTEE ON ETHICS AND CREDENTIALS

No matters pertaining to either ethics or credentials were brought before the committee during the past year.

Respectfully submitted,
BATHURST HALL,
Chairman.

COMMITTEE ON MEDICAL ECONOMICS

Your Committee suffered a severe loss in the sudden death of Dr. S. Cameron MacEwen. He was a past chairman of the Committee on Economics of the College of Physicians and Surgeons, which gave him a wide knowledge not alone of the matter of medical economics, but also of the men in practice throughout the province. This gave him, too, an excellent background for his work as Medical Referee of M.S.A., and was an important factor in its success, both with its membership and with the medical profession. He was one of our most important members and his presence will be greatly missed at our meetings.

It was fortunate that Dr. G. L. Watson has been associated with Dr. MacEwen on the staff of M.S.A. for nearly a year, and was able to take on the work as Medical Referee. It is a particularly important post and we feel sure that Dr. Watson will fill it in a very capable manner—he has our whole hearted support and best wishes in the work which he has undertaken.

Your Committee on Medical Economics is more than pleased that, in the person of Dr. F. L. Whitehead, we have a new and very promising Excutive Secretary. We have needed him badly since many of the details, such as editing the section on Medical Economics in the Bulletin, has had to be discontinued after Dr. M. R. Caverhall resigned. We hope to again get into print, at an early date—this we feel is important. It is the best way of keeping the man in practice informed rgearding the problems your Committee has to deal with.

During the past year six meetings of the General Committee on Economics were held, with good attendance at each meeting and good representation of out-of-town members. Matters of special importance in medical economics were discussed at each meeting and generally your Committee endeavoured to keep abreast of developments in this field, not only in British Columbia but elsewhere in Canada.

The meeting of October 9th, 1946, was a joint meeting with the Nucleus Committee of Economics of the Canadian Medical Association, at which Dr. A. E. Archer, consultant on medical economics of the C.MA., was present and matters of national importance were mainly considered.

The report of the Committee on Economics, at the last annual meeting, noted the formation of the Committee on Medical Economics as a joint Committee of the College of Physicians and Surgeons and the British Columbia Medical Association. During the present year its terms of reference were formulated and ratified by the two parent bodirs; the Council of the College of Physicians and Surgeons and the Board of Directors of The British Columbia Medical Association.

Herewith are the terms of reference as approved:

I. That the Committee on Medical Economics of British Columbia be recognized as the official committee of organized medicine in British Columbia in matters of medical economics, both in Provincial and National affairs.

II. As the official Committee on Medical Economics, it be authorize to study all matters of economics affecting the medical profession of British Columbia and conduct on instruction from the parent bodies (the British Columbia Medical Association and the Council of the College of Physicians and Surgeons) negotiations on behalf of the medical profession of British Columbia whenever necessary.

III. That it be provided with the necessary funds to conduct its business.

You will note that this gives the Committee the authority it requires to be an effective influence not alone in studying the problems that affect the profession itself and making recommendations, but also in negotiating with outside bodies, under proper controls, in protecting the interests of organized medciine in this Province. The province-wide representation on the Committee makes it a suitable body to possess this authority.

One of the main activities of the Committee during the past year was the revision of our fee schedule. The sub-committee on this work, under the Chairmanship of Dr. H. Roy Mustard, did a tremendous amount of work—difficult to say the least—and I think have accomplished what they were commissioned to do.

The minimum schedule for general practitioners has already been distributed and is in effect. The specialists' schedule has been mailed to all members of the Committee for study by the various district sub-committees and other groups concerned. A full-day meeting of the General Committee has been called for Tuesday, September 16th, 1947, to go through the schedule and finlly approve of it before it is sent to Council for final ratification, after which it will be published along with the schedule for general practitioners that has already gone out.

The profession of this Province owes a debt of gratitude to Dr. Mustard and his sub-committee for the excellent work they have done. It was no easy task—in many ways a thankless one—but they have done the best that could be expected under the circumstances.

Revision of fee schedules at this time is a much more complicated matter than it ever has been in the past, which is largely due to the tremendous increase in the specialties and the advent of the pre-paid medical care plans. It was impossible to satisfy everybody but Dr. Mustard's Committee has done its best and we feel sure that time will prove that it has done a good job.

Prepaid medical care plans have occupied the attention of the Committee on Economics a good deal during the past year. There are a good many knotty problems connected with them that are not going to be straightened out in a day. The importance of this phase of medical economics is being recognized by the C.M.A., and a four-day conference was held in Winnipeg before the C.M.A. Annual Meeting, held there in June last. Representatives of six plans operating in close contact with the profession across Canada, namely; O.M.S. and Windsor Plans of Ontario; Manitoba Plan; Regina and Saskatoon Plans nd our own M.S.A. were present, also some members of the Nucleus Committee on Economics of the C.M.A., and the Chairmen of the Economics Committee of the Divisions of the C.M.A.

It was a particularly interesting meeting, all phases of this type of work were discussed fully and papers presented covering different angles of the subjct. I am sure that when the material of that conference is assembled and released to the profession it will be found very informative, and should materially assist these various plans in improving their contracts. Our own M.S.A. had nothing to be ashamed of in comparison to the others represented at that meeting and if and when it, or a subsidiary or affiliated organization, undertakes to sell individual and family contracts, voluntary health insurance sponsored by the profession of British Columbia should be fairly complete.

Space does not permit comment on the Grimmett Report and measures taken by Legislature during its last session to implement that report, but I would urge all interested to obtain copies for study—the information would be valuable to say the least —as there still is a lot of confusion in the minds of medical men regarding this whole matter.

One other problem that occupied the attention of this committee recently, one which is extremely important and rather vexing, is the medical care of Old Age Pensioners, Mothers Allowance cases and others receiving social assistance. It is a confused picture at the moment but one thing is apparent, the doctors are getting the worst of it in most instances. There is practically no uniformity in the methods by which this work is being handled in the various districts of the Province. It is the hope and desire of your Committee that, in the near future, some uniform plan to cover the entire Province can be agreed to, in which the recipients of this service as well as the medical men will have a much better break.

These are a few only of the problems that your Committee on Medical Economics has had before it during the past year; space does not permit mentioning them all but

some of them at least will come up when the discussion on this report takes place at the Annual Meeting.

Let me take this opportunity of thanking all the members of the Committee for their keen interest and support in his work during the past year. There is still much to do, but that phrase will always apply in the field of medical economics and we must continue to keep abreast of developments as they arise. We are never sure of what is ahead of us.

Respectfully submitted,
H. H. MILBURN, M.D.,
Chairman.

* * *

COMMITTEE ON PHARMACY

During the past year the work of this Committee has consisted entirely of joint action with the Committee of the British Columbia Pharmaceutical Association, in preparing a new revised B. C. Formulary.

Several meetings were held during the year, both of our own Committtee and jointly with the Pharmaceutical Committee. The Formulary has been completely revised, many obsolete items having been deleted and several new ones included. The revised edition of the Formulary is being printed by the British Columbia Pharmaceutical Association and is expected to be ready early this fall.

Respectfully submitted,
W. W. SIMPSON, M.D.,
Chairman.

* * *

COMMITTEE ON HOSPITAL SERVICE

The only problem requiring the attention of the Committee on Hospital Service was the request to appear before the Davis Investigating Committee and explain the attitude of the Association towards hospitalizaion.

Respectfully submitted,
J. C. MOSCOVICH, M.D.,
Chairman.

* * *

COMMITTEE ON THE STUDY OF CANCER

1. The Committee on the Study of Cancer of the British Columbia Medical Association for the year 1946-1947 held five meetings and comprised the following members:

Chairman: Dr. D. H. Williams.
Secretary: Dr. J. S. Kitching—to April, 1947.
Dr. A. M. Menzies—from April, 1947.
Dr. A. M. Evans.
Dr. A. C. Gardner Frost.
Dr. H. H. Pitts (from June, 1947).
Dr. T. R. Sarjeant.
Dr. J. H. Sturdy (until May, 1947).

2. The history and objectives of the Committee on the Study of Cancer are as follows:

(a) To promote the education of the medical profession in the prevention and treatment of cancer.
(b) To co-operate with the Department of Cancer Control, C.M.A.
(c) To co-operate with established agencies in cancer control:
  (i) Cancer Foundation and Institute.
  (ii) Canadian Cancer Society and its B.C. Branch.

(iii) Health Departments.
(iv) Greater Vancouver Health League.

(d) To take an active interest in all measures designed to control cancer, including: reporting, biopsy service, treatment and treatment centres.

(e) In the past the Committee has sponsored Study Groups among the profession in hospital centres in British Columbia. During the war this programme was largely discontinued, but it is felt it should be re-established.

(f) The Committee has assisted in providing speakers on Cancer to various recognized community groups.

(g) It is customary to recommend to the Presidents of the local medical associations in the Province that one meeting a year be devoted to Cancer and its control.

3. Mr. D. Scott, director, Division of Vital Statistics, Provincial Health Department, presented the first detailed statistical report compiled on the problem of cancer in the Province.

4. The Committee is studying the details of Mr. D. Scott's report with a view to:

(a) Defining for purposes of reporting the scope and meaning of the word "Cancer".

(b) Improving the reporting of cases of malignant disease, in order to get a more accurate statistical picture of the whole problem of cancer in the province.

(c) The use of the statistical data for educational purposes among members of the profession.

5. To facilitate the radio programme of the Cancer Fund Campaign, the following speakers participated in 15 minute broadcasts:

Dr. Ethlyn Trapp	Dr. Gordon Johnston
Dr. D. E. H. Cleveland	Dr. A. Y. McNair
Dr. Roy Huggard	Dr. Rocke Robertson.

6. Impressed with the merits of two pamphlets "Youth Looks at Cancer" and "Cancer Manual for High School Teachers", presently being widely distributed by the B.C. Branch of the Canadian Cancer Society, the Committee respectfully suggested to the Society that it include all physicians on its mailing list, in order to provide them with background material and data for the preparation of lectures to lay audiences in which the profession is increasingly participating. The Society agreed to provide these educational pamphlets to any physician requesting them.

7. Dr. W. Boyd, Chairman of the Department of Cancer Control of the Canadian Medical Association, asked the Committee for data concerning cancer control activities of the British Columbia Medical Association and local medical societies. He also requested suggestions regarding the proposed reprinting of the "Cancer Handbook" for physicians. In this regard the following comments were submitted:

"That it include sections on the following items:

(a) A standard morbidity-mortality code for compulsory reporting of cancer by physicians in Canada.

(b) A statistical portrayal of the cancer problem in Canada, inasfar as it is possible at present.

(c) Assistance for the physician in acting as a community lay-educator on the subject of Cancer Control."

8. To assist the B.C. Branch of the Canadian Cancer Society an appeal for medical speakers was made through the "Bulletin" of the Vancouver Medical Association. The following is the present roster of speakers who have assisted, or indicated willingness to assist, in this work:

Dr. J. W. Frost	Dr. Gordon Johnston
Dr. J. A. Ganshorn	Dr. R. E. McKechnie

Dr. W. E. Austin
Dr. M. M. McPherson
Dr. T. R. Sarjeant
Dr. Taylor Henry
Dr. F. M. Bryant (Victoria)

9. The Board of Directors of The British Columbia Medical Association approved the Committee's recommendation of agreement in principle to the development of a biopsy service by the B. C. Cancer Institute.

10. Arrangements are progressing favourably for the public meeting on "Cancer Control" for September 18th, to be held in conjunction with the Annual Meeting of the British Columbia Medical Association. The principal speaker will be Dr. A. W. Blair, Director of Cancer Services for Saskatchewan. Platform guests who represent key interests in cancer control in British Columbia, and who have been invited to speak briefly are to include:

Dr. C. W. Prowd, chairman, director of radiology, St. Paul's Hospital.
Dr. Ethlyn Trapp, president of the British Columbia Medical Association.
Mr. Bruce Buckerfield, president of the Canadian Cancer Society (B.C. Branch).
Mr. Harold Foley, President of the B.C. Cancer Foundation.
Dr. Maxwell Evans, Director of the B.C. Cancer Institute.
Dr. G. F. Amyot, Deputy Minister of Health and Welfare, Province of B.C.

Respectfully submitted,
D. H. WILLIAMS, M.D., Chairman,
Committee on the Study of Cancer.

* * *

EDITORIAL BOARD COMMITTEE

This committee has not been very active during the past year, as no matters of particular interest have come before it. We have to acknowledge the courtesy of the Vancouver Medical Association, which has carried in its "Bulletin" any items of information or news given to it by the British Columbia Medical Association. This includes the notices of meetings in the various districts, and all the reports of committees that have been of interest to the profession of B.C. In the present issue, the "Bulletin" carries all the annual reports of the British Columbia Medical Association. This constitutes a great service to the Association since it saves considerable time at the annual meeting by eliminating the necessity of reading these reports verbatim.

Reported for the committee by,
J. H. MacDERMOT, M.D.

* * *

MEMBERSHIP COMMITTEE

An effort was made to encourage those who had previously held membership in the Canadian Medical Association, either complimentary or otherwise, to continue that membership when it was noted that approximately 130 had failed to renew membership this year. These physicians were contacted individually with a gratifying response.

The following figures are submitted for your information:

B. C. Members of the Canadian Medical Association	612
Complimentary Memberships—1946	69
Complimentary Memberships—1947	47
Honorary, etc. in B. C.	5

There is a large untapped group who have as yet not become members of the C.M.A., and it is recommended that the incoming Membership Committee make a determined effort to obtain their membership.

Respectfully submitted,
G. D. SAXTON, M.D.,
Chairman.

COMMITTEE ON INDUSTRIAL MEDICINE

The Committee on Industrial Medicine of the British Columbia Medical Association has continued to function throughout the year, 1946-1947.

A deputation was received by the Minister, The Hon. Geo. M. Pearson, in September, 1946, at which time a brief was presented advocating the establishment of a Prvoincial Division of Industrial Hygiene, which could give direction and standardization to industrial health programmes in this Province.

The Minister mentioned financial and administrative difficulties but promised further consideration. We were informed later by the Deputy Minister, Dr. G. F. Amyot, that the Government would take no further steps until a more insistent demand came from industry itself.

After unsuccessful negotiation with the Medical Services Association towards the establishment of an industrial hygiene programme, efforts of the Committee have been turned towards the Manufacturers' Association and similar employer organizations, as well as towards labour unions, to impress upon them the benefits of proper medical services in industry and to stir them into making demands for such services. The Greater Vancouver Health League and its parent organization, the Health League of Canada are co-operating actively in this educational work.

A questionnaire sent out to all practising physicians in the Province showed that the great mass of industry in British Columbia is still uncovered by suitable medical services. Experience has proven that a good health service, including preplacement and subsequent physical examinations, as well as general health supervision, has been of great benefit to industry as well as to the employees, and the Committee feels that a Provincial Division of Industrial Hygiene is badly needed.

During the year the committee was able to render assistance to various physicians interested in establishing or improving medical services in industry. A good deal of useful information is at present available through this committee and anyone engaged in industrial medical services of any kind, is invited to make use of this material.

On request of the St. John Ambulance Association, the Standing Orders for first-aid attendants in industry were revised by the Committee on Industrial Medicine.

Respectfully submitted,
A. M. MENZIES, M.D.,
Chairman,
Committee on Industrial Medicine.

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REPORT OF COMMITTEE ON EMERGENT EPIDEMICS

Plans for action in the case of a widespread epidemic have been drawn up by the committee and can be implemented quite readily at any time should the need arise. No further action has been taken by the Committee pending need for such action.

Respectfully submitted,
G. F. AMYOT,
Chairman.

* * *

COMMITTEE ON NUTRITION

This committee has been quite inactive during the year, though some consideration has been given to the question of malnutrition in elderly people, especially pensioners and those living alone on small incomes. It appears that starvation does occur in the midst of plenty, and it has occurred to your committee that it would be an interesting study to find out if this is due to economic factors, or to food faddism and bad eating habits, as some people maintain is the case.

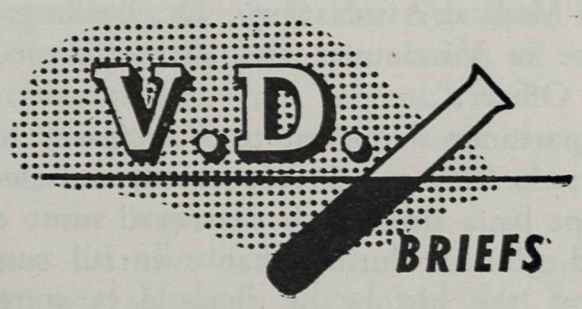
One communication was received during the year, from Dr. Frederick F. Tisdall, Chairman, Committee on Nutrition, Canadian Medical Association, informing us of the

action of the central committee in joining with the Foods and Nutrition Council of the Amercian Medical Association to make use of a rather unusual collection of coloured photographs illustrating various stigmata of malnutrition. These photographs are of Canadian origin, and were to be used as part of a scientific exhibit at the annual meeting of the A.M.A. and also in the preparation of an illustrated article on malnutrition by Canadian and American authors to be published in the J.A.M.A. Dr. Tisdall also forwarded an advance draft of the proposed paper, and needless to say, his courtesy was much appreciated.

Respectfully submitted,

Murray Baird, Chairman,

Committee on Nutrition.



IMPORTANT NOTICE

The Division of V. D. Control, Department of Health and Welfare, Province of British Columbia, wish to point out that in areas *where provincial clinics are not operated* responsibility for payment of v.d. patients, *unable to pay,* is accepted by the Department of Health. This is in addition to drugs being supplied free of charge for treatment, subject to notification and approval of use of drugs by consultants at Division of V. D. Control.

The close attention of all physicians practising outside of clinic areas (Clinics are operated in Vancouver, New Westminster, Victoria and Dawson Creek) is asked in noting that this policy of payment was inaugurated for indigent patients only, and physicians are requested please to make sure that this is the case before accounts are submitted for payment.

Accounts must be presented in a certain manner, adhering to Schedule of Fees and these instructions were previously forwarded to all physicians. Those requiring further information may do so by writing to Director, Division of V.D. Control, 2700 Laurel Street, Vancouver, B. C.

Vancouver Medical Association

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

HISTORY OF THE VANCOUVER MEDICAL ASSOCIATION
(Continued)

GENERAL PROGRESS OF THE ASSOCIATION

Vancouver in 1886, with a population of 1009, had four medical practitioners: Drs. Lefevre, McGuigan, Langis and Beckingsale. The first three named had come west as Canadian Pacific Railway surgeons, and twelve years later became charter members of the newly-formed Medical Association. Dr. Beckingsale was an Edinburgh man who practised for a time in Vancouver and then returned to Wales. He was the City's first Port Medical Officer.

Several things of importance happened to Vancouver in 1886. The C.P.R. was linked up with the coast; the city was incorporated, and elected its first mayor, and a few weeks later was swept by a fire which destroyed most of the town. Stories concerning Vancouver's medical men during that eventful summer have come down to us. One commentator of the history of those days states: "Mrs. Beckingsale was absent at New Westminster at the time of the fire. She had recently received a consignment of beautiful new dresses from England. All were burned. The Doctor saved only an axe handle or some such trivial thing". Dr. Langis was also absent, in New Orleans, and hurried home to re-establish himself. He owned an articulated skeleton which he called Jimmy, and which was one of his most cherished possessions. Said Dr. Langis: "This was the skeleton of a Swede who had hanged himself at Port Moody, and was buried on Dead Man's Island. Two years later I got possession of the bones and fastened them together. This skeleton was in McCartney's store on Cordova Street, while I was absent in the south, and after the fire was found among the ashes. They took poor Jimmy to the New Westminster morgue along with the other casualties, and said of him "Poor fellow! He must have been very sick before he died; his bones are all wired together."

By 1898—the year in which the Vancouver Medical Association was organized—the population of the city had increased to 26,000, attended by some two dozen doctors, most of whom joined the Society at once. The subsequent increase in the number of members of the Association kept pace with the growth of the city, and the variations in this rate of increase is a fair index of the economic condition of the vicinity and of the Dominion at large. When times were good, new members flocked to the Coast, but with bad times the number fell off. During the City's boom years—1906 to 1913—some 123 new members joined the Society, with a high of 28 during 1909, and of 30 in 1911. This figure was not again reached until the recent great influx of doctors during the years immediately following the close of World War II. Through the twenties and thirties the growth of the Association remained steady.

During those earlier years the Society at times discussed questions which today might seem to be outside its jurisdiction. Occasionally it was asked to give a considered opinion; more frequently it did so on its own initiative. This was probably because it represented the largest body of medical men within the Province which met regularly during the winter, and which might be most readily called together during the summer.

In 1889 the Association was asked to draw up a form of death certificate which might be used as a model throughout the Province. Previous to the beginning of the century each municipality in B. C. kept a registry of the births and deaths occurring among its own population. Dr. Fagan, Secretary of the Provincial Board of Health now asked that the Vancouver Society draw up a form of death certificate which might be used by all Municipalities. This was immediately done and the new form was generally adopted.

In 1911 this form was still in use. During this year a committee under the chairmanship of Dr. Covernton undertook to alter it so as to clarify the causes of death. The committee further recommended that notification of birth should be given by the doctor in attendance as well as by the parents. It further recommended that a Provincial Register of Vital Statistics be appointed. Heretofore such statistics had been compiled by the Municipalities concerned. All these suggestions were forthwith adopted and acted upon.

In the matter of the establishment of a Provincial University the Association also took the lead. As early as 1902 Dr. Brydone-Jack suggested that B. C. should have a University which would include a medical school, and a special meeting was arranged to consider the question. To this the members of the School Board, the Law Society and all other university graduates living in the city were invited. The meeting did not favour the proposal, holding that the population of the Province was still too small, and that the Government was "not solvent".

At subsequent general meetings Dr. Pearson more than once tried to reopen the question, but he was always outvoted. When in 1910 plans for the immediate opening of a university were under way, the association had a committee to represent it, which took an active part in all discussions pertaining to such plans. In 1922, twenty years after a Provincial Medical School had first been suggested, Dr. Pearson re-introduced the question. A committee reported against it. Dr. Seldon also pressed for it in his Osler lecture given in 1927. A further twenty years have passed, and we are still without our school.

A controversial question which extended over the first half dozen years of the life of the Association, and which had disrupted the Victoria Society a few years earlier, was that of lodge practices. It was a purely domestic dispute and committee after committee undertook to solve the problem, but got nowhere. Feeling ran high but good sense prevailed at all times. Finally the whole thing petered out, owing to a standing committee refusing to act further, one member after another resigning, until none was left.

The first Association Dinner was held during the autumn of 1907, following arrangement made by a committee appointed during October. With the exception of the war years it has since been an annual event. No subsequent changes have been made in the regulations governing the holding of the Dinner, with the exception of a bylaw passed in 1922 to the effect that no layman may attend the function without the consent of the executive committee.

The inception of the outpatients' department at the General Hospital dates from 1914. Previous to this, medical attendance on the poor of the city was haphazard. In 1908 Drs. Turnbull and Corry placed before the Association a plan for a free dispensary to be supported by persons charitably inclined. The proposition was turned down as liable to give rise to "evils and abuses". As an alternative proposal a full time assistant to the M.H.O. was recommended, with such duties as those of Jail Surgeon, Police Medical Officer, City Doctor to the Poor, Medical Inspector of Schools, and such other duties as the M.H.O. might direct—a wide field of activity to say the least.

The City Council agreed, but before an appointment was made the Association reversed its stand and recommended, instead of a full time official, two part-time men; one to supervise infectious diseases, and the other to act as City Bacteriologist. This plan was accepted by the City Council and Drs. Carder and McKee were appointed to the positions.

The question of a free dispensary to serve the poor was reintroduced to the Association by Dr. Brydone-Jack in 1911, who linked it with the care of the poor in the public schools. Public bodies directly interested were the Central Mission, the School Board, the Board of the General Hospital, the City Health Department and Associated Charities. This latter was the organization through the medium of which, at that time, relief to the city's indigent was distributed.

By the New Year of 1912 a plan had been worked out whereby a free dispensary for the city's indigent was to operate under the supervision of Associated Charities, which organization was to supply the necessary funds. It was housed in the old Cambie Street hospital. Medical attendance was voluntary, some sixteen physicians offering their services. The dispensary continued to function until the autumn of 1914, at which time it was taken over by the outpatients' department of the General Hospital, and became part of that organization.

Prior to 1909 provincial legislation to deal with injured employees, either for time loss, disability, or for doctors' fees, was most inadequate. During that year the Association called a special meeting to consider the liability of employers for medical fees in accident cases. Legal advice on the matter was obtained, but nothing came of it. Again in 1911 the Society tried to have legislation enacted whereby, in accident cases, the medical man and the hospital concerned should be assured of remuneration to the extent of at least $100.00.

The Workmen's Compensation Act, as it exists today, was first mooted in 1915, and immediately a committee was appointed by the Association to keep a watchful eye on its development. The scale of fees at first suggested by the government was unacceptable to the Society, and the working out of a satisfactory solution involved the holding of many special meetings, usually attended by one or more commissioners of the Board. An attempt was made at the time to have a medical man placed on this board, but it was unsuccessful. Two similar subsequent moves, made in 1924 and in 1947, have both been voted down by the Association. The Workmen's Compensation Act of British Columbia began to function in 1917.

A question of which today we hear nothing, but which at one time disturbed almost every medical association in Canada, was that of dichotomy or fee splitting. In 1912 it was considered in Vancouver and occasioned the calling of many special meetings, much discussion, some bitterness, and a great variety of opinions among the members of the Society. An exhaustive report covering the subject in all its details, was drawn up, but having been talked out, the whole question was dropped.

Since its inception the Vancouver Medical Association has been called on to consider reciprocity in medical registration with three different groups, viz., the Prairie Provinces, the Dominion, and Great Britain. In the spring of 1909, Dr. Lafferty, an accredited representative of the three Western Prairie Provinces addressed the Society. He stated that the farmer were anxious to unite with B. C. in having a uniform medical act, council and examination, for the four western provinces. Later in the summer four other delegates visited the coast with the same end in view. They explained that at the time the Prairies were being rapidly filled with settlers, that a tremendous emigration was expected within the immediately succeeding years, and that a common medical board would tend to raise the standard of medical practitioners in the West. The local society expressed a preference for Dominion reciprocity and deferred action. A month later, at a special meeting it turned the proposition down.

Old timers will remember the Roddick Bill which had as its object the substitution of Dominion for Provincial medical registration. It was introduced into the House of Commons by Dr. Roddick in 1902, but never seemed to get very far. In 1910 Dr. P. McLennan brought the matter to the attention of the Association. He suggested that since the B. C. Medical Council was at that time taking a provincial plebiscite on the Roddick Bill, which was then before the Legislature, the Association should discuss it. This it proceeded to do, with the result that the B.C. Council was asked to withhold action until the fully amended bill had been laid before all

members of the profession throughout the province, after which the plebiscite might be proceeded with. As a result of this action on the Bill in the Legislature was withdrawn, and that by the B. C. Council was postponed. No more was heard of the Roddick Bill which was replaced by the Canadian Medical Act. The latter came into effect in 1912.

The matter of reciprocity with Great Britain came up in 1915. At first there was an inclination on the part of the Association to leave the question entirely in the hands of the Council to act as it saw fit. The matter dragged on so long that the Society decided to take action, and in 1917 advised the Council to take no further steps in the promotion of reciprocity between the Province and Great Britain. Nothing more was heard of the subject.

CHEMOTHERAPY IN SURGERY*

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Webster's Collegiate Dictionary (Fifth Edition) contains the following definition: "Chemotherapy: the treatment of internal disease by chemical reagents that have a toxic effect upon the micro-organism causing the disease without seriously poisoning the patient." Probably inadvertently, this definition de-emphasizes local treatment to a healthy degree. It limits chemotherapy to the treatment of infections with such thing as the arsenicals, the anti-malarials, the sulfonamides and the antibiotics. In this discussion, I shall try to assess the value of the last two groups of drugs in the treatment of surgical infections.

First to be considered is chemotherapy in open wounds and compound fractures. What I have to say about this topic will largely consist of calling your attention to the findings of the Subcommittee on Surgical Infections of the National Research Council. This work was outlined before the United States got into the war. A number of hospital study units were to carry out an intensive investigation of all civilian wounds which simulated war wounds. We were particularly interested in the role of the sulfonamides which were attaining a high popularity. Before the actual work got under way, Pearl Harbor was bombed and in a few hours, there were many open wounds which demanded immediate treatment. Sulfanilamide was used extensively. Early observers were enthusiastic in their praise for the effects of the sulfonamide drugs. In fact, at first, the study units felt obliged to treat all cases with the drugs, thus eliminating controls. However, as the study progressed, controls began to creep in. To make a long story short, it could not be demonstrated that sulfanilamide or sulfadiazine used locally had any beneficial effect on soft part wounds, compound fractures or burns. In May, 1943, Meleney[1] reported the results of the statistical analysis to the American Surgical Association. In 397 wounds of the soft parts treated with local sulfonamides, there were 23 serious infections and 54 trivial infections, an incidence of 19.4 per cent for all infections. In 281 controls, i.e., without sulfonamide drugs, there were 14 serious infections and 20 trivial infections, a total incidence of 12.1 per cent. In 225 compound fractures treated with local sulfonamides, there were 41 serious infections and 37 trivial infections, a total incidence of infection of 24 per cent. In 141 compound fractures not treated with chemotherapy, there were 14 serious infections and 7 trivial infections, an incidence of 14.9 per cent. Thus, the sulfonamides failed to live up to expectations. These figures were surprising to many. Some who heard Meleney's report were not convinced. One discussant stated, "I do not know where it is—it may be the unwieldiness of the series or it may be in the

*Read at the Vancouver Medical Association Summer School, Sept. 9, 1946.

punch-card system—but there is something wrong somewhere. I am perfectly convinced, and this is not emotion, that any report of a series of cases which concludes that the rational implantation of sulfonamides in contaminated wounds after they have been properly débrided does not lower the incidence of infection in these wounds, is wrong, provided the débridements and after treatment are equivalent. This is a monumental piece of work, backed up by a lot of able observers, but I think that a few years from now they will be ashamed of their conclusions."

Three years have passed and as far as I know, none of the committee is ashamed of the conclusions. Lyons[2] has recently reported his careful bacteriologic studies of war wounds in the Mediterranean Theatre. He quotes the following from War Department Circular Letter No. 160, dated June 1, 1945: "Experience in wound management justifies the abandonment of local use of any chemical agent in a wound for its supposed antiseptic effect in the prevention of infection."

The studies on burns conducted by the same committee showed that the sulfonamides were not of value in the local treatment of burns. In 1172 burns treated with the local sulfonamides, there was an incidence of serious infection of 20.9 per cent and of trivial infection, 23.8 per cent, a total of 44.7 per cent. In 81 burns treated with simple compression dressings without sulfonamide drugs, there was an incidence of 13.6 per cent of serious infections and 21 per cent trivial infections, a total of 34.6 per cent. Also, the general use of sulfadiazine in 141 patients did not reduce the number of infections.

There is some evidence to indicate that the administration of penicillin is of value during the skin grafting phase of the treatment of third degree burns. In protracted cases, the organisms are apt to become penicillin-resistant.

The sulfonamides and penicillin have been of great value in the treatment of osteomyelitis, especially in the acute phase of the disease when there is only the beginning of the focus in the bone as a result of the bacteriemia or septicemia. An excellent series of cases is that of Altemeier[3] who reported the results in 34 cases of acute hematogenous osteomyelitis treated with penicillin. Twenty of these had positive blood cultures. Most of these were due to the hemolytic staphylococcus aureus. Seventeen cases required no surgical intervention, 12 had incision and drainage of soft tissue abscesses, and five had osteotomies. *There were no deaths!*

With chronic or old cases of osteomyelitis, the results are much different. Of 9 cases treated at the Henry Ford Hospital, only one showed slight improvement with penicillin. In July, 1945, the Canadian Medical Association Journal[4] published a Report of the Joint Services Penicillin Committee. It was stated that in the chronic cases, the results were disappointing even with surgical procedures added.

Even before we had penicillin, hemolytic streptococcus septicemia had about left the stage. It is customary to give the sulfonamides credit for this. In his report of the National Research Council studies, Meleney[1] was obliged to report that there had been no reduction in the incidence of local infections from the use of the sulfonamides, but it seemed that there had been some effect on the invasiveness of the organisms. There were only two deaths from infection in 682 soft part wounds, an incidence of 0.3 per cent. One of these patients developed meningitis on the twenty-fourth day after an avulsion of the scalp. No primary drugs were used. The other died on the third day following a stab wound of the chest, diaphragm and stomach, from a hemolytic streptococcus empyema. Primary drugs had been used in this case, both locally and generally. There were two deaths from infection in 471 compound fracture cases, and two deaths from infection in 347 burn cases. The latter had extensive skin injury and might have died without the infection.

Although subacute bacterial endocarditis is not a surgical disease, I will state that we have apparently cured 7 cases of this dreaded infection by the use of massive doses of penicillin (approximately half a million units per day).

Although penicillin is valuable in diffuse infections to which we apply the term cellulitis, one must be on the alert to carry out orthodox surgical procedures when they are indicated. Pus under pressure must not be treated by giving the patient intramuscular penicillin. Incision and drainage is still good treatment.

Crile[5] reports the treatment of 50 cases of peritonitis from ruptured appendices. All but one recovered under intensive penicillin treatment (up to one million units per day). However is should be remembered that there had been a gratifying decrease in deaths from appendiceal peritonitis even before the sulfonamide drugs became available. For example, Altemeier and I[6] reported 85 cases of acute perforated appendicitis observed in the years 1934-36. The mortality in this group was only 4.7 per cent.

The modern trend in surgery of the lower gastro-intestinal tract is toward the use of one-stage, direct procedures. Instead of doing a Mikulicz resection of a tumor of the left colon, we excise it and perform an immediate end-to-end anastomosis. Presumably this is done with comparative safety because the bowel has been sterilized to a considerable extent by the previous administration of such drugs as sulfasuxidine.

It is a modern wonder the way *empyema thoracis* has almost disappeared from our surgical wards. We now have only about one case per year of post-pneumonic empyema. Formerly, we had dozens. Chemotherapy in the primary disease must be responsible.

A number of reports indicate that penicillin is of value as an adjunct to orthodox surgery in the treatment of gas gangrene. It is of no benefit in tetanus[7]. It may be of some value in actinomycosis and anthrax.

In summary, we can say that the newer chemotherapeutic agents have been found to be miracle drugs in many situations, and failures in others. There will be fewer disappointments in treatment if the proven surgical principles are not forgotten in our haste to order these drugs.

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THE TREATMENT OF BURNS*

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During the past five years, there has been a very gratifying change in our approach to the treatment of burns. The change has been along the line of simplification in both the local treatment of the skin and the management of the general symptoms.

Less than four years ago, a study[1] showed that more than a hundred different ointments, solutions and powders were being recommended and used for local application to burns. There has been disagreement concerning the choice of fluid to give intravenously. Salt solution, plasma, sodium lactate and whole blood have had their advocates. We have been led to fear such questionable or hypothetical conditions as "Toxemia", "burn shock", "azotemia", "anoxia", and "polypeptidemia". We had reason to fear "toxic hepatitis", but not for the reason which was supposed for several years.

I presume it is unnecessary for me to say anything in condemnation of the use of tannic acid. Two years ago, I read a paper at the American Surgical Association, the title being "The Tannic Acid Treatment of Burns: An Obsequy."[2] An attempt was made to explain how it happened that tannic acid became so popular all over the world and how finally evidence began to accumulate that the hepatitis of burns was due to tannic acid poisoning. The method was also associated with a high incidence of infection and delayed wound healing.

The following is taken from the section on "Immediate Local Treatment" in the chapter on burns in the Manual of Surgical Procedures of the Henry Ford Hospital.

"It now appears that the best way to treat a burn is to put a large dressing on it and leave it alone until healing or sloughing takes place. The earlier this dressing is applied, the sooner the patient will be comfortable and the sooner the danger of secondary infection is minimized. It is well to forget what one may have read about "primary shock". This is an ogre, built up in the imagination of writers of articles on burns, and it has caused needless delay in the application of the primary dressing to serious cases of burns. No patient needs plasma administration or any of the so-called anti-shock procedures before his burns have been protected by adequate dressings."

"The dressing is applied according to the following plan. The relatives or other onlookers are politely but firmly excused. Operating room technique is followed as far as practical. This will include the masking of all persons in the room, including the patient. This practice may mean the difference between satisfactory healing or stubborn infection. Remove the burned garments or first aid dressings, unless the latter are known to be of a satisfactory nature. If an ointment and pressure dressing has been applied at a plant hospital, for example, this should not be removed but it is merely reinforced as indicated. No débridement is done. The unopened blister, with its plasma bathing the underlying burn is probably the ideal dressing. No washing of the wound is carried out. The fire has sterilized the skin far better than any chemical or mechanical method which might be proposed. It is useless to try to remove organisms which have been deposited on the wound since injury. Treatment should be directed along the line of preventing further contamination. No medication of any kind is applied to the burned surface. It is now well known that tannic acid, triple dyes, the sulfonamides and more than a hundred advertised burn remedies are likely to do more harm than good."

Some type of fine mesh, non-adherent fabric should be placed on the burned surface. Rayon fabric is recommended but petrolatum gauze is satisfactory. This layer is followed by ordinary gauze dressings outside of which is placed some type of

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bulky padding material such as machinist's waste or cotton pads. Elastic bandage then completes the dressing. Ordinary gauze bandage, if skillfully wrapped, can be used in place of the elastic bandage. Dressings on the extremities should extend out to the tips of the toes or fingers to minimize swelling of the feet or hands. It is impractical and inadvisable to try to put pressure dressings on the face or neck. In burns of the trunk, one may have to be satisfied with simply getting the injured surface covered. Burns of the face are probably better left dry, but usually the patient demands some type of ointment, in which case petrolatum is as good as anything.

Progress dressings should be done infrequently, because unnecessary inspections may predispose to infection and interfere with healing. Usually, the first dressing can be left undisturbed for two weeks. First degree and superficial second degree burns may be healed in a shorter time. One should have an idea about this from the primary examination or by partially removing the dressing to inspect selected areas. Most second degree burns should be healed at the end of three weeks, and at this time, it should be possible to begin the grafting of third degree burns.

About ten per cent of hospitalized patients will have so much injured tissue that there is local loss of plasma and a serious diminution in the amount of circulating bloodd. In an extreme situation, the extremities may be cold and no pulse can be felt at the wrist. The indication for treatment is clear—build up the blood volume with transfusion. Whole blood is preferable to plasma even though the hematocrit may be high. The reason for using whole blood is that the severely burned patient invariably develops anemia in a week or two and the red cells given early will be put to good use. Also, it is noteworthy that a pint of whole blood costs exactly half that of a pint of plasma.

The hematocrit may be taken as a rough guide to the amount of blood or plasma needed; Harkins' rule states that 100 cc. of plasma should be given for each point the hematocrit is above the normal of 45. Hematocrit values above 55 or 60 indicate that replacement therapy should be pushed vigorously. Of course, this treatment should be instituted before the patient becomes so depleted that there is extremely low blood pressure.

A satisfactory urinary output is a good prognostic sign. Usually, the patient drinks readily, but if necessary, a deficiency can be made up with parenteral five per cent dextrose. The use of physiologic saline may lead to the administration of an excess of chloride, which may predispose to edema.

During the waiting period which follows the first three days, there is little to be done except symptomatic treatment. If there is a very high fever, chills, positive blood culture or other evidence of infection, penicillin treatment should be begun. Sulfadiazine may be used occasionally. The usual amount of penicillin for the first day is 200,000 units; later, 100,000 units. The usual dose of sulfadiazine is one gram every four hours. It should be mentioned that fever and leucocytosis do not mean infection; these are common to all burns of moderate or severe extent.

Attention should be paid to the dressings every day. Some of them may be removed from time to time while others are reinforced. The open air is good for second degree burns which are nearly healed.

Aftr three weeks in the hospital, one of two circumstances is probably present: (1) the patient is ready for discharge, or (2) he has third degree burns which need grafting.

Spontaneous sloughing of third degree burns usually takes place during the first three weeks. Sloughing is facilitated by the use of a moist dressing, preferably of Dakin's solution. Animal experiments at the Henry Ford Hospital[3] have shown that any aqueous solution is as effective as the pyruvic acid solution which has been recommended by the group at Yale University.[4]

After the second or third weeks most dressings are scheduled in the operating room as grafting procedures. If no grafting is necessary or the sloughing is not complete,

the operation is considered as a major dressing. Otherwise one can proceed without delay to apply dermatome grafts.

The Padgett dermatome is one of the most valuable surgical instruments to be invented during our generation. It has permitted an almost miraculous type of skin replacement in extensively burned patients. It should be considered bad medical practice for a patient to remain longer than three weeks in a hospital where facilities for such skin grafting are not available.

During the period when skin grafting is being done, some special measures in general care may be carried out. The hemoglobin should be kept above the level of 12 grams by transfusion. Penicillin is probably useful; it is started 24 hours before the grafting procedure. 300 mg. of cevitamic acid is added to the diet daily.

Summary. It has been recommended that burns be treated by large occlusive dressings which remain unnisturbed until healing or sloughing takes place. The most important part of the general treatment of the very seriously burned patients is whole blood transfusion to replace blood volume. Third degree burns should receive prompt and adequate grafting.

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Vancouver General Hospital Section

MODERN GASTROSCOPY AND GASTRIC DISEASE

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I have introduced the word "modern" into the title of this paper because I believe that the poor results and accidents attending the use of the older rigid gastroscope still linger in the minds of many of us and tend to discredit the method as a whole.

Historical Background

Gastroscopy, although only recently perfected, was perhaps the first endoscopic method to be attempted. Kussmaul in 1868 invented the first gastroscope. This was a long straight metal tube passed over an obturator, and light from a naked flame reflected down the tube provided an illumination which could have been only sufficient to visualize the grossest mucosal changes over a very limited area. The interior of the living stomach however was visualized by the oesophageal route for the first time with this instrument. In 1876 Nitze devised the first indirect vision gastroscope. This instrument was illuminated by a naked incandescent platinum wire at the distal end and the lens system resembled that of the modern cystoscope. The large size of this rigid tube and the heat generated from such a primitive lamp were serious handicaps, and the instrument was soon abandoned. A more popular one was constructed by Mikulicz in 1881. This was a rigid metal tube angled at thirty degrees and illuminated distally by a water cooled incandescent bulb. After this workers in many countries, notably Souttar and Thompson in England, devised and used with varying success instruments modified on the Mikulicz pattern. Interest in this form of endoscopy however, lapsed during the early part of the century, owing in part to the advent of Roentgen Rays, which seemed likely to provide the answers to all questions of gastric disease. Moreover, rigid instruments were found to be unsatisfactory for two reasons. Firstly, rupture of the oesophagus was not uncommon, owing to the fact that the axis of the

stomach comes forward from the cardia, and is not in the same plane as the axis of the oesophagus. Again, only a limited view of the stomach was possible.

Following the discovery that one can see through a curved tube filled with lenses of short focal length, Schindler in 1932, with the technical assistance of Wolf, constructed the first flexible gastroscope. This was a great advance on all previous instruments and was used widely with success. It had however the one disadvantage in that there was no control over the distal flexible end, and high lesions of the lesser curve and posterior wall, where the instrument lay in contact with the mucosa, could not be detected. In 1936 Rodgers devised a balloon attachment which alleviated this difficulty by enabling the tip to be lifted from the mucosa when the balloon was inflated. Nevertheless, the balloon easily became soiled and the inflation lead was a source of discomfort to the patient during introduction. In 1941 Herman Taylor, with the technical aid of Schranz, invented a flexible gastroscope with a controllable tip.

The Herman Taylor Gastroscope

The overall length of this instrument is greater than that of Schindler's. This is helpful in cases of gastroptosis and in the very tall subject. The rigid proximal portion is composed of two concentric metal tubes. The lens system lies within the inner tube, and the air passage, electrical leads and control mechanism between the two. The flexible portion contains about thirteen lenses of short focal lngth, and is shorter than that of the Schindler model. The resulting numerical reduction in lenses permits greater illumination since there is less absorption of light. There is also less distortion of the image. Vision is possible through any curve up to an angle of forty degrees. The flexible distal portion can be moved up or down by turning the two wheels near the eyepiece. These are attached by a differential rack and pinion mechanism to front and back control wires running throughout the length of the instrument. The controllable tip has many advantages: blind areas are considerably reduced, lesions of the lesser curve high up and in the pyloric antrum can be seen in a greater proportion of cases, and fewer failures in passing the cardia result, because the tip can be gently manipulated blindly, or under direct vision if necessary, past this point. In addition, the tip can be manoeuvered into different parts of a distorted stomach. Lastly, a lesion can be viewed from many different angles and a better conception of its nature derived.

A rubber sheath encloses the air passage over the flexible portion of the instrument, and with each blast from the bellows air escapes through a small hole near its distal end. There are two types of tip to suit individual preference, a bullet pattern and a rubber finger pattern. The lenses are so arranged that the mucosa is always in focus. At about two centimetres the image is normal in size. Closer than this it is magnified, and further away it is diminished. A single attachment for bellows and electrical leads facilitates the handling of the instrument.

Selection of Patients

Age *per se* is no contraindication to gastroscopy, provided the patient is of adult stature. The presence of oesophageal carcinoma or stricture and aortic aneurysm are contraindications to instrumentation. In cases of severe kyphosis there is often kinking of the oesophagus at the cardia which makes attempts to enter the stomach hazardous or impossible. Some instances of great hepatic enlargement have been a cause of gastroscopic failure. It is a hopeless procedure to attempt gastroscopy on a patient who is not anxious to be investigated. Relaxation and co-operation are of paramount importance. Again, the gastroscope is not a punitive weapon and those who have used it as such have cause for regret.

The Method

The examination can be performed in an office or hospital out-patient department provided facilities for adequate rest and premedication are available. It is advisable to have the patient fast for twelve hours preceding the procedure. I do not wash out the stomach beforehand unless gastric retention is evident or suspected, as it sometimes

induces apprehension. Morphia Gr. ¼ and hyoscine gr. 1/150 (atrophin gr. 1/150 in patients over fifty years) one and a half hours before examination is a satisfactory premedication. If after one hour the respiratory rate is over sixteen per minute it is wise to give an additional morphia gr. 1/6. Adequate local anaesthesia can be provided by giving the patient the ordinary pre-operative benzocaine tablet to suck, half an hour before the examination. The left lateral position with the right knee drawn up is preferable in routine cases. The back must be kept straight, as a curvature will throw the spine forward, and the head is held by an assistant. The importance of a trained assistant cannot be overemphasized, as guiding the finer movements of the head to permit easy instrumentation or better vision requires an aptitude and much experience. It is well to keep the patient's eyes covered, and at no time to bring the instrument into full view.

The operator stands facing the patient and selects a gap in the dentition of the upper jaw into which to insert the instrument. It is more difficult to pass the gastroscope on a patient with a complete set of teeth, especially if the onslaughts of time have reduced the mobility of the spine. Since the two conditions are rarely met with in the same subject, no such difficulties, as a rule, are encountered. The operator places the left mid-and index fingers into the patient's mouth on the side selected, one finger on the base of the tongue, the othr holding the lips outward at the angle of the mouth. The flexible portion of the instrument is held in the right hand like a pencil, a second assistant supporting the eyepiece, and the tip is passed between the two fingers until it strikes the posterior pharyngeal wall. The tip is then pushed forward by the more centrally placed finger until it comes to be at the oesophageal hiatus. The patient is then told to swallow, and the instrument, after perhaps a temporary delay, is gripped by the oesophageal musculature and glides gently, with only slight assistance, down into the stomach. As the rigid portion of the tube enters the mouth, the head is gently extended. Occasionally there is some delay at the cardia. It is most important never to use force at any time during the whole manoeuvre.

Serious discomfort on the patient's part is almost always due to pressure of the instrument against the lips or gums. An observant operator and an intelligent assistant can do much to prevent its occurrence, and if it does occur, quickly remedy it. Mild discomfort is experienced in many cases due to tracheal displacement. On the whole, patients tolerate instrumentation well, and I have had many who volunarily state that they prefer it to a test meal, stomach wash-out or barium series. It is most important to talk frequently to the patient during the examination, and promote his interest in the proceedings. This prevents him brooding on his predicament and magnifying any mild discomfort experienced.

With regard to fatalities with the flexible gastroscope, Schindler a few years ago in a wide survey of over 22,000 cases could discover only one.

Appearances of the Normal Stomach

When the instrument is *in situ,* and the light and bellows attachment is made, the stomach is inflated just sufficiently to separate its approximated walls. Great distension at this time, by rendering the stomach more "J-shaped", limits the field of vision in the pyloric antrum. The maximum depth of introduction is sought at once, and the angulus brought into view. The angulus corresponds roughly to the anatomical *incisura angularis* and is seen on tangential view as a "Norman" type of arch at the top of the field. Below and past it the pylorus is seen as a small aperture at the end of the plyoric antrum and can be viewed in 90% of cases. In 10% of cases a "J-shaped" stomach renders it invisible by reason of the superimposed angulus.

A persistaltic wave commencing proximal to the angulus passes through it, and can be observed to run the whole length of the pyloric antrum, terminating at the pyloric sphincter, which responds by a pouting and prolapse of duodenal mucosa, accompanied by a regurgitation of gas or duodenal content. The wave takes from ten to fifteen seconds to pass, and is quickly followed by another one. The instrument is gradually withdrawn and the remainder of the stomach inspected. The lesser curve is

recognized by four to six low longitudinal folds, perhaps flattened if the stomach is much inflated. The greater curve has thicker intersecting rugae on its surface. Lying on the greater curve is the "mucus lake" or stomach content. This may be clear green, or yellow, or opaque with mucus or saliva. The mucosa is carefully inspected from a distance and close up. It is orange in colour and glistens with a thin coat of mucus, its thickness is variable, and distension increases thinning. Sometimes the *area gastrica*, a cobble-stone appearance representing the intervals between gland orifices, is clearly seen. An accurate mapping of the acid-secreting areas can be obtained by the intravenous injection of neutral red just prior to the examination.

Appearances of the Stomach in Disease.

The commonest lesion of the stomach is gastritis. This condition can be divided roughly into Superficial, Hypertrophic and Atrophic groups. Mixed patterns are not uncommon. In Superficial Gastritis the mucosa is congested and a dusky red colour. Adherent patches of opaque mucus are often seen. These leave a finely granular area when wiped away with the tip of the gastroscope. Mucosal hemorrhages and superficial erosions and ulcers are frequent. The latter can be more clearly outlined if, prior to the examination, 10 c.c. of 1% fluorescein is instilled into the stomach. Hypertrophic Gastritis is associated with hypersecretion. Here the mucosa is a normal colour, but greatly thickened, often warty, sometimes almost polypoid in character. Gastritis in the Atrophic form is associated with hyposecretion and achlorhydria. The mucosa is thin, a pale greyish-green or blue colour, and the submucosal vessels are visible.

Gastric ulcer presents a most striking picture in colour contrast. The ulcer floor is yellow or greyish-white and stands out clearly from the surrounding orange coloured mucosa. The floor is smooth, the edges well defined, and sometimes "pinched out". Often associated inflammatory changes cause a concentric submucosal swelling, so that the ulcer appears to surmount a hillock, the whole resembling a volcanic crater. Converging folds of the surrounding mucosa are common, haemorrhage and pigment spots less frequently encountered. When, for technical reasons, an ulcer cannot be visualized, there are several indirect signs denoting its presence. The most important of these is "Henning's sign". This is a drawing up of the angulus to convert it from a "Norman" to a "Gothic" type of arch. This is indicative of a lesser curve ulcer just beyond the angulus. Notching of the peristaltic wave as it passes down the pylorus and "hourglass" fold are other indirect signs of value.

There is no direct evidence of duodenal ulcer by gastroscopy since vision is not possible beyond the pyloric sphincter. However, since two-thirds of all cases of duodenal ulcer have an associated gastritis, the detection of this condition has some value as indirect evidence of duodenal ulcer.

Carcinoma presents a variety of appearances. The papillary form is readily seen as a fleshy mass protruding into the stomach, with areas of haemorrhage, ulceration and necrosis. The infiltrating type, particularly when involving the pyloric antrum, may only become apparent by the detection of a rigid stomach wall, absence of peristaltic activity, and normal pyloric sphincter mechanism. The ulcerative type is differentiated from simple ulcer by a number of characteristic features. Irregularity of the floor is one. In this connection one must be alive to the possibility of a simple ulcer penetrating the pancreas and exposing its normal nodular structure. A limiting wall on one side and a blending infiltration on the other is a common feature of malignancy. A raised irregular ulcer edge and bleeding at the edge are characteristic of neoplasm. A dark beefy red colour of the ulcer wall and small ulcerations within the wall are pathognomonic of carcinoma. The presence of a peculiar white crystalline substance on the ulcer floor is said to be characteristic of malignancy. Tumour nodes and masses in the environs spell carcinoma, and a visible ulcer in the pyloric antrum close to the greater curve is almost certainly malignant.

Submucosal tumours (leiomyomata, myofibromata, lipomata, ectopic pancreatic tissue, etc.) appear as smooth well defined swellings. Folds of mucous membrane

stretching from the tumour surface to the immediate environment are a most characteristic finding, and reveal the submucosal site of these lesions.

Gastroscopic Artefacts

Minor trauma to the gastric mucosa is made manifest in different ways. A blotchy congestion of the mucosa appears when the lamp is hot and is held too long in one place; superficial ecchymosis and bleeding can occur if the instrument tip is rubbed against the mucosa; a bruise or superficial erosion is sometimes seen to be an effect of pre-examination gastric suction; pigment spots represent altered blood from minor trauma incident to gastric analysis some days or weeks prior to gastroscopy.

The Clinical Value of Gastroscopy

Gastroscopy does not detract from the value of radiology, which should always be the routine method of examining the stomach. Gastroscopy can extend the radiographic picture by a description of the more minute characters of the mucosa which will reveal the presence of atrophy, hypertrophy, haemorrhages, inflammation or erosions. Again, a silhouette of doubtful etiology by x-ray can be amplified by a detailed description of its surface configuration, colour or texture. Radiology and gastroscopy are complementary to each other in their results, and radiology should precede gastroscopy whenever possible.

Gastritis—Gastroscopy is definitely superior to radiology in detecting the presence, distribution and type of gastritis, and in observing the effects of treatment of this condition. Not uncommonly an idiopathic haematemesis is laid at the door of an erosive manifestation of this disease. Some observers attribute 10% of haematemesis to such a cause.

Gastric Ulcer — With regard to the diagnosis of gastric ulcer, gastroscopy will often reveal an ulcer when x-ray has failed for several reasons. The ulcer may be too shallow to produce a "niche" in the radiological silhouette, or it may be filled with blood clot, slough or mucus. Large ulcers near the angulus are notably difficult to detect radiologically, but are readily accessible to the gastroscope. Again, an ulcer may have healed before the patient can be x-rayed safely. This is particularly true of the patient with a bleeding ulcer who can be examined by gastroscopy with safety four to five days after the cessation of haemorrhage. Once more, scars at the site of a healed ulcer are easily seen with the gastroscope and are difficult to demonstrate radiologically.

In observing the progress of an ulcer, the gastroscope provides the only accurate assessment of healing. This is the great "forte" of gastroscopy. One can often demonstrate an ulcer as not healed, after x-rays have shown the lesion healed. The small terminal defect in a slow healing ulcer may be too shallow to be seen radiologically, or it may contain slough, mucus or an air bubble. There is no doubt that many medical failures are due to the fact that the lesion was never completely healed at the termination of treatment. The importance of complete healing the first time cannot be over-emphasized, as each breakdown leads to further scarring, and longer courses of treatment. Since abolition of symptoms is no guide to healing, and x-rays are unreliable in this respect, these circumstances are indications *par excellence* for gastroscopy. Whereas the gastroscopic findings in such cases usually result in a longer course of treatment for the patient, on occasion the situation is reversed, and what was described radiologically as a persistent ulcer will prove to be a depressed scar. This, however, is not common.

As a preoperative procedure gastroscopy will reveal accurately the nearness of the ulcer to the cardia. This knowledge, combined with the laparotomy findings, will help to prevent too radical a gastrectomy being performed. Again, if preoperative gastroscopy reveals an associated gastritis, the operation can be postponed until this condition has subsided, and the stomach is in better health to withstand resection and suture.

Duodenal Ulcer—A more accurate estimation of gastric secretion can be obtained by inspection of the gastric mucosa than by a test meal. Gastroscopy then is an aid in planning the type of operation to be performed in cases of duodenal ulcer.

Carcinoma—With respect to diagnosis it is the commendable desire of all radiologists never to miss a carcinoma of the stomach. For this reason their diagnoses are often tentative. After visualization of a suspected area in the body or cardia one is rarely in doubt as to the presence or absence of malignancy. A better gross picture of the lesion can be obtained gastroscopically than if one had the specimen in one's hand in the post mortem room. This may seem difficult to believe but it is true. The reason is that one is viewing a lesion in the plastic, viable state; also, magnification is possible. If there is a doubt as to malignancy, a re-examination after two weeks medical treatment will dispel that doubt. In suspected antral carcinoma a negative finding must not be given without the most careful inspection of the pylorus. Infiltrating and large ulcerating lesions in this region may only be apparent by their effect of producing a rigid, immobile gastric wall, and absence of peristaltic activity.

As a preoperative measure gastroscopy gives no evidence of the spread of carcinoma. The nearness to the cardia of the lesion, however, can be accurately assessed and some idea of the type of resection required can be determined.

Post-Operative Stomach—Gastroenterostomy and gastrectomy stomata are usually well seen, though their jejunal aspects are never seen in their entirety. Certainly gastritis about the stoma is most accessible to the gastroscope and stomal ulcer is seen in the great majority of cases. These lesions are not easy to demonstrate by X-ray.

Unusual Conditions—In bizarre filling defects and unusual changes by x-ray the suspected area can be visualized and a submucosal tumour, a granuloma, a food ball, or some other rare lesion demonstrated, or, as the case may be, the area given a clean bill of health.

Clinical Research—Lastly, there is no doubt that gastroscopy will be of great assistance in further research into the stomach. It may also shed further light on those diseases, pernicious anaemia, for instance, in which the gastric mucosa is involved.

In conclusion, I will say that modern gastroscopy is a safe procedure, easily accomplished without gross discomfort to the patient, and that it is a procedure productive of results of definite clinical value.

DISCUSSION OF SOME ASPECTS OF LEUKEMIA, INFECTIOUS MONONUCLEOSIS AND AGRANULOCYTOSIS*

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There are many diseases in which important changes occur in the white blood cells but the present discussion will be limited to three of them, namely, infectious mononucleosis, agranulocytosis and leukemia.

Infectious Mononucleosis

This condition may be defined as an acute infectious disease, usually occurring in infants, children or young adults, characterized by enlarged and tender lymph nodes, the presence of atypical lymphocytes in the circulating blood, and the development of agglutinins (heterophile antibodies) for sheep's red blood cells. Its cause is unknown but the possibility that it might be due to a filtrable virus must be considered, although

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convincing proof of this is not available. In my experience it is most unusual to observe the condition in patients over 35 years of age, but reliable reports have indicated that in rare instances even elderly persons may have the disorder. It should be kept in mind, however, that the diagnosis of infectious mononucleosis in a person over 35 years of age should be viewed with suspicion.

The condition usually persists for several weeks and varies in intensity from the mildest type with minor upper respiratory symptoms which do not confine a patient to bed, to the severest variety which simulates a profound infection, such as typhoid fever. In almost all cases there is complete recovery without complications.

The Importance of Infectious Mononucleosis.—If it is a disorder for which there is only symptomatic treatment and from which all patients recover almost without exception, one might ask why it is of such importance to all physicians. The following reasons are given in answer to this question.

1. In the first place it has a high incidence in the age groups mentioned. Often the true nature of the condition is not recognized, hence in the presence of the usual prolonged convalescence, characterized chiefly by asthenia, the physician is embarrassed because the patient and the family cannot understand why so much time is required to recover from what was thought to be a mild attack of the "flu". Furthermore, the patient may relapse after having made a complete or partial recovery. If the condition is recognized at the onset, and the patient and family warned that it is one from which recovery will undoubtedly occur, but also one which is characterized by a prolonged convalescence of several weeks, and occasionally a relapse, the situation will be much more satisfactory for the patient, the family and the physician.

2. Infectious mononucleosis may present a most puzzling diagnostic problem which at times will tax the diagnostic acumen of the most experienced clinician. I have seen patients in whom the presenting symptoms simulated rather closely leukemia, influenza, poliomyelitis, meningitis, diphtheria, septic sore throat, agranulocytosis, typhoid fever, acute hepatitis, tuberculosis, and other diseases. It may present features resembling as many other syndromes as any disease with which I am familiar. One reason why the diagnosis may be so difficult is because when the patient is first seen during the initial week of the illness, the distinctive features of the condition, such as the enlarged and tender glands, the atypical lymphocytes in the circulating blood, and sheeps' cells agglutinins (heterophile antibodies), may be absent.

3. This disease is not infrequently mistaken for leukemia. This, of course, is a most serious and regrettable error, as all persons with this disease succumb, whereas those with infectious mononucleosis survive. It is not surprising that the two maladies should be confused, for in each there are enlarged glands, atypical lymphocytes in the circulating blood, and in a certain proportion of patients with each condition the spleen is palpable. Opposed to the diagnosis of leukemia, however, is the lack of an anemia; the exceedingly rare occurrence of a reduction in blood platelets with purpura which is commonly present in leukemia, especially the acute types; the absence of a positive heterophile antibody reaction; a white blood cell count which is not often above 20,000 per cubic millimeter; and the presence of the distinctive cells of infectious mononucleosis. These cells differ definitely from the lymphoblasts of lymphatic leukemia, but there is a superficial resemblance which is misleading to those who have not had considerable experience in the recognition and positive identification of abnormal white blood cells in the circulating blood. Almost every year we have several patients referred to us at the Simpson Memorial Institute with the diagnosis of leukemia, in whom, fortunately, it is discovered that the condition is one of infectious mononucleosis. It should be kept in mind, therefore, especially when the diagnosis of lymphatic leukemia in a child or young adult is considered, that this benign disease may simulate it closely.

4. Infectious mononucleosis may be confused with an abdominal condition of such a type as usually demands immediate surgical attention, such as an acute appendicitis. It should be emphasized that abdominal pain is present as the most conspicuous clinical feature in 18 per cent of all patients with the disease. More than once have such patients been referred to the surgeon and in some instances subjected to an appendectomy. In some patients there has been a definite infiltration with the typical lymphocytes of the disease in the appendix and adjacent tissues. This is not uniformly true, and hence the basis for the abdominal pain is not always entirely clear, although some have assumed that it may be due to tension on the capsule of the enlarged abdominal lymph glands. In order to avert such an unnecessary operation the possibility that the patient may have infectious mononucleosis should always be kept in mind, especially in children and young adults with abdominal pain. The absence of outspoken abdominal signs, and the presence of enlarged and tender lymph glands in the cervical region; and in some instances slight but generalized glandular enlargement, along with the changes in the blood and a positive heterophile antibody reaction, should indicate the correct diagnosis.

5. Of greatest value in the diagnosis of the disease is the heterophile antibody reaction which was recognized as positive in this condition by Paul and Bunnell in 1932. They observed that antibodies in high titre occurred in the sera of patients with this disease which agglutinated sheep's cells. It was shown that this reaction occurred in a great majority of patients with the disease, and that it has sufficient specificity to be of great diagnostic importance.

6. It is known that the sera of patients with infectious mononucleosis will give a pseudo-positive serological reaction for syphilis in between 18 and 20 per cent of the cases. All such tests give about the same percentage of positive reactions. It should be kept in mind, in evaluating the importance of such a reaction in a patient, that the positive pseudo-reaction persists for only a few days to weeks but occasionally may be present for as long as several months. As serological premarital tests are required by law in a number of states at present, it is exceedingly important to keep the possibility of the presence of a false positive reaction in mind, should it occur under these circumstances.

The Diagnosis of Infectious Mononucleosis.—The recognition of this condition should be based on three types of information *of which at least two must be present before the diagnosis can be accepted.* They are: (1) The clinical picture as evidenced by fever, sore throat or other manifestations of an upper respiratory infection, and enlarged tender glands; (2) The presence of a positive heterophile antibody reaction in a titre of 1:16 and preferably higher; (3) The characteristic atypical lymphocytes in the circulating blood. During the first week of the illness in an appreciable percentage of patients, perhaps only fever and the symptoms of mild upper respiratory infection may be present. If there is no other basis for the symptoms, then the possibility that the patient might have infectious mononucleosis must be considered, the blood examination repeated, and the heterophile antibody reaction determined at intervals of every few days. It is helpful to inquire if other children or young adults of the family or among their acquaintances have had a similar condition. In some instances another child who is supposedly well and with negligible complaints will be found to have enlarged and tender glands and all other signs of the disease.

It is apparent, therefore, that the manifestations of infectious mononucleosis are exceedingly diverse and a number of important diseases may be simulated closely. The following suggestions are helpful when considering this diagnosis: (1) Incorrect diagnosis are usually eliminated by a sufficient period of observation; (2) The condition is almost always limited to infants, children and young adults; (3) Generalized lymph gland enlargement, atypical lymphocytes in the circulating blood, and a positive heterophile antibody reaction may be delayed for the first week of disease, but eventually at least two, and usually all three of the criteria will be present; (4) The disease tends

to appear in minor epidemics, hence the examination of other children in the household or neighborhood will often reveal other cases which lend support to the diagnosis of infectious mononucleosis.

Prognosis and Treatment of Infectious Mononucleosis.—Usually the average course of the disease is from ten days to two weeks, followed by a convalescent period of 2 to 3 weeks at which time the only remaining symptom is asthenia. Never, in my experience, has the disease proved fatal, although at least three fatal cases have been reported in the literature. In each instance this has been due to rupture of the spleen, either spontaneously or following slight injury.

Some patients may recover completely, and then after an interval of several weeks suffer a relapse. Although the abnormal lymphocytes usually disappear from the circulating blood within a few weeks, they have been known to persist for several months. It is also true that the heterophile antibody test may continue to be positive and the lymph glands remain enlarged for several months.

There is no specific treatment for the condition, but it is known that the more severe manifestations of the disease may be avoided if bed rest is insisted upon early in the course of the disease. It is known that penicillin, the sulfonamides and convalescent serum from a recently recovered case, are of no particular value. As Vincent's organisms are frequently secondary invaders in the mouth and throat, hydrogen peroxide, one-half strength, may be employed advantageously, otherwise symptomatic treatment only should be employed.

Agranulocytosis

Agranulocytosis may be defined as an acute febrile disease characterized by a striking reduction in the granulocytes of the circulating blood, probably due to a maturation arrest of the white blood forming cells in the bone marrow. The condition is practically always due to the abnormal reaction of an individual to some drug. An outstanding clinical feature is the necrotic lesions in the throat and oral cavity and also at times involving other mucous surfaces. The red blood cells and platelets are not materially altered; hemorrhagic manifestations are rare; there is no hepatomegaly or splenomegaly; and only local lymphadenopathy associated with sepsis.

It seems to be reasonable to assume that the disease occurred occasionally before 1902, but it was in that year that Philip King Brown of San Francisco described the first case with complete blood studies and a necropsy. It was not until 1922, when Werner Schlutz in Germany described 5 fatal cases in women, that the disorder became generally known. The first case reported in the United States under the name agranulocytic angina, following the description of Schlutz in 1922, was that of Lovett in 1924.

The etiology of this condition remained a mystery until the demonstration by Madison and Squier in 1933 that amidopyrine could cause the disease, although two years previously Kracke had suspected that drugs derived from coal tar could be responsible for it. In my opinion, *all instances of true agranulocytosis are due to an idiosyncrasy to some drug.* It must be admitted, however, that it is not possible to prove that such a drug sensitivity is the cause of the condition in every case, but this may be because all of the facts relating to the patient's illness are not known. It has been demonstrated clearly that the following drugs may be responsible for the condition in persons who are apparently sensitive to them: the sulfonamide drugs, including sulfanilamide, sulfapyridine, sulfathiazole, sulfadiazine, and succinyl sulfathiazole; thiouracil-aminopyrine; gold, arsphenamine; dinitrophenol; novaldine (sodium phenlydimethylpyrazolon methylaminoethane sulfonate which is closely related to aminopyrine); causalin (a preparation made up of approximately equal parts of aminopyrine and hydroquinone).

It is recognized, of course, that only in occasional instances do these drugs cause agranulocytosis, for countless doses of them have been given without untoward effects. The possibility, however, that they *may* cause the condition should be kept in

mind. If a patient develops evidences of the syndrome, then careful inquiry must be made concerning the use of such preparations. Of the entire lot mentioned above there is evidence to indicate that aminopyrine or "Pyramidon" is more likely to cause the condition than any of the others. Additional drugs which may be etiological factors in the disorder but about which conclusive proof is lacking, are as follows: the barbiturates, antipyrine, phenacetine, reostibosan, quinine, cinophen, bismuth, Nirvanol (phenyl, ethyl, hydrantoin), and plasmoquin.

Treatment and Prognosis of Agranulocytosis. — The mortality from agranulocytosis when the cases were first observed in this country and recognized as a definite disease entity was appalling. It amounted to about 75 per cent as no effective form of treatment was available. Later, when it was discovered that the condition was due to a drug sensitivity, the removal of the responsible etiological agent and the administration of pentnucleotide, which was perhaps of some value, caused the death rate to diminish somewhat but it was still high.

With the information which is now at hand concerning the disease, it is probably correct to state that *not a single patient should die of this condition,* provided the patient was not *in extremis,* that all drugs which might possibly cause the condition were discontinued promptly, and that penicillin was administered first in a single dose of 100,000 units subcutaneously, followed by 40,000 or more, depending on the condition of the patient, every three hours. The rationale of administering penicillin is to combat the sepsis which is invariably the cause of death. Sepsis results because the total number of neutrophils which are in the body are reduced to *nil* or a small per cent of normal. Consequently the first line of defense against infection is reduced or eliminated, and as a result the pathogenic bacteria which are constantly present on the mucous membranes of the mouth and throat, and also the vagina and rectum, may invade the tissues and eventually cause a fatal septicemia, unless effective treatment is instituted early in the course of the disease.

Every physician should keep in mind, therefore, that when a patient presents the picture of an infection which involves the mouth and throat, there is a possibility that the condition is one of agranulocytosis. This can be confirmed by a white blood cell count and a determination of the percentage of neutrophils, which is always below 50 per cent, if the disease is present, and usually below 20 per cent, or they may be entirely absent.

Leukemia

Leukemia is a fatal disease which is probably neoplastic in nature. It arises primarily in the blood forming organs, and is characterized by an extensive and abnormal proliferation of the white blood cells and their precursors, with infiltration into the various tissues of the body, especially the bone marrow, spleen, and lymph nodes. Eventually, in all cases, immature white blood cells appear in the circulating blood, frequently in great numbers, and in most cases there is an associated anemia, often of a severe degree.

Symptoms and Signs.—It is not my intention to enter into a detailed discussion of the clinical picture of the various types of acute, subacute and chronic leukemia. I should like to emphasize, however, that in chronic leukemia there are several symptoms which are common to all types. They are, first, those of anemia, namely, weakness, ease of fatigue, pallor, dyspnea on exertion and palpitation. Second, the presence of a dull dragging pain in the upper left quadrant of the abdomen or the observation by the patient that there is a bulge there due to the enlarging spleen; this is more commonly present in patients with chronic myelogenous leukemia. Third, in those with chronic lymphatic leukemia, the initial manifestation may be the chance detection by the patient of a non-tender, painless, enlarged lymph node. Fourth, there may be purpuric spots in the skin and bleeding from the mucous membranes. Such evidence of a hemorrhagic diathesis may develop in any form of leukemia, but is more likely to be

present in the more acute types, or in an acute exacerbation of a chronic leukemia. Fifth, as leukemia is not infrequently associated with an increase in the basal metabloic rate, there may be a considerable loss of wegiht. Often also there is fever and anorexia which may contribute to this.

Acute leukemia usually occurs in childhood and young adult life. The onset is almost always abrupt, with symptoms which resemble a severe acute infection, namely, high fever, malaise, headache, generalized aches and pains, and prostration. There is often a rapidly developing anemia, with extreme pallor and purpuric manifestations, with bleeding into the skin and from the nose and mouth. There is nothing about the clinical picture which is distinctive. It resembles a fulminating infection, and the true nature of the condition is often not suspected until the rapidly developing pallor with purpura suggests a blood examination which reveals the true nature of the illness.

The Classification of the Leukemias.—It is possible to classify the leukemias according to several different criteria. All types of the disorder may be considered as acute, subacute or chronic; as leukemic or subleukemic, depending on whether the white blood cell count is elevated above normal (10,000 per cubic millimeter); and as myelogenous, lymphatic, monocytic, lymphosarcoma cell, and a number of other exceedingly rare types. If no attempt is made to consider the rarer varieties, the percentage of the more common types in our series of almost 1,000 cases was as follows: lymphogenous 43.6 per cent, myelogenous 48.3 per cent; and monocytic (Schilling) type 8.1 per cent. Lymphosarcoma-cell leukemia is commonly grouped with the lymphatic variety, but this is unwarranted for two reasons: (1) because it can be differentiated by means of a blood examination, (2) it has a different prognosis as patients with the condition usually do not survvie for more than one year after the onset of symptoms. Careful exclusion of this variety from the lymphatic leukemia group, results in an average duration of life of the latter of between 5 and 6 years from the onset of symptoms.

The incidence of the various types of luekemia in the two sexes and the frequency with which it occurs at different ages may be summarized as follows: acute leukemia is most commonly observed in childhood and adolescence; myelogenous leukemia is the predominating type of the chronic disease until the age of 60 years, after which time the lymphatic variety is more frequently encountered. Chronic monocytic leukemia is most commonly found between the ages of 30 and 60 years. Lymphosarcoma cell leukemia has no definite predilection for age in females, but in males it occurs more commonly before the age of 20 years and after the age of 60 years. In general it may be said that leukemia is observed somewhat more commonly in males than females but there is no known explanation for this.

The Prognosis and Treatment of Leukemia.—Leukemia is an invariably fatal disease. In the few patients listed in the literature as having recovered, the diagnosis has undoubtedly been confused with infectious mononucleosis, or some condition such as whooping cough or acute lymphocytosis in childhood which is associated with a striking increase in the number of lymphocytes. On the other hand, I have seen some patients survive for an amazingly long period of time. One physician, I observed, is known at present to have had unquestioned lymphatic leukemia for a period of over 23 years. Another of my patients with myelogenous leukemia has survived at least 10 years. On the other hand, the average duration of life of a patient with chronic myelogenous leukemia from the onset of symptoms is between 2 and 3 years; one with chronic lymphatic leukemia between 5 and 6 years; with monocytic leukemia between 1½ and 2½ years; with lymphosarcoma cell leukemia usually less than 1 year, although I have a patient now with this type of leukemia who has survived in comparative good health for 6 years, but seems now to be approaching the terminal state. All forms of acute leukemia, with few exceptions, terminate fatally in a few weeks to six months.

It should be emphasized, however, now that more routine blood examinations are made, an increasing number of patients with leukemia will be observed who have changes in the blood but who are without symptoms. The pre-symptom stage of the

disorder, therefore, must be taken into consideration when a prognosis is formulated. There is an inadequate amount of information available to determine how long such an asymptomatic state continues, but as an estimate I would say about an average of two years.

Treatment of Leukemia.—The various forms of therapy for this condition may be divided into two types, namely, those of proven value, and those which are possibly effective but require further study before a final answer can be given concerning their place in the treatment of the disease. Those of proven value are: (1) irradiation with the roentgen ray, radium, and radioactive isotopes such as radioactive phosphorus (P^{32}); (2) the use of blood transfusions; (3) arsenic. Those of possible value may be listed as follows: (1) the nitrogen mustards, 2) urethane.

It has been established by long observation of many patients with leukemia that the roentgen rays are highly effective in reducing the white blood cell count to normal and controlling symptoms in patients with the chronic forms of the disease. In my opinion, not only are the patients relieved of symptoms but life is definitely prolonged, although not for any great length of time. Our studies show that irradiation is effective in causing a good or excellent result in 90 per cent of patients with chronic myelogenous leukemia in whom treatment had not previously been given, in 84 per cent of patients with chronic lymphatic leukemia, in 67 per cent with chronic histiomonocytic leukemia, in 59 per cent with myelomonocytic leukemia, and in 33 per cent of those with chronic lymphosarcoma cell leukemia. It is of no value whatsoever in patients with acute leukemia and may actually do harm.

I will not discuss irradiation therapy except to make the following three points: (1) the roentgen rays are as effective as radium or radioactive elements, and hence the practitioner is not depriving his patients of a valuable form of therapy if it is not possible to employ radioactive phosphorus; (2) there is a commendable tendency to reduce the roentgen ray dosage to the smallest possible amount which will produce the desired effect; (3) patients should not be permitted to relapse too far before x-ray treatments are given. In my opinion roentgen thrapy is usually indicated: (a) with an increase in the severity of the associated anemia; (b) with the development of symptoms referable to the spleen or lymph glands; (c) with a progressive loss of weight; (d) when the white blood cell count is above 40,000 per cubic millimeter; (e) with increasing fatigue; and (f) with the development of hemorrhagic manifestations. It should be stated, however, that too much emphasis should not be placed upon any one manifestation as a guide to therapy. *The decision must be based upon all of the possible indications for treatment, the presence or absence of the contraindications, and the general condition of the patient.*

There are only two absolute contraindications to the use of irradiation in my experience. They are (1) the presence of a leukopenia, and by that I mean a white blood cell count of 6,000 per cubic millimeter or less; and (2) in the presence of acute leukemia. It should be kept in mind, however, that the roentgen ray should be used with caution when the white blood cell count is below 40,000 per cubic millimeter, when there is a hemorrhagic tendency, and when a severe anemia is present. It is usually wise in the presence of the last two conditions to giv sveral blood transfusions before the roentgen therapy is administered.

Blood Transfusions in the Treatment of Leukemia.—In the past there has been too much of a tendency to disregard the anemia associated with leukemia until it has progressed to a severe degree. There is no excuse for this now that blood transfusions may be given with such ease, as the result of the establishment of blood banks in many large hospitals. Furthermore, the number of transfusions should not be limited to one or two but a sufficient number should be given, usually every other day, or every day if the indications are urgent, until the red blood cell count and hemoglobin content of the circulating blood are within normal limits. The main indications for giving blood transfusions to patients with leukemia are as follows: (1) the presence of a hemoglobin

of 70 per cent or less (11.0 grams of hemoglobin per 100 cc. of blood) or a red blood cell count below 4.0 million per cubic millimeter; (2) the presence of a hemorrhagic tendency which is almost always associated with a reduction in the number of circulating blood platelets (fresh blood should be used for this purpose as the platelets agglutinate in bank blood and probably are functionally inefficient; (3) when infections of the mucous surfaces are present and are not readily controlled with mouth washes of dilute hydrogen oxide, sulfonamide drugs or penicillin.

Arsenic as a Therapeutic Agent.— For many years arsenic has been employed in the treatment of various forms of leukemia, especially the myelogenous variety. It sometimes produces satisfactory results if the dosage is increased to the tolerance of the patient. The preparation of choice is Fowler's solution (solution of potassium arsenite, U.S.P.) which should be given in an initial dosage of 4 to 5 minims (0.25 to 0.3 cc.) three times daily. It is best administered well diluted in fruit juice and must be taken immediately following meals. The dosage should be gradually increased to the point of tolerance, which in some patients may be as much as a total of 40 minims per day. It should be kept in mind that the toxic manifestations may be disturbing and are an indication for the immediate discontinuance of the drug, with a resumption, after all evidences of toxicity have disappeared, in a smaller dosage. The main toxic symptoms are conjunctivitis, nasal congestion and gastro-intestinal disturbances. Other more serious ones are keratoses, cirrhosis of the liver, and neuritis. It has been recommended by some that the drug should be given only for a period of 21 days, followed by a similar interval of rest, in order to avoid the untoward effects.

My opinion is that arsenic is inferior to irradiation in the treatment of leukemia. I have not found it to be efficacious when such patients have become refractory to the roentgen ray although some observers have reported otherwise. It can be given a cautious trial if the facilities for roentgen ray treatmnet are not available, or if the patient no longer responds to this therapeutic agent.

New Forms of Treatment Which are Being Evaluated.—Nitrogen mustard (Methyl-bis (beta-chlorethyl) amine hydrochloride has been employed as a chemical agent in the treatment of Hodgkin's disease and also in the leukemias, lymphosarcoma and polycythemia vera. It is of interest to note that significant but relatively brief clinical remissions have been produced in all of these conditions. Furthermore, this therapeutic agent may be effcetive when x-ray has failed, especially in Hodgkin's disease. It is too early to evaluate finally the place of this therapeutic agent in leukemia but it has promise and should be investigated further. It has at least two possibilities which are of interest; one, it may prove to be an adjunct to roentgen ray therapy and be used in association with it and second, additional similar products will undoubtedly be evolved which may prove to be more effective in leukemia. For the present it must be said that the use of this form of treatment is still in the realm of experimental medicine.

In 1946 Paterson, Haddow, Thomas and Watkinson in England treated a group of patients with chronic and acute leukemia with urethane (ethyl carbamate), 1-5 grams daily, and compared their results with those attained with x-ray. They concluded that the effects of this drug were strikingly similar to those produced by roentgen therapy in patients with chronic forms of leukemia but was disappointing in those with the acute types. We have treated several patients with chronic leukemia at the Simpson Memorial Institute with 3.0 grams daily and have noted some clinical improvement along with a drop in the white blood cell count and a rise in the hemoglobin of the circulating blood. I would characterize our limited experience as sufficiently encouraging to warrant further use of the drug in an attempt to determine its true worth.

News and Notes

The profession will be interested in the articles in the daily press, regarding the proposed new British Columbia Health Centre, on the site of the present Vancouver General Hospital grounds. The development recommended is that advocated by the Hamilton Report plan "A". Recently representatives of the Board of the University of British Columbia the Board of the Vancouver General Hospital, and the Committee on Medical Education of The British Columbia Medical Association, met the Government in Victoria, and submitted the proposal as a logical solution of many of the problems in establishing a medical school in British Columbia. The future development of the project will be watched with great interest by the medical profession.

Congratulations are extended to the sixteen British Columbia candidates who were successful in the examinations held by the Medical Council of Canada. The examinations were held in Halifax, Montreal, Toronto, Kingston, London (Ontario) and Vancouver.

A number of British Columbia doctors are, at present, doing post-graduate work, amongst them:

Dr. N. L. D. Auckland of Vancouver and Dr. P. J. Bailey of Penticton, now in Montreal. Dr. J. R. Ibberson has left Vancouver to attend the Dental School of the University of Alberta. Dr. W. F. Bie has entered Vancouver General Hospital for a post-graduate course. Dr. V. G. Allport has also left Vancouver and is doing post-graduate work in ophthalmology at Queen Mary Veterans' Hospital, Montreal.

Doctors M. Schreiber and B. Berger have established joint medical offices at Port Moody and Port Coquitlam.

Dr. M. R. Earle has now gone to the Nuffield Foundation House in London, England.

Dr. R. A. Smillie has re-enlisted in the R.C.A.M.C. and is, at present, stationed in Winnipeg, Man.

Dr. V. J. Freeman has joined the Faculty of Medicine at the University of Washington in Seattle, Washington.

Dr. J. H. W. Hutchinson has left Vancouver to take up practise in Hamilton, Ont.

Dr. R. E. Burns has returned from Ann Arbor, Michigan, and is now practising in Victoria.

Dr. D. D. Vollan formerly of North Vancouver, has gone to Pender Harbour.

Dr. B. Schwartz has left New Westminster to make his home in Ashern, Man.

The Vancouver General Hospital has recently added two notable members to its staff: Dr. M. Digby Leigh as Director of Anaesthesia, and Dr. H. K. Fidler who is to be head of the Pathological Laboratory.

Dr. W. Finlayson, recently at Vancouver General Hospital, has started practice in Vernon, taking the place of Dr. F. E. Pettman, lately retired.

Dr. T. J. Ho has left the Sanatorium in Saskatoon and is now radiologist to the Victoria and Holy Family hospitals in Prince Albert, Sask.

Congratulations to the following doctors and their wives, on their recent good fortune.

Dr. and Mrs. Murray Baird, of Vancouver, a son.
Dr. and Mrs. J. M. Mackenzie, at Boston, a son.
Dr. and Mrs. B. T. H. Marteinsson, of Vancouver a daughter.
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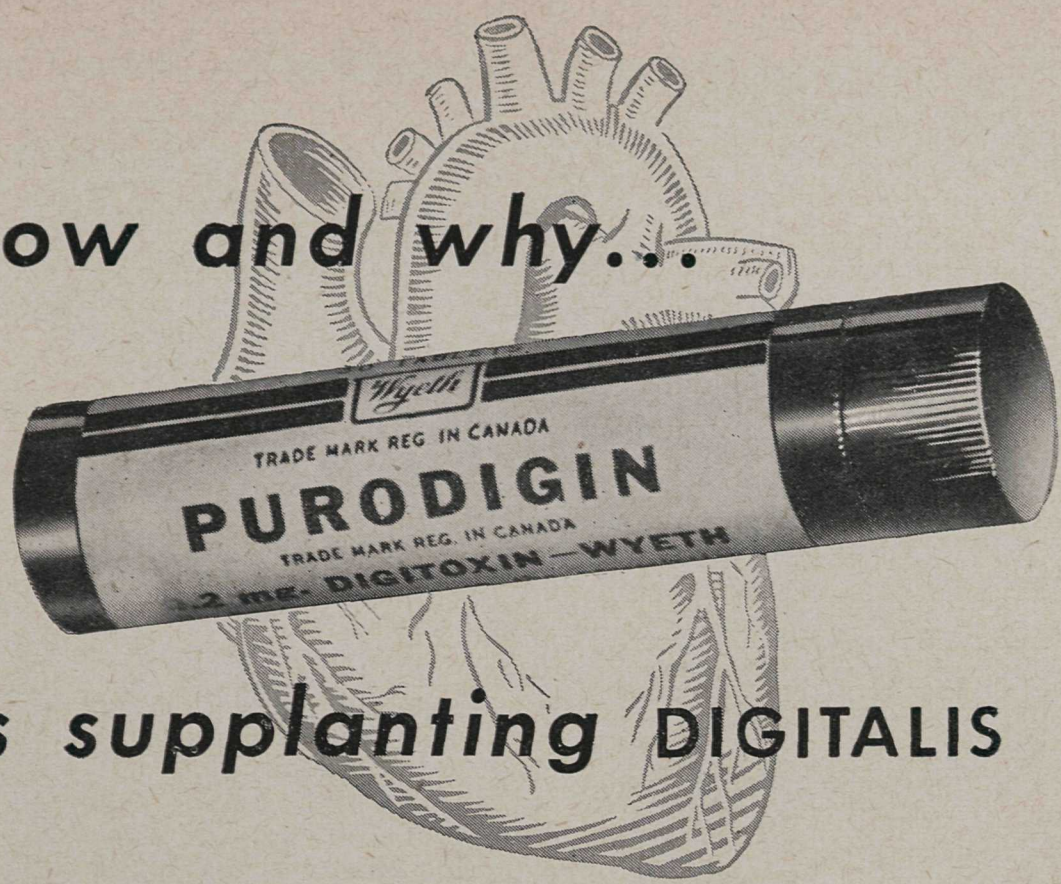

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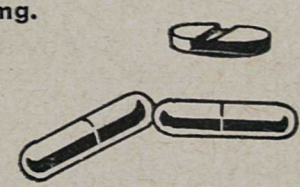

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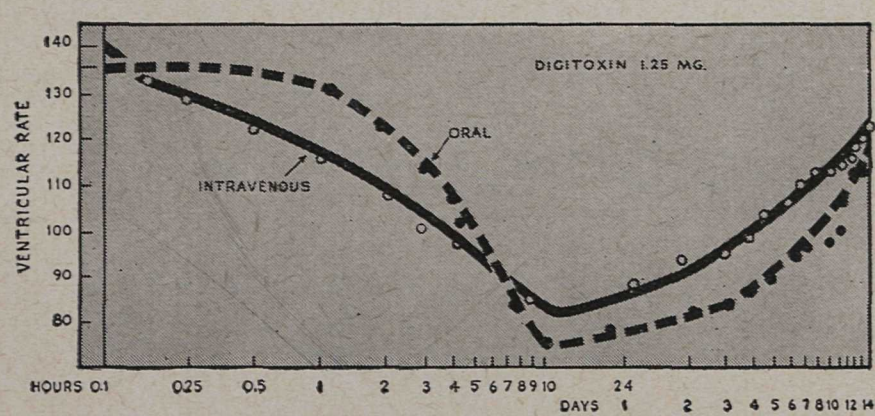

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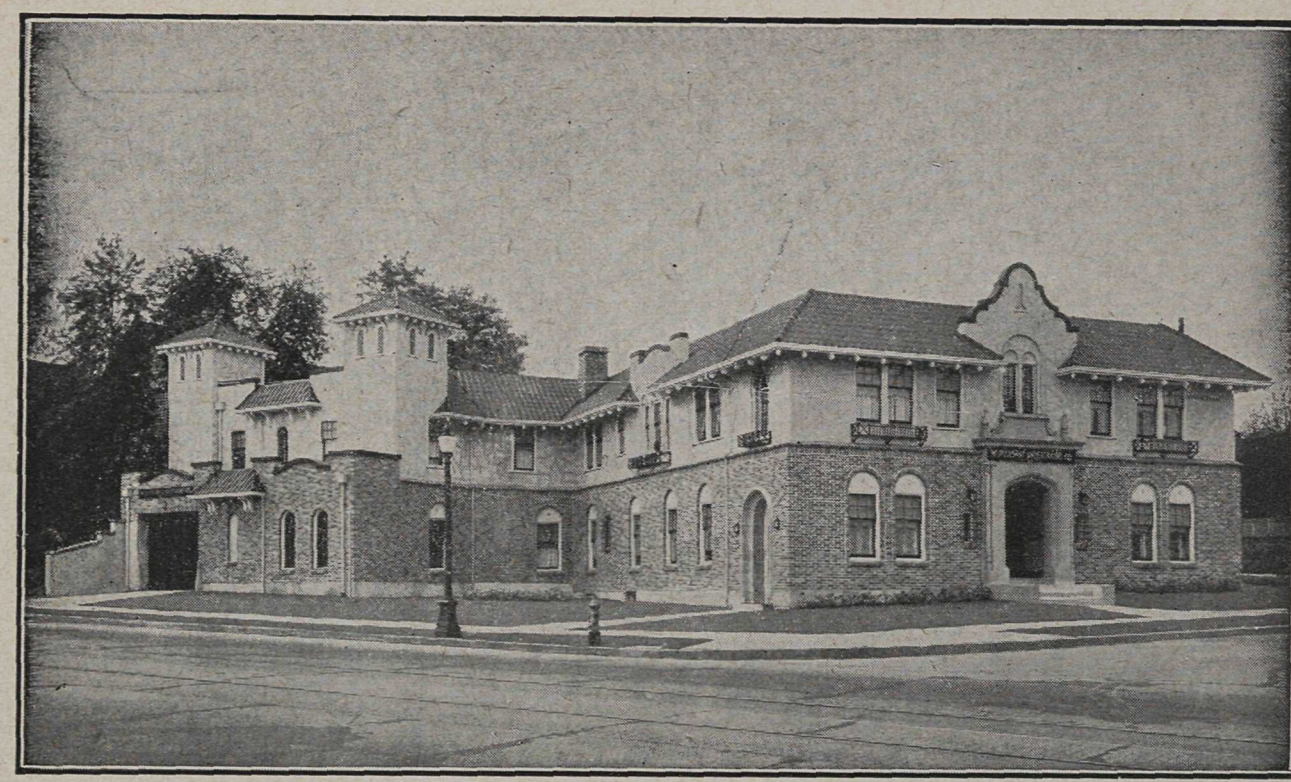

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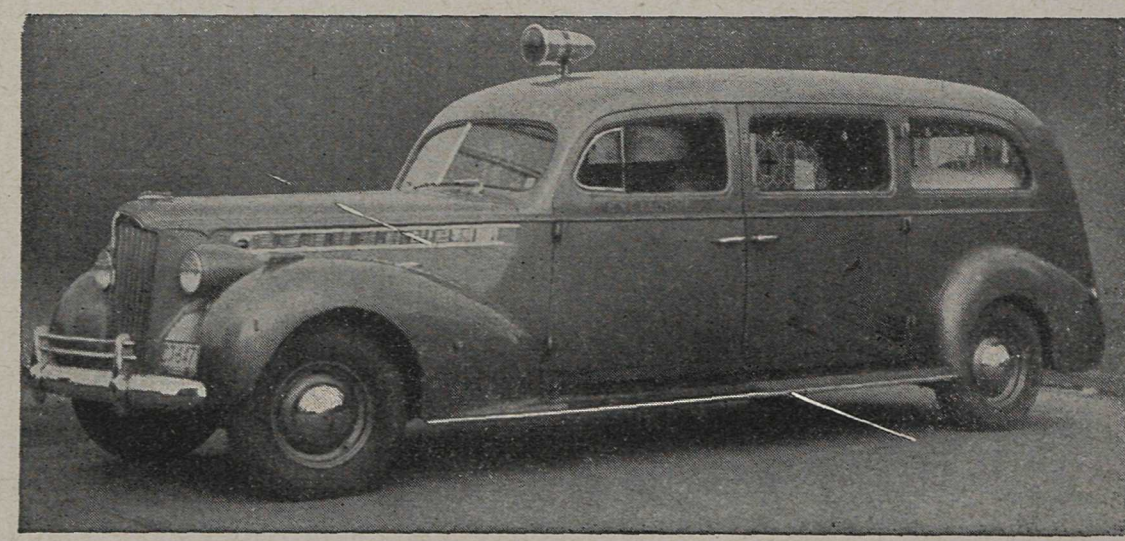

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REFERENCES: (1) *COWLES, P. B.; Yale Journal of Biology and Medicine, 14:599, 1942.* (2) *RAKOFF, A. E.; Med. Clin. of North Am., 1354, Nov. 1945.*

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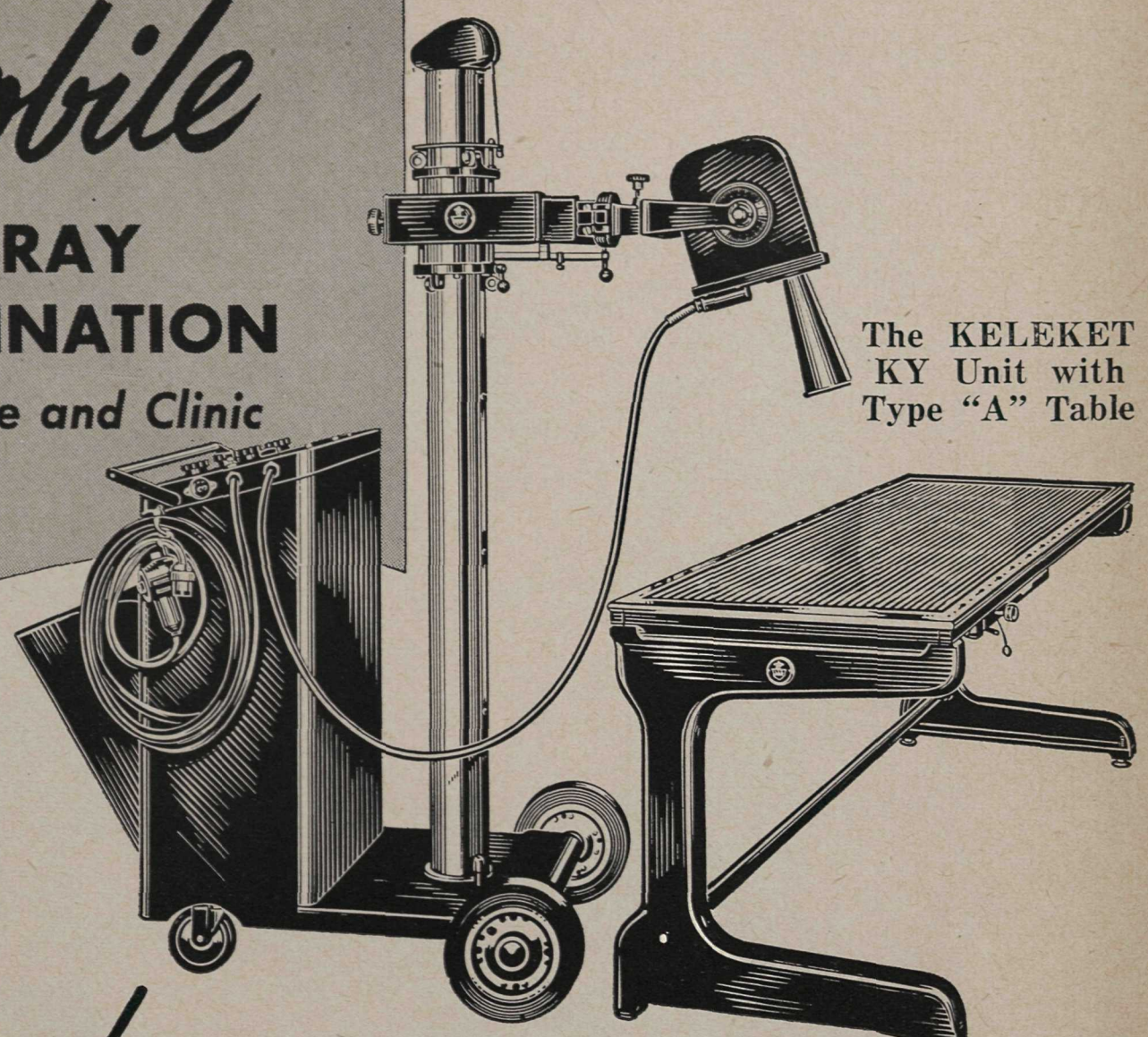

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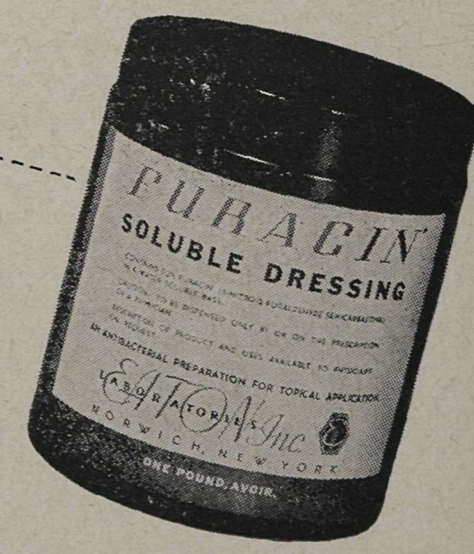

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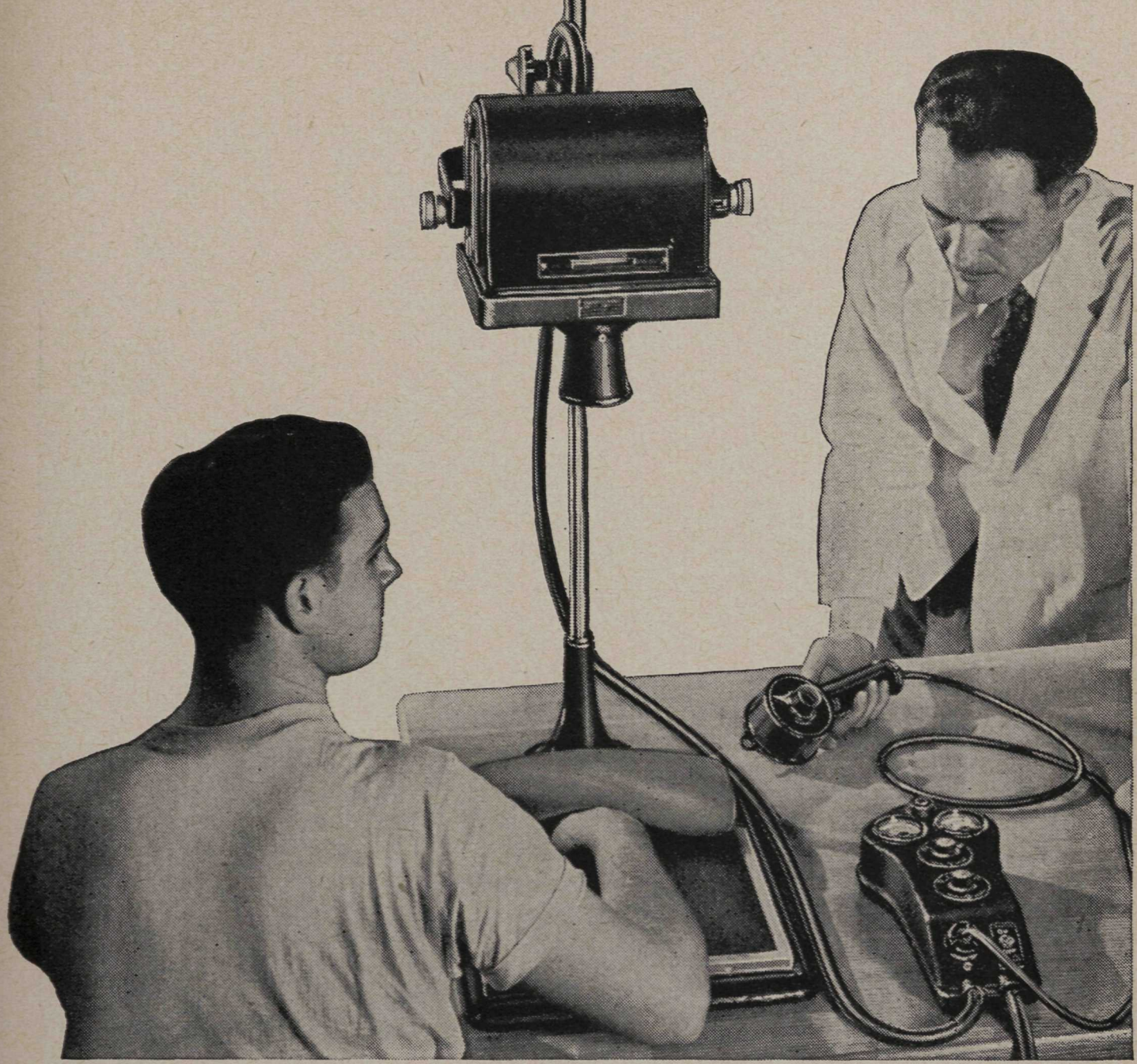

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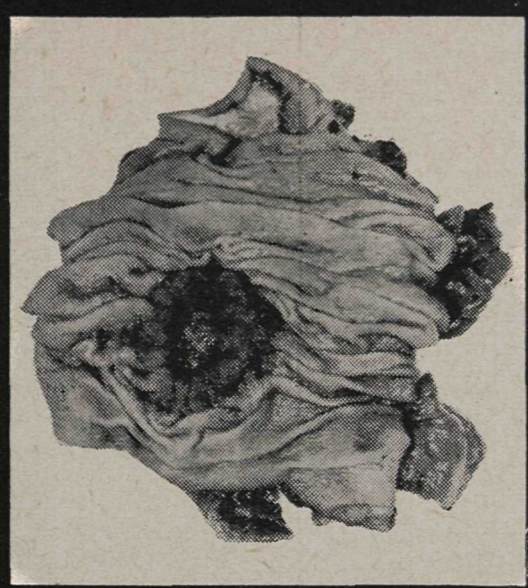

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